# SRT procedures Documentation Release 1

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# Contents

1	Before observing	3
2	Observation modes	5
3	Troubleshooting	13
4	Indices and figures	19

Welcome to the user cookbook!

These pages are intended to support the observer when performing observations with SRT. For a complete documentation on the user guide *Observing at SRT with Discos*, please click here.

A picture of the SRT control room layout is provided in Fig.4.1.

Before observing, check that the system is ready. Then select the **observation mode** you want, a menu will appear with the different receivers (C-, K- and L-bands) and the associated backends (**Total Power, SARDARA, Xarcos, DFB, Roach1**). You can simply follow the different steps in order to carry out safety observations.

# CHAPTER 1

# Before observing

## 1.1 Important checks

Some checks need to be performed before starting the observations.

Important: Before observing, check that the emergency stop button is not pressed.

## 1.1.1 On discos-manager (ACS)

Check that all of the 35 containers are active on ACS (Fig.4.2).

**Warning:** If the number of containers is 0 instead of 35 in ACS, you have to start ACS (see the *Restart Discos* procedure in the Discos from Scratch section).

#### 1.1.2 On discos-console (observer computer)

On the CONSOLE virtual desktop, check the presence of the 9 panels (Fig.4.10):

- operatorInput (Fig.4.11)
- AntennaBoss (Fig.4.12)
- GenericBackend (Fig.4.13)
- Mount (Fig.4.15)
- Observatory (Fig.4.17)
- Receivers (Fig.4.18)
- Scheduler (Fig.4.21)

- MinorServo (Fig.4.23)
- ACS custom logging client (Fig.4.8)

Check also that:

- the interface of the **Meteo client** is open to check the wind velocity in real time (it should be < 60 km/h) (Fig.4.9). If the interface is closed, type \$ meteoClient & on a shell;
- the quicklook is open. If it is closed, open it by clicking on the

quicklook.html icon on the desktop of discos-console;

• the active surface is green (Fig.4.4).

**Warning:** The active surface does not work properly if a large fraction (a whole sector) becomes red. It is a problem in K-band observations (Fig.4.42);

**Warning:** If the **calibrationtool client** is already open or if you need to open it later during your observation to perform pointing and/or focus optimization, remember, do not close it during the whole session. To open it, type \$ calibrationtoolclient MANAGEMENT/CalibrationTool & on a shell.

Upload your shedules (.scd, .lis, .bck and .cfg files) and check them:

#### From your computer:

```
$ scp [schedulename.*] [projectID]@discos-console:./schedules/
```

#### On discos-console:

- \$ ssh -X [projectID]@discos-console
- \$ cd /home/[projectID]/schedules
- \$ scheduleChecker [schedulename.scd]

Warning: Check also the update and temporary modifications

# CHAPTER 2

# Observation modes

# 2.1 Continuum

## 2.1.1 C-band

## **Total Power**

- start-obs
- check-obs
- get-data
- stop-session

## SARDARA

- start-CoCSa
- check-obs
- get-data
- stop-session

## 2.1.2 K-band

### **Total Power**

- start-CoKTP
- check-obs

- get-data
- stop-session

### SARDARA

- start-CoKSa
- check-obs
- get-data
- stop-session

## 2.1.3 L-band

#### **Total Power**

- start-CoLTP
- check-obs
- get-data
- stop-session

### SARDARA

- start-CoLSa
- check-obs
- get-data
- stop-session

# 2.2 Pulsar observations

## 2.2.1 C-band

#### DFB

- start-PuDFB
- check-obs
- get-data
- stop-PuDFB

## 2.2.2 L-band

#### DFB

- start-PuLDFB
- check-obs
- get-data
- stop-PuDFB

### ROACH1

- start-PuLRO
- check-PuRO
- get-PuRO
- stop-PuRO

## ROACH1

- bef-PuMRO
- start-PuMRO
- check-PuRO
- get-PuRO
- stop-PuMRO

## ROACH1 + DFB

- start-PuLDR
- check-PuRO
- get-PuRD
- stop-PuRD

## 2.2.3 P-band

## ROACH1

- start-PuPRO
- check-PuRO
- get-PuRO
- stop-PuRO

#### ROACH1

- bef-PuMPRO
- start-PuMPRO
- check-PuRO
- get-PuRO
- stop-PuMRO

## 2.2.4 LP-bands

#### **ROACH1 + DFB**

- start-PuLPDR
- check-PuRO
- get-PuRD
- stop-PuRD

#### **ROACH1 P-band + DFB L-band**

- bef-PuMPRO
- start-PuRD
- check-PuRO
- get-PuRD
- stop-PuRD

## 2.2.5 Notes

#### Notes about the ROACH1 backend

The ROACH1 has the capability to process  $32 \times 16$  MHz bands = 512 MHz of bandwidth, therefore the entire L-band and P-bands. It is not adequate for observing in C-band or K-band unless one wants to observe a smaller portion of the total bandwidth. With the current setup of being linked to an 8-node CPU cluster (the "LEAP cluster"), it can only process  $8 \times 16$  MHz bands = 128 MHz of bandwidth. It is therefore adequate for LEAP observations, which observe only a portion of the total L-band, or for the entire P-band. In the near future (later part of 2019), a second ROACH1 board (ROACH1\_GPU) will be linked to the SARDARA GPU cluster and will be able to process the entire L-band (512 MHz).

We have two sets of instructions. The main set of instructions includes the use of the SEADAS sofware tool, which controls both the antenna and the backends, while the second set includes manual instructions (useful for using the ROACH1 in "piggy-back mode").

With regard to the manual instructions: in this configuration, where the ROACH1 is used in piggy-back mode, the ROACH1 is not "integrated" into the DISCOS antenna control system. DISCOS is used only to point at the sources, while with the use of the externalClient, the ROACH1 follows the antenna in an automated way. To tell DISCOS to track sources, the observer can use manual instructions or load a standard DISCOS schedule. To tell the ROACH1 to start/stop data acquisition, the observer can launch the automated system on the LEAP cluster which follows what the antenna is doing (start of data acquisition when the antenna is TRACKING and stop when the antenna is SLEWING).

In case of problems with the externalClient, the start and stop of data acquisition can also be done manually on the LEAP cluster.

For more information, contact D. Perrodin.

#### **SEADAS**

For instructions on how to create the schedules with SEADAS, please visit this page at the session "Pulsar Observations with the SRT".

We can find the complete documentation of SEADAS here.

# 2.3 Spectral lines

## 2.3.1 C-band

#### SARDARA

- start-SLCSa
- check-obs
- get-data
- stop-session

#### Xarcos

- start-SLCXa
- check-obs
- get-data
- stop-session-Xarcos

## 2.3.2 K-band

#### SARDARA

- start-SLKSa
- check-obs
- get-data
- stop-session

#### **Xarcos**

- start-SLKXa
- check-obs
- get-data

stop-session-Xarcos

## 2.3.3 L-band

### SARDARA

- start-SLLSa
- check-obs
- get-data
- stop-session

# 2.4 Spectro-polarimetry

## 2.4.1 C-band

### SARDARA

- start-SPCSa
- check-obs
- get-data
- stop-session

## 2.4.2 K-band

## SARDARA

- start-SPKSa
- check-obs
- get-data
- stop-session

## 2.4.3 L-band

## SARDARA

- start-SPLSa
- check-obs
- get-data
- stop-session

# 2.5 VLBI

Follow the procedure here

**Important:** At the end of the session, please fill the LOG file.

# CHAPTER 3

# Troubleshooting

# 3.1 Problems during the observations

## 3.1.1 Problem identification

Depending on the problem, you can be able to resolve it. The first thing is to identify the origin of the error. Check the presence of error messages on the different monitor panels, the jlog, ACS and the ACU control panel.

#### MinorServo

Errors, warning and failure of the MinorServoBoss can be related to the crash of the server that manages the minor servos: MSCU. Check first if the server crashed and restart it if needed. Ask the project friend to complete the procedure from viewer01 (VLBI console). The instructions are on this link: https://srtsupervisoronduty.readthedocs. io/it/latest/sd/srt/procedures/minor\_servo.html#mscu-restart.

After restarting the server it is necessary to restart the containers of the minor servos on the discos-manager computer.

#### Quicklook

If the Quicklook stop running correctly and is frozen to a previous session, you can restart it from a terminal with the user "observer":

\$ su - discos service quicklook restart

Please, ask the project friend to complete the procedure with the password.

#### **Monitor panels**

Look at the 9 panels. The error messages usually come out in red.

#### Attention: operatorInput

Check that the command you have insterted is written correctly. If the error is not related to a typo, try to identify the origin of the problem. Check the different panels (Scheduler, MinorServo, Receivers, etc...) and the jlog.

#### Attention: Scheduler

srt-scheduler when the schedule is not running correctly. If the Scan/SubScan number is proceeding correctly, the FAILURE can be associated with skipped scans because of the too high or too low elevation of the source (>  $85^\circ$  or <  $5^\circ$ ).

Solution: Stop the schedule with > stopSchedule and check the elevation of the target with CASTIA. Then start again the schedule with > startSchedule=[projectID]/[schedulename].scd, [N] when the target is visible.

#### Attention: Receivers

If the local oscillator (LO) value is set to 0 on the **Receivers** panel while you have inserted a correct value (in MHz) on the operatorInput, the LO container is probably down (check also the operatorInput and jlog errors). Contact the person in charge of the observations (observer's friend) to resolve the problem.

#### Jlog

#### Attention: LoggingClient

Error messages on the LoggingClient appear in red while warning are in yellow. If the **Subscan skipped** message appears, the scheduler is skipping subscans because of a too high or low elevation of the target (see previous section).

#### **ACU** control panel

If one or different boxes appear in yellow (warning) or red (error), put the mouse on the box and read the associated message.

#### Attention: Servo DC warning

If the **wa\_Servo\_DC\_Warn** label appears on the yellow warning box, the observations must be **immediately** interrupted. Give the following commands to stow the antenna:

> antennaPark

```
> servoPark
```

```
> asPark
```

Communicate the problem to the person in charge of the observations, as indicated by your project friend.

#### Attention: Servo system and axis errors

After the stow of the antenna, errors related to the main servo system or to the azimuth/elevation axes may occur.

To solve the problem, give the following commands in the operatorInput console:

- > antennaReset
- > antennaTrack

Wait 10 seconds. If the errors disappear, you can proceed to the observations by setting first the minor servo setup > servoSetup[code], with [code=LLP, PPP, CCB, KKG].

Instead, if the errors remain, give again the previous commands:

- > antennaReset
- > antennaTrack

Wait 10 seconds. If the errors disappear, you can proceed to the observations. Please, set first the minor servo setup as indicated before.

If the errors persist:

- push the emergency stop button
- release the emergency stop button
- > antennaReset
- > antennaTrack

At this point, the problem should be resolved. You can proceed with the observations. Please, set first the minor servo setup as indicated before.

If the problem persits, please contact the person in charge of the observations (observer's friend).

#### **Attention: Power errors**

In the case of **err\_Power\_Error** label, look at the jlog window. The **MAIN POWER ERROR** message should appear, being assigned a CRITICAL priority. To resolve the problem, give the following commands in the operatorInput console:

- > antennaReset
- > antennaTrack

If the error message is different or the problem still unresolved, contact the person in charge of the observations (observer's friend).

#### Wind velocity

#### Attention: MeteoClient

Check regularly the wind velocity using the  $\gg$  meteoClient & on a shell of nuraghe-mng. For observations in K-band, the wind speed should not exceed 30 km/h (value to be checked) otherwise the pointing accuracy will probably be lost.

#### Attention: Unstow of the antenna

The antenna is automatically stowed when the wind speed exceeds 60km/h. If you want to continue the observations without redoing the setup from the beginning (receiver, bandwidth, attenuations, etc...), you can simply unstow the antenna and start again the observations where you left off, following the sequence of commands:

- > antennaUnstow
- > antennaTrack
- > startSchedule=[schedulename].scd, [N] where you were previously.

#### Stow of the antenna

#### Attention: Put the antenna in stow with the green button

In the case the control software has some problems or is disable and you cannot communicate anymore with the antenna, you can use the green button to park the antenna. The green button is located close to the red emergency stop button in the control-room.

When the antenna is parked, look at the ACU monitor, wait until **Axis blocked** appears in red (Fig.4.37). Only at this moment, you can press on the emergency stop button (Fig.4.38).

#### 3.1.2 Unresolved problems

If you do not find the origin of the problem or the problem is too complex to be resolved, please contact the person in charge of the observations (observer's friend).

## 3.2 Discos from Scratch

Discos is the control software produced for the Sardinia Radio Telescope, Medicina and Noto. It is a distributed system based on ACS (ALMA Common Software), commanding all the devices of the telescope and allowing the user to perform single-dish observations.

If the system has some problems that cannot be resolved with the help of the previous section, you probably need to restart Discos.

Before restarting Discos, you have to follow the procedure of shutdown of Discos.

## 3.2.1 Shutdown of Discos

From the discos-console computer, close discos :

```
discosConsole -c
```

Close also all the graphic panels, including those related to the **active surface**, the **meteo client** and the **calibration tool client**.

From the **discos-manager computer**, go on the ACS command center and click on kill. Wait the prompt (the graphic panel of ACS will close automatically).

## 3.2.2 Restart Discos

1. On the **discos-manager computer**, open a terminal and give the following command:

```
discos -start
```

The graphical interface of the ACS Command Center appears (Fig.4.3).

Check that remote and use native ssh are correctly selected in the Common settings panel.

Click on Start in the Acs suite panel.

In the **Containers** panel, click on the global green triangle located below the individual triangles to open all of the containers.

On the Deployment Info panel, check that the 35 containers appear progressively.

2. On the **discos-console computer**, open a terminal and give the following command:

discosConsole

The 9 panels appear:

- operatorInput (Fig.4.11)
- AntennaBoss (Fig.4.12)
- GenericBackend (Fig.4.13)
- Mount (Fig.4.15)
- Observatory (Fig.4.17)
- Receivers (Fig.4.18)
- Scheduler (Fig.4.21)
- MinorServo (Fig.4.23)
- ACS custom logging client (Fig.4.8)

From a virtual desktop, open a new terminal to start the active surface and write:

```
SRTActiveSurfaceGUIClient &
```

The related graphical interface is now open. Wait a few minutes until the single squares (representing the attuators) become green. The status of the active surface is in the "WARNING" configuration (Fig.4.7).

From a virtual desktop, open two new terminals to start the panels related to the **Meteo Client** and the **Calibration Tool Client** (if necessary) and write, rispectively:

meteoClient &

calibrationtoolclient MANAGEMENT/CalibrationTool &

The graphical interfaces related to the meteo Client (Fig.4.9) and the calibration Tool Client (Fig.4.27) are now open and updated in real time.

# CHAPTER 4

Indices and figures

# 4.1 Figures

# 4.1.1 Check figures

**Control Room** 

**ACS Command Center** 

**ACS Command Center** 

**Active Surface** 

**Active Surface** 

**Active Surface** 

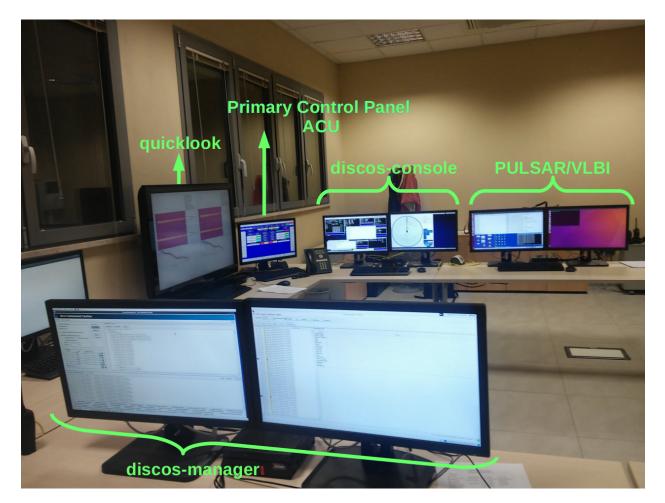


Fig.4.1: SRT control room layout.

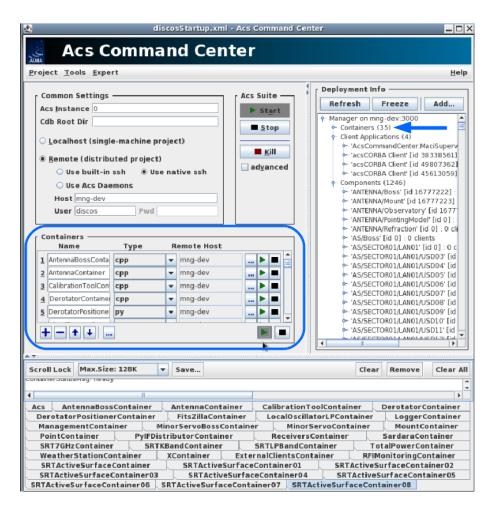


Fig.4.2: The ACS monitor shows the state of the containers related to each DISCOS component. The state of each container can be verified in the section highlighted in blue. The blue arrow indicates the number of containers (35 when the system is ready).

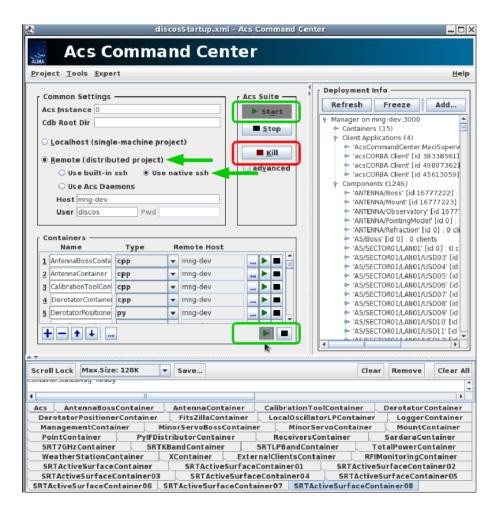


Fig.4.3: In the **Common settings** panel of the ACS monitor, the remote and the use native ssh items must be selected as indicated by the green arrows. The Start and the global green triangle buttons highlighted in green must be used to restart the **Acs suite** and the **Containers**, respectively. The Kill button highlighted in red must be used to close the ACS panel during the Shutdown of Discos.

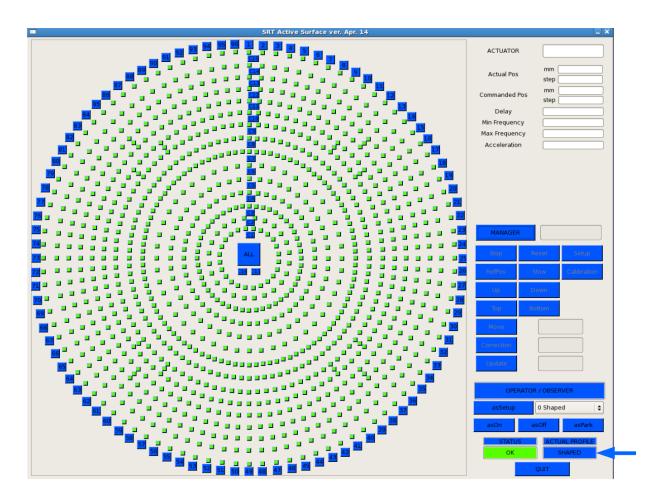


Fig.4.4: This monitor shows the status of the actuators in a graphical representation of the **Active Surface** and its configuration.

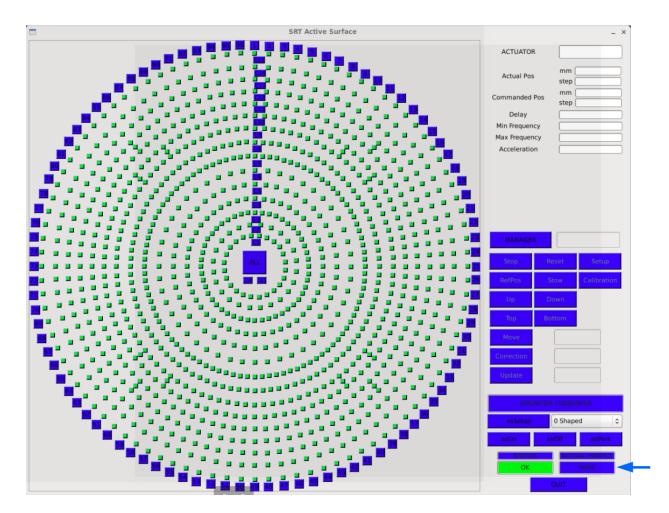


Fig.4.5: After parking the active surface by using > asPark, in the Active Surface monitor the status of the Actual Profile box is Park.

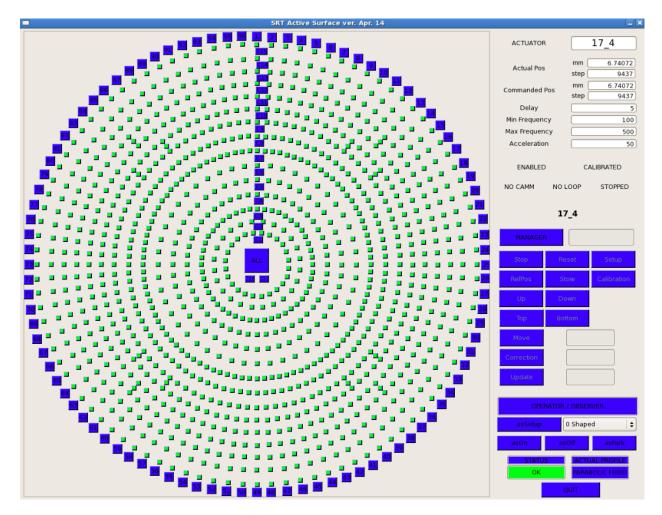


Fig.4.6: The Active Surface monitor in the parabolic configuration.

## **Active Surface**

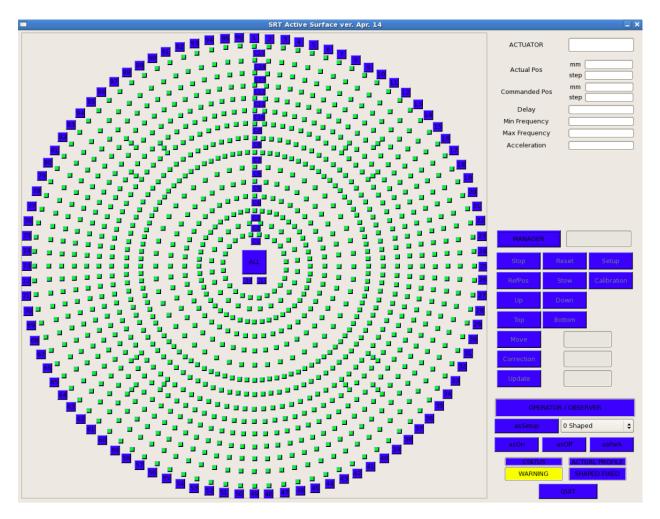


Fig.4.7: The status of the **active surface** is WARNING after the "Restart Discos" procedure.

Logging Display

**Meteo Client** 

**Discos-console** 

	ACS custom logging client	_	×
2018-304-13:11:30.846 Notice Command issued 2018-304-13:11:50.057 Notice Command issued	<pre>(goT0=*,45d) (getRms) (setAttenuation=1,13) (setAttenuation=2,12) (getRms) (wx) (wx) (startSchedule=3C295_K_proc.scd,1) hanging to: /archive/logs/ hanging to: 3C295_K_proc_2018304131130.log (nop) (wait=2.000000)</pre>		
2018-304-13:11:52.162 Notice Command issued 2018-304-13:12:03.474 Notice Command issued			
clear			1

Fig.4.8: The **Logging Display** shows the log messages related to the observation. New messages are shown over the previous ones.

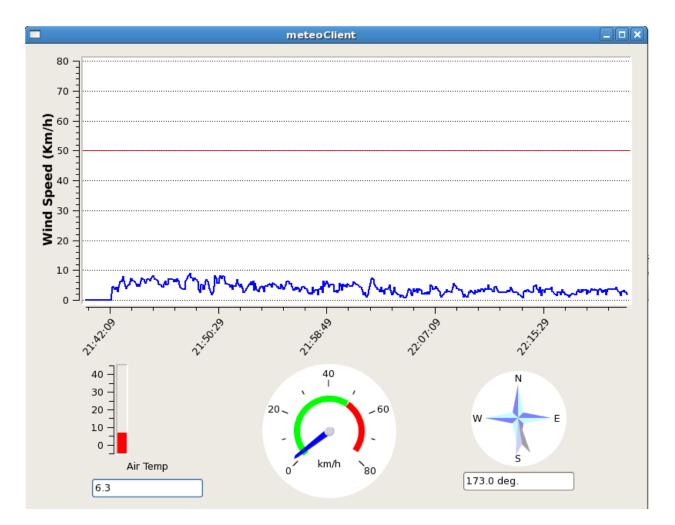


Fig.4.9: The **Meteo Client** window shows the atmospheric temperature and wind parameters (including wind direction) using a graphic interface.

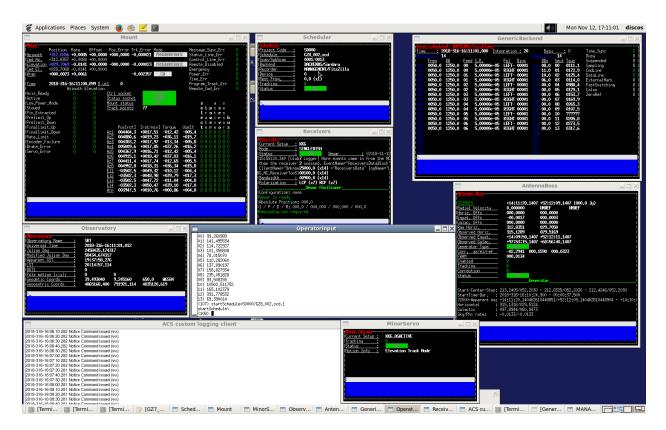


Fig.4.10: **Discos-console** is the machine where you run the system and where you should find the input terminal and all the monitors. It is also the destination for your schedules.

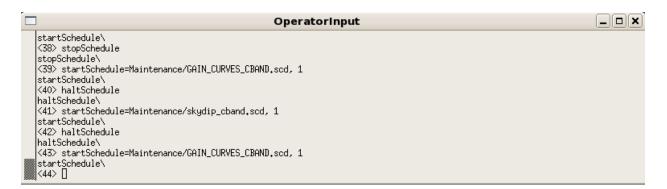


Fig.4.11: In the **input console** the users can write Nuraghe commands. The prompt is just a sequential number enclosed in <>. If a command is properly read, the system replies by repeating the command itself, followed by the operation results (if they are foreseen).

## OperatorInput

#### AntennaBoss

	AntennaBoss	_ 🗆 🗙
rAntenna Boss L301250120 Radial Velocity Horiz, Offs Equat, Offs Galac, Offs Raw Horiz, Observed Horiz, Observed Equat, Observed Galac, Generator Type Corr, az/el/ref FWHM Enabled Tracking Correction	+07:47:25,000 +57:27:00,000 (000,0 Jy) 0,000000 000,0000 000,0000 000,0000 000,0000 000,0000 357,1578 072,0581 357,1597 072,0582 +07:47:25,038 +57:26:59,991 +160:00:33,551 +30:00:38,151 000,0000 000,0000 000,0000 000,0473 $\mathbb{C}$	
l <u>Status</u> I	Generator	
ICatalog Eq. : +0 ICatalog Gal. : 10 IApparent Eq. : +0 IGalactic : 10	301250120 37;47;25,000/+57;27;00,000/2000,0 0,00 0,00 0,00 0,00	

Fig.4.12: The **AntennaBoss** monitor shows the target info, indicating the commanded and actual positions pointed by the antenna. It also gives a feedback on the pointing accuracy and on the overall antenna status.

#### GenericBackend

#### Mount

GenericBackend
Cener iclbackend:       INCKINUS/TotalPower         Time       : 2017-332-21:18:00,000       Integration : 40       Busy       : @       Time_Sync       0         Sections:: 2       Busy       : @       Inputs       2       Busy       0         1500       0050.0       0730.0       00       2.50000e-05       IEFT-       00001       100       08.0       00       0043.6       Sampling       0         1501       0050.0       0730.0       00       2.50000e-05       RIGHT 00001       101       08.0       01       0036.8       Sampling       0         1502       IDS       IDS       IDS       00       08.0       01       0036.8       CmdLine       0         1502       IDS       IDS       IDS       IDS       ExternalMark       0         1503       IDS       IDS       IDS       Calon       0

Fig.4.13: The monitor **GenericBackend** shows the backend setup parameters related to each section.

	G	ienericBack	cend		
Generic Backend:         Minimit Mini Minimit Mini Minimit Minimit Minimit Mini Mini Minimit Minimit M	6-06:44:05,000 Inte Feed S.R. 0 00 5,00000e-05 0 01 5,00000e-05 0 01 5,00000e-05 0 01 5,00000e-05 0 02 5,00000e-05 0 02 5,00000e-05 0 03 5,00000e-05 0 04 5,00000e-05 0 05 5,00000e-05 0 05 5,00000e-05 0 06 5,00000e-05	Pol         Bins           LEFT-         00001           RIGHT         00001           LEFT-         00001           RIGHT         00001           LEFT-         00001           LEFT-         00001           LEFT-         00001           RIGHT         00001           LEFT-         00001           LEFT-         00001           RIGHT         00001           LEFT-         00001           RIGHT         00001           LEFT-         00001           LEFT-         00001           LEFT-         00001	Busy         :         0           Inputs         14           DBs         Sect           100         06.0         00           001         11.0         01           102         03.0         02         0128           103         03.0         03         ????           104         04.0         04         080           105         00.0         05         0148           106         00.0         06         0157           107         00.0         07         0339           108         00.0         08         0374           109         08.0         09         ????           110         15.0         10         ????           111         15.0         11         ????           112         01.0         12         0138           113         04.0         13         ????           114         115         116           117         118         114	.3 Sampling .9 CmdLine .5 DataLine .2 ExternalMark .0 FastSwitching .8 Calon .7 ZeroRef .5 .0 ?? .2	

Fig.4.14: The monitor **GenericBackend** in the K-band configuration.

## Observatory

**ReceiversBoss** 

Scheduler

**MinorServo** 

**Calibration tool client** 

		Mount	;
I <u>Cmd Az.</u> +054,2739 I <u>Elevation</u> + <b>054,091</b> 3	+0.0002         +00.0000           +0.0002         +00.0000           -0.0846         +00.0000           -0.0843         +00.0000	Pos,Error Trk,Error Mode +000,0000 +0,000013 PROGRAMTRACK -000,0466 +0,001195 PROGRAMTRACK +0,000495 CCM	Control_Line_Err 0
	- <b>21:18:01.621</b> <u>D ut1</u> Azimuth Elevation	0	Program_Track_Err 0 Remote_Cmd_Err 0
IAxis_Ready IActive ILow_Power_Mode IStowed IPrn_Extracted IPrelimit_Up IFrinallimit_Down IRate_Limit IEncoder_Failure IBrake_Error IServo_Error		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	s a s e b p c s e l r o t e n e a w i r s b c k e v v o u Use[% t e r e o r s -008.1 0 0 0 0 0 0 0 0 +013.7 0 0 0 0 0 0 0 0 +013.1 0 0 0 0 0 0 0 0 +013.1 0 0 0 0 0 0 0 0 +013.2 0 0 0 0 0 0 0 0 +013.3 0 0 0 0 0 0 0 +013.3 0 0 0 0 0 0 0 +017.5 0 0 0 0 0 0 0 +001.5 0 0 0 0 0 0 0 +001.5 0 0 0 0 0 0 0

Fig.4.15: Observers need to focus only on the **Mount** status (indicated by the green box) and on the actual position of the axis expressed in Azimuth and Elevation (shown in blue), compared to the commanded positions (actual positions with the label "Cmd Az." and "Cmd El.").

	Mount	
IAzimuth ICmd Az. +117.9777 +0.0000 +117.9777 +0.0000	+00,0000 +000,0000 +0,000000	Message_Sync_Err 0   Status_Line_Err 0   Control_Line_Err 0   Remote_Disabled 0   Emergency 0   Power_Err 0
   <u>Time</u> <b>2018-137-15:48:34</b> ,   Azimuth El  Axis_Ready 0	levation O <u>Ctrl socket</u> BUSY	Time_Err 0   Program_Track_Err 0   Remote_Cmd_Err 0   !
IActive O ILow_Power_Mode O IStowed O IPin_Extracted O IPrelimit_Up O	0 <u>Status socket</u> 0 <u>Mount status</u> 0 <u>Track points</u> 0 0	sas   ebpcse   lroten   eawirsb
IPrelimit_Down 0 IFinallimit_Up 0 IFinallimit_Down 0 IRate_Limit 0 IEncoder_Failure 0	0 0 Pos[rot] [rot/min] Torque 0 <u>Az1</u> -06219.3 -0000.00 -000.00 0 <u>Az2</u> -06168.0 -0000.00 -000.00 0 <u>Az3</u> -06220.1 -0000.00 -000.00	ckevvou   Use[% tereors   -000.0 0000000   -000.0 0000000   -000.0 00000000000000000000000000000000
IBrake_Error 0 IServo_Error 0 I	Az4         -06155.4         -0000.00         -000.00           0         Az5         -06223.8         -0000.00         -000.00           Az6         -06165.1         -0000.00         -000.00           Az7         -06217.4         -0000.00         -000.00	-000.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	-000.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
>	<u>Urp</u> −05203.3 −0000.00 −000.00	-000.0 0000000

Fig.4.16: The Mount monitor after the park of the antenna by using > antennaPark

Observatory       Name :       SRT         Universal Time :       2017-332-21:18:01.812         Julian Day :       2458086.387521         Japarent GST :       01:49:51.913         LST :       02:26:50.751         DUT1 :       0         Pole motion (x,y):       0       0         Geodetic Coords :       39.493040       9.245160       650.0         MCS84       4865168.400       791921.114       4035120.619		Observat	ory	
	I <u>Universal Time :</u> I <u>Julian Day :</u> I <u>Apparent GST :</u> ILST : I <u>DUT1 :</u> I <u>Pole motion (x,y):</u> I <u>Geodetic Coords :</u>	2017-332-21: 2458086.3875 01:49:51.913 02:26:50.751 0 0 39.493040	21 0 9,245160	

Fig.4.17: The **Observatory** monitor shows the station time and coordinates.

## GenericBackendX

**Primary Control Panel ACU** 

### SEADAS

# 4.1.2 Error messages

### **Primary Control Panel ACU**

At the end of your observations, do not press the emergency stop button when the **Stow Pin Motion** is yellow as below.

Wait until Axis blocked appears in red before pressing the emergency stop, as in the following figure:

When the emergency stop button is pressed, different messages are in red, as indicated in the following figure:

Receivers _ 🗆 🗙
r <mark>Receivers</mark> I <u>Current Setup <u></u> CCB I I<u>Mode <u></u> NORHAL I IStatus <u></u> OK <u>Dewar</u> <u></u> ℓ I I<u>Feeds </u> 1 I<u>IFs </u> 2</u></u>
ILO       : 06800.0 (x2)       I         IStart Freq.       : 00100.0 (x2)       I         IBandwidth       : 00800.0 (x2)       I         IPolarization       : LCP (x1) RCP (x1)       I         Image: Dewar Positioner       I         IConfiguration       : Dewar Positioner       I
IConfiguration: none  Dewar is ready  Absolute Position: 000.0  I / P / D / R: 000.0 / 000.000 / 000.00 / 000.0  Rewinding not required

Fig.4.18: The **ReceiverBoss** monitor summarizes the frontend setup parameters. The bottom part is devoted to the derotator (dewar positioner), when available.

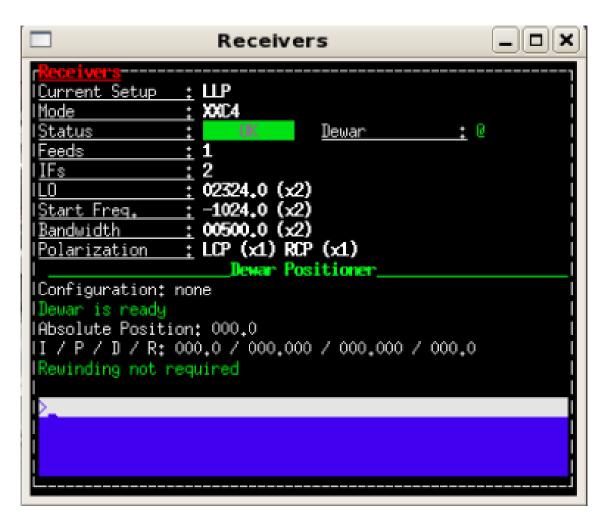


Fig.4.19: The **ReceiverBoss** monitor in the L-band configuration.

Receivers
Image: Second
IStart Freq.       : 00100.0 (x14)       I         IBandwidth       : 02000.0 (x14)       I         IPolarization       : LCP (x7) RCP (x7)       I         I       Dewar Positioner       I         IConfiguration: none       I       I         IDewar is ready       I       I
IAbsolute Position: 000.0       I         II / P / D / R: 000.0 / 000.000 / 000.000 / 000.0       I         IRewinding not required       I         I       I

Fig.4.20: The **ReceiverBoss** monitor in the K-band configuration.

	Scheduler	
r <mark>Scheduler</mark>  Project Code :  Schedule :  Scan/SubScan :  Backend :  Backend :  Recorder :  Device :  Rest Freq. :  Tracking :  Status : 	Maintenance GAIN_CURVES_CBAND.sc 0001/0002 BACKENDS/TotalPower MANAGEMENT/CalibrationTo 0 0.0 (x1) 0	

Fig.4.21: The **Scheduler** monitor shows the details on the selected data acquisition devices and on the running schedule, if any.

	Scheduler _ 🗆 🗙
r <mark>Scheduler</mark> IProject Code :	Maintenance
I <u>Schedule :</u>	
I <u>Scan/SubScan</u>	0000/0000
I <u>Backend</u> : IRecorder:	BACKENDS/TotalPower   HANAGENENT/CalibrationTo
IDevice :	0
Rest Freq.	0.0 (x1)
<u>Tracking</u>	0
l <u>Status :</u>	OK
i	i
2	
L	J

Fig.4.22: The Scheduler monitor after the interruption of the current subscan by using > stopSchedule or > haltSchedule

	MinorServo	
r <mark>Minor Servos</mark> I <u>Current Setup :</u> I <u>Tracking :</u> I <u>Status :</u> I <u>Motion Info :</u> I	CCB_ASACTIVE © (K Elevation Track Mode	
>_		

Fig.4.23: The **MinorServo** monitor shows the current setup code and the minor-servo status and movement. In this case the image refers to the C-band configuration.

	MinorServo	
F <mark>Hinor Servos</mark> [ <u>Current Setup :</u> [ <u>Tracking :</u> [ <u>Status :</u> [ <u>Motion Info :</u> [ ] ]	LLP No Elevation Track Mode	

Fig.4.24: The MinorServo monitor in the L-band configuration.

	MinorServo	
r <mark>Hinor Servos</mark> I <u>Current Setup :</u> I <u>Tracking :</u> I <u>Status :</u> I <u>Motion Info :</u> I	KKG_ASACTIVE	
$\triangleright$		
L		

Fig.4.25: The **MinorServo** monitor in the K-band configuration.

	MinorServo – 🗆 🗙
r <mark>Hinor Servos</mark>   <u>Current Setup :</u>   <u>Tracking :</u>   <u>Status :</u>   <u>Motion Info :</u>     	unknown O Not Ready to Move
>_	

Fig.4.26: The MinorServo monitor after the park of the minor servos by using > servoPark

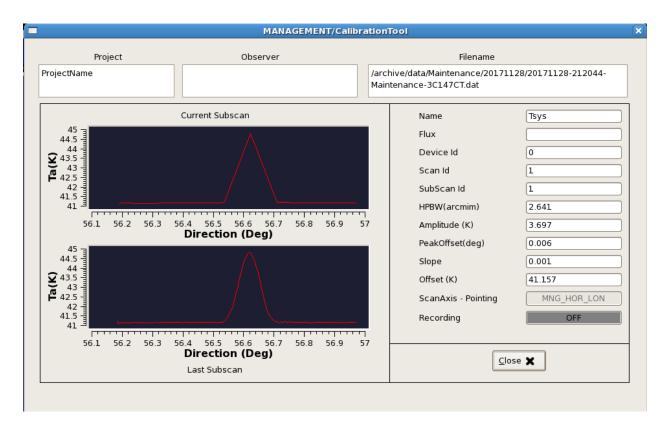


Fig.4.27: In the **Calibration tool client** window the subscan currently being acquired is shown in real-time (upper plot), even if in a low-resolution. In the lower plot, the last completed subscan - in its full sampling - is shown. We can read the information about the pointing of focus offsets ("peakoffsets"), the beam size ("HPBW"), etc.

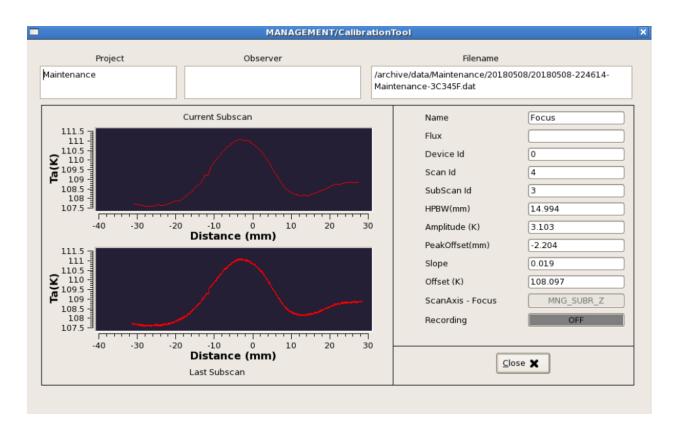


Fig.4.28: Calibration tool client window related to a focus subscan.

GenericBa	ckend		
Generic/Backend:         WCKENUS/ABackends           Iime         : 2018-025-16:32:46,410         Integration : 1           Sections : 4         Freq         BW         Feed         S.R.         Pol         Bins           S00         0145.0         0062.5         00         1.25000e+02         FULL-         0204           S01         0172.3         0007.8         00         1.56250e+01         FULL-         0204           S02         0175.3         0002.0         00         3.90625e+00         FULL-         0204           S03         0176.0         00000.5         00         9.76562e-01         FULL-         0204           S05         IS06         IS07         IS08         IS09         IS10         IS11         IS12           S13         S14         IS15         IS16         IS17         IS18         IS18         IS18         IS18         IS18         IS18         IS18         IS16         IS16         IS18         IS16         IS16	Inputs         8           IBs         Sect         Isus           8         100         21.6         00         00000.0           8         101         21.6         00         00000.0           8         102         21.6         01         00000.0	hω setting active abort dataReady overflowData	

Fig.4.29: A second GenericBackend panel shows the setup parameters of each section of Xarcos.

28.11.201	17	<< Primary Contr	ol Panel ACU >>		19:24:58 IRIG
Long [E] / Lati			(s) Interpolation Tr Spline	ack Status Time Offset (s Run 0.00000	System Faults TCP/IP Remo
Override	Position Offset [']	Position Ok -91.020 451.100	Position Ok 5.000 91	Por 0.500	sition Offset [*] 0.0000 Overrie
Rate Mode	Deviation CW ['] Rate CW ['/s 0.0023 0.0009	Position AZ (*) 49.1377	Position EL ["] 36.7256	No Stow Position Axis	not blocked Rate Mo
Offset Menu	Act. Par. Cmd Nr.: 69897993	Deviation AZ [*]	Deviation EL [*] -0.0002	Act. Par. Cmd Nr.: 6985 Load Track Table	0ffsel Executed
Position Menu	Rec. Mode Cmd Nr.: 57726058 Prog Track Accep	Rate AZ["/s]	Rate EL [*/s] 0.0523	Rec. Mode Cmd Nr.: 577 Prog Track	726058 Positio Accepted Menu
Slew Menu	Act. Mode Cmd Nr.: 57726058 Prog. Track Activ	Distance AZ [*]	Distance EL (*) -0.0003	Act. Mode Cmd Nr.: 577 Prog Track	26058 Slew Active Menu
Stow Menu	Axis State: Active	Error Warning	Error Warning	Axis State: Ac	Menu
Start Prog Track	Trajectory state: Prog Track			Trajectory state: Pr	og Track Start Prog Tra
Reset					Reset
Stop					Stop
Activate					Activate
Deactivate					Deactiva
Reset	Deactivate Activate Stop	Program Track Menu Messages	Alarm Primary States Panel Active	Time / PT Offset Menu Status	Motor Configura Status Menu

Fig.4.30: Primary Control Panel ACU.

8											-×
Quit	5	Session Manageme	nt	Status	IDLE		Antenna	& Pointing Manager	nent		DISABLED
Project ID		Project Name				Pars/Log		System	OK	Antenna	TRACKING
Session mode	Manual -	Observer(s)				Source name		Track	Stop		
Load setup	Reload setup	Setup file				Coordinates J20	00 💌 Righ	t Asc.	De	eclination	
Obs length (s)	3600	UTC start	0	UTC stop	0						
Schedule	Management	Observe	Sur	spend	Stop obs	Az. sector NEU	TRAL - Acti	ve surf. RECEIVER-DI	SFAULT -		
		Log mes	sages			Load setup	Reload Setu	p file			
	Connection to SI					Command					
SRT 07:35:59	antenna is TRACI	KING						Receivers Manag	jement		
						Receiver L-BAND	• ▼ Co	nfigure Cal so	urce © 0	FF CON	Set attens
						Polar	ization	Frequency filter (M	Hz)	Attenuation 1	evels (DB)
						L band LINEAR		-1800 (Passband fil		ect. 0 1 💌 S	ect. 1 1 💌
							LO f	req. (MHz) 2316	.000		
1											
Log entry											
DFB	IDLE	Pars/Log				Mode	FOLD	Config file	-	24_512_1024	<u> </u>
Obs length (s)		UTC start	0	UTC stop	0	Frequency (MHz)	1548.000	Subint time (s)	10	Cycle period (	s) 10.000
Load setup Write file	Reload setup	Setup file Data file				Bandwidth (MHz) Inverted freqs	512.000 NO	Profile bins	1024		
write file	1122	Data file				Num, of channels					
Progress						Write channels	0-0				
ROACH	IDLE	Pars/Log				Mode	FOLD	Advanced options		none	
Obs length (s)		UTC start	0	UTC stop	0	Frequency (MHz)	1556.000	Subint time (s)			
Load setup	Reload setup	Setup file				Bandwidth (MHz)		Profile bins			
		Data file				Inverted freqs	NO			Dedispersion 1	INCOHERENT -
Deserves						Num. of channels					
Progress											

Fig.4.31: Seadas GUI. On the top right, the red box signals that the control of the antenna is DISABLED.

Project ID     Project Name     Pars/Log       Session mode     Manual     Observer(s)     Source name       Load setup     Reload setup     Setup file     Coordinates     J2000 •       Obs length (s)     3600     UTC start     0     UTC stop     0	Right Asc.	System Track	OK Stop Decl	Antenna	ENABLED IDLE	
Session mode         Manual         Observer(s)         Source name           Load setup         Reload setup         Setup file         Coordinates         J2000         •           Obs length (s)         3600         UTC start         0         UTC stop         0           Schedule Management         Observe         Suspend         Stop obs         Az. sector         NEUTRAL         •	Active surf	Track	Stop Decl		IDLE	
Load setup         Reload setup         Setup file         Coordinates         J2000         Image: Coordinates         J2000	Active surf		Decl	ination		
Obs length (s)         3600         UTC start         0         UTC stop         0           Schedule Management         Observe         Suspend         Stop obs         Az. sector         NEUTRAL         •	Active surf	.RECEIVER-DEF		ination		
Schedule Management Observe Suspend Stop obs Az. sector NEUTRAL -		. RECEIVER-DEF				
		RECEIVER-DEF				
Log messages Load setup Reload	Cotum file		AULT -			
	Secup IIIe					
SRT 07:35:58 Connection to SRT established Command						
SRT 07:35:59 antenna is TRACKING SRT 07:37:10 sending command(s): chooseBackend=TotalPower	Rec	eivers Manage	ment			
SRT 07:37:10 sending command: chooseBackend=TotalPower	Configure	Cal sou	rce 🕞 OFF	C ON	Set attens	
SkT 07:37:12 sending command(s): goTo=*, *	·	cy filter (MH		Attenuation le		
SRT 07:37:12 chooseBackend\ SRT 07:37:12 sending command: goTo=*, *	. reques	.,			(55)	
SRT 07:37:14 goTo\ LINEAR						
SRT 07:37:17 antenna is IDLE	LO freg. (M					
Log entry						
DFB IDLE Pars/Log Mode FOLD	Config		pdfb4_1024_		-	
Obs length (s)         0         UTC start         0         UTC stop         0         Frequency (MHz)         1548.           Load setup         Reload setup         Setup file         Bandwidth (MHz)         512.0		t time (s)		ycle period (s	) 10.000	
		le bins	1024			
Write file YES T Data file Inverted freqs NO Num. of channels 102						
Progress Write channels 0-						
ROACH IDLE Pars/Log Mode FOLD	Advanc	ced options		none		
Obs length (s) 0 UTC start 0 UTC stop 0 Frequency (MHz) 1556.	.000 Subint	t time (s)				
Load setup Reload setup Setup file Bandwidth (MHz)	Profil	le bins				
Data file Inverted freqs NO	>		De	edispersion I	COHERENT -	
Num. of channels						
Progress						

Fig.4.32: Seadas GUI. On the top right, the green box signals that the control of the antenna is now ENABLED.

8					sead	as					
Quit	s	Session Manageme	ent	Status	IDLE		Antenna	& Pointing Managem	aent		ENABLED
		Project Name				Pars/Log		System	OK	Antenna	IDLE
Session mode	Schedule 🔽	Observer(s)				Source name		Track	Stop		
noad secup	Reitoau secup	Setup file				Coordinates	J2000 - Right	t Asc.	Dec	lination	
Obs length (s)	3600	UTC start	0	UTC stop	0						
Schedule	Management	Observe	Su	spend	Stop obs	Az. sector	NEUTRAL Y Activ	ve surf. RECEIVER-DE	FAULT		
Log messages						Load setup	Reload Setu	p file			
	Connection to SR					Command					
	SRT 07:35:59 antenna is TRACKING SRT 07:37:10 sending command(s): chooseBackend=TotalPower							Receivers Manag	ement		
SRT 07:37:10 :	sending command:	chooseBackend=				Receiver L-B	AND	nfigure Cal so	urce © OF	F ON	Set attens
	sending command( chooseBackend\	(s): goTo=*, *						Frequency filter (M		Attenuation 1	
	cnooseBackend\ sending command:	goTo=*, *						requency rireer (n	,	Accondicion	
SRT 07:37:14		· • • • •				L band LIN	EAR - 1300-	-1800 (Passband fil	ter) - Sec	at. 0 1 - 8	Sect. 1 1 -
SRT 07:37:17 a	antenna is IDLE							req. (MHz) 2316			
Log entry											
DFB	IDLE	Pars/Log				Mode	FOLD	Config file	pdfb4_102		<u> </u>
Obs length (s)	· · · · ·	UTC start	0	UTC stop	0	Frequency (ME	· · ·	Subint time (s)		Cycle period	(s) 10.000
Load setup	Reload setup	Setup file				Bandwidth (ME	-	Profile bins	1024		
Write file	YES 💌	Data file				Inverted freq	· · · · · · · · · · · · · · · · · · ·				
-						Num. of chann					
Progress						Write channel	Ls 0-0				
ROACH	IDLE	Pars/Log				Mode	FOLD	Advanced options		none	
Obs length (s)	0	UTC start	0	UTC stop	0	Frequency (ME	iz) 1556.000	Subint time (s)			
Load setup	Reload setup	Setup file			-	Bandwidth (ME	Iz)	Profile bins			
		Data file				Inverted freq	IS NO			Dedispersion	INCOHERENT 💌
						Num. of chann	nels				
Progress											

Fig.4.33: Seadas GUI. On the top left, circled in black, the Session Mode combo box where the option Schedule needs to be selected in order to start the observations through your pre-prepared schedule.

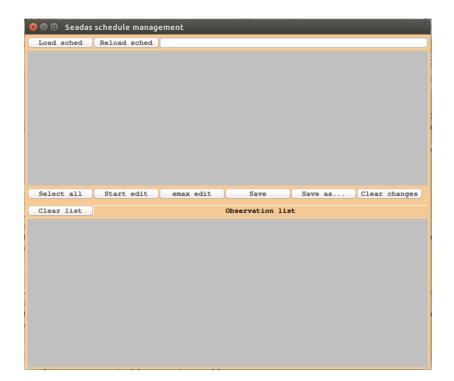


Fig.4.34: Seadas GUI. Pop-up window where the schedule can be uploaded by clicking on the button Load sched.

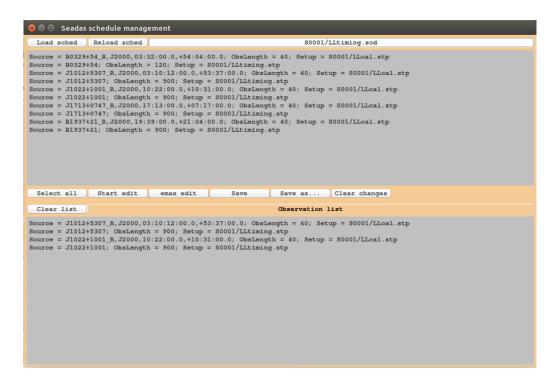


Fig.4.35: Seadas GUI pop-up window for schedule management. The uploaded schedule lines will appear on the top panel. The ones selected for observations will appear in the bottom panel.

28.11.2	2017		<< Pri	mary Control	I Panel A	CU >>			23:23:	54 IRIG-B
Long [E] / 1		7 Current [A] / P 33.667	ower (k.VA) 24.331	PT Time Offset [s] 0.000	Interpolat Spline		k Status pleted	Time Offset [s] 0.00000	Букі ТСР/ІР	em Faults Remote
	Position Offset [*]		Position 0	lk.	P	re Limit Up		Positio	n Officet ["]	
Override	0.0000	-91.0	120	451.100	5.000	90.5	00	0.	0000	Override
Rate Mode		ale CW [72] 0.0003		ition AZ (*) 0.0829	Position E 90.00	5	ilow Pos Read	hed Stow P	'in Motion	Rate Mode
Offset Menu	Act. Par. Cmd Nr.: 841	79639 Executed		ation AZ [*]	Deviation		Act. Pa	r. Cmd Nr.: 841786 Table	39 Executed	Offset Menu
Position Menu	Rec. Mode Crind Nr.: 57 Prog Track	725058 Accepted		• 42 (%) .0000	Bate EL		Rec. Mo Drive S	de Cmd Nr.: 84190 tow	615 Accepted	Position Menu
Slew Menu	Act. Mode Crid Nr.: 577 Prog Track	26058 Active		ance AZ [1]	Distance I	And the statement of the	Act. Mo Drive S	de Cmd Nr.: 841800	Active	Slow Menu
Stow	Axis State: Active						(Januara and San	kis State: Activ		Stow
Start Prog Track	Trajectory state: Prog T	rack	Error	Warning	Enor	Warning	In	sjectory state: SI	top	Start Prog Track
Reset										Reset
Stop										Stop
Activate										Activate
Deactivate										Deactivate
Reset	Deactivate Activate	Stop	Program Track Menu	Log Messages	Alarm States	Primary Panel Active	Time / PT Offset Monu	Azimuth Cable Wrap Status	Motor Status	Configura- tion Menu

Fig.4.36: ACU panel after > antennaPark.

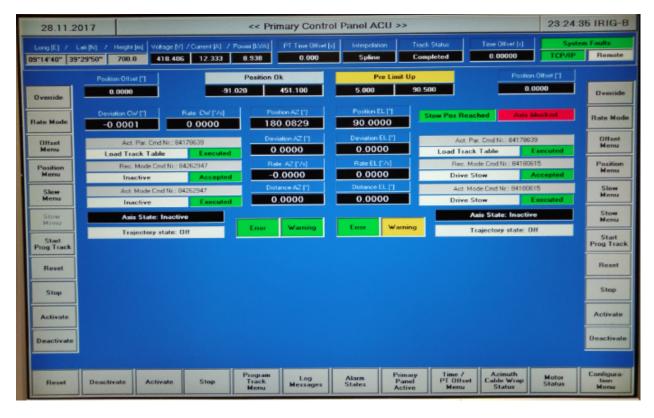


Fig.4.37: ACU panel when the antenna is correctly parked.

28.11.2	2017	<<	Primary Contr	ol Panel AG	CU >>			23:24	54 IRIG-B
Long (E) 7	Lati (N) / Height (m) Voltage (V 1*29'50" 700.0 418.29	/ Current [A] / Power [kW 0 15.167 10.999		[i] Interpolati Spline		Status pleted	Time Offset [s] 0.00000	ССРИР	em Faults Remote
Overside	Position Offset [*] 0.0000	Positi -91.020	on Ok 451.100	Pr 5.000	e Limit Up 90.5	00	_	on Offset ['] . 0000	Override
Rate Mode	Deviation CW [1] -0.0001	Rate DW [7/s]	Pointion AZ [*] 180.0829	Position El	5	tow Pos Reach	ed Axis	blocked	Rate Mode
Offset Menu	Act. Par. Cmd Nr.: 84 Load Track Table	Executed	Deviation AZ [*] 0.0000	Deviation E 0.000		Act. Par. I Load Track T	Cmd Nr.: 841798 able	539 Executed	Offset Menu
Position Menu	Rec. Mode Cmd Nr.: 8 Inactive	4262947 Accepted	Rate AZ [7/s] -0.0000	Rate EL [ 0.000		Rec. Mode Drive Stor	Cmd Nr.: 84180	Accepted	Position Menu
Slew Menu	Act. Mode End Nr.: B Inactive	Executed	Distance A2 [1] 0.0000	Distance E 0.000		Act. Mode Drive Stor	Cmd Nr.: 84190	615 Executed	Slew Menu
Stow Monu	Axis State: Inactiv Trajectory state: 0		Warning	Enor	Warning		State: Inacti ectory state: I		Stow Menu
Start Prog Track							ectory state.	-	Start Prog Track
Reset									Resot
Stop									Stop
Activate									Activate
Deactivate									Deactivate
Reset	Deactivate Activate	Stop Program Track Menu	Log Messages	Alarm States	Primary Panel Active	Time / PT Offset Menu	Azimuth Cable Wrap Status	Motor Status	Configura- tion Menu

Fig.4.38: ACU panel when the emergency button is pressed.

#### AntennaBoss

#### Observatory

#### Mount

### GenericBackend

#### **ReceiversBoss**

#### Scheduler

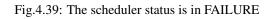
The antenna is not in tracking when the @ is red. Note that it can also be red when the antenna is in slewing (to reach the position of a target).

When the status of the scheduler is in FAILURE and the scan/subscan number is frozen, stop the schedule.

#### **MinorServo**

#### Logging Display

	Scheduler	
r <mark>Scheduler</mark> I <u>Project Code :</u> I <u>Schedule :</u> I <u>Scan/SubScan :</u> I <u>Backend :</u> I <u>Bevice :</u> I <u>Device :</u> I <u>Device :</u> I <u>Tracking :</u> I <u>Status :</u> I	Maintenance GAIN_CURVES_CBAND.sc 0001/0002 BACKENDS/TotalPower HANAGEMENT/CalibrationTo 0 0.0 (x1) FAILURE	



		LoggingClient - Online			
ile View Search Dr	ill down Ex	kpert			
Log level: 🕂 Warning	T Disc	card level: 🔯 Debug 🔻 🕕 Pause 📑 Clear logs 🔜 Filter	rs (	Drill down	
		C Search_			
meSta 👻 Entry Type		Log Message		Detailed info	
		Error retrieving component (type=25, code=1)	-	LogField	Value
		Component couldn't be retrieved (type=2001, code=14)		TimeStamp	2018-01-30T18:04:44.212
		Failed to provide component 'curi: ///BACKENDS/TotalPower' to 'MANAGEM.		Entry Type	🕰 Alert
		Error retrieving component (type=25, code=1) Container 'TotalPowerContainer' required by component 'BACKENDS/TotalP		Source Object	ManagerContainerServices
-		Error retrieving component (type=25, code=1)		File	alma. alarmsystem. source. ACSAJarmSystemInterfacePro>
8:04:44 😰 Alert	ManagerC	Alarm sent: <manager,totalpowercontainer,1> ACTIVE</manager,totalpowercontainer,1>			
8:03:14 🔕 Error	Managem	Error during the execution of a subscan in the schedule (type=2006, code.		Line	118
	Managem	Caught CORBA system exception (type=2001, code=18)		Routine Host	logFaultState nuraghe-mng.srt.inaf.it
		Error while calling a method (type=2001, code=7)		Process	Manager
		Error during the execution of a subscan in the schedule (type=2006, code.		Context	Manager
		Callback error (type=53, code=7)		Thread	Timer-0
		Sender connect error (type=53, code=10)		Log ID	18812
		Sender connect error (type=53, code=10)		Priority	
		BulkDataSender::connectToPeer callback null		URI	
8:03:09 😣 Error 8:03:09 😣 Error		TAO_FlowEndPoint::connector_registry::open failed Protocol was specified without an endpoint		Stack ID	unknown
8:03:09 🔕 Error 8:03:09		TAO_AV_TCP_Acceptor::open failed		Stack Level	0
8:03:09 🔕 Error		TAO_AV_TCP_Base_Connector::open failed		Log Message	Alarm sent: <manager,totalpowercontainer,1> ACTIVE</manager,totalpowercontainer,1>
8:03:09 🔯 Error		TAO_AV_TCP_Acceptor::open failed		Audience	
8:03:09 😣 Error		TAO_AV_TCP_Base_Connector::open failed		Array	
		Error while calling a method (type=2001, code=7)		Antenna	
	Managem	Receiver closeReceiver error (type=53, code=17)	-		1
			•	J	
				10	OK Engine not filtered Table not filtered Engineer 🔒

Fig.4.40: The error messages are show in the Logging Display with a short explanation of the related problem.

Log level: 😣 Error	🖵 Discard level: 🔯 Debug 🔍 🕕 Pause 📑 Clear logs 📑 Filters 🛑 Drill down		
	↓ → P ⊡ Search		
TimeSta Entry Typ	e Source Obl	Detailed in	fo
15:54:20 😣 Error	MINORSER., Cannot move the SRP	<b>A</b>	
15:39:40 🔕 Error	MINORSER Cannot move the SRP	LogFie	
14:54:48 🔕 Error	MINORSER Cannot move the SRP	= TimeStam	
14:17:08 🔇 Error	MINORSER Cannot move the SRP	Entry Type Source Ob	
13:42:14 😣 Error	MINORSER Cannot move the SRP	File	
13:07:15 😣 Error	MINORSER Cannot move the SRP	Line	TrackingThread.cpp 76
12:11:13 😣 Error	MINORSER Cannot move the SRP	Routine	76
11:33:14 😣 Error	MINORSER Cannot move the SRP	Host	nuraghe-mng.srt.inaf.it
10:50:59 🔇 Error	MINORSER Cannot move the SRP	Process	MinorServoBossContaine
10:47:36 🥸 Error	MINORSER Cannot move the SRP	Context	Minorservobosscontaine
10:08:53 🔇 Error	MINORSER Cannot move the SRP	Thread	TrackingThread
10:04:49 😣 Error	MINORSER Cannot move the SRP		TrackingThread
09:51:19 🔇 Error	Managem A schedule is already running (type=2006, code=2)	Priority	
09:47:29 🥸 Error	IRA_CUSTupdatePosition - cannot rewind: 200s exceeded	URI	
09:42:26 🙆 Error	IRA_CUSTupdatePosition - cannot rewind: 200s exceeded	Stack ID	
09:24:45 🥸 Error	IRA_CUSTupdatePosition - cannot rewind: 200s exceeded	Stack Leve	0
09:15:27 🥸 Error	IRA_CUSTupdatePosition - cannot rewind: 200s exceeded	Log Messa	
09:10:59 🥸 Error	MINORSER Cannot move the SRP	Audience	ge canot nove the SRF
09:07:31 🐼 Error	MINORSERCannot move the SRP	Addience	
08:51:53 🛕 Critical	MountCon EMERGENCY_STOP	Antenna	
08:51:46 🛕 Critical	MountCon EMERGENCY_STOP	Ancenna	1
08:51:39 🧥 Critical	MountCon EMERGENCY_STOP		
108:51:32 🗥 Critical	MountCon IEMERGENCY STOP	•	

Fig.4.41: The warning message indicated by the blue arrow automatically appears when the emergency stop button is pressed.

### **Active Surface**

The active surface does not work properly if a large fraction (a whole sector) becomes red. It is a problem in K-band observations.

#### **MeteoClient**

The real-time monitoring of the wind velocity is performed with the meteoClient on a nuraghe-mng shell: meteoClient. The red horizontal line corresponds to 60 km/h, the limit for observing with SRT.

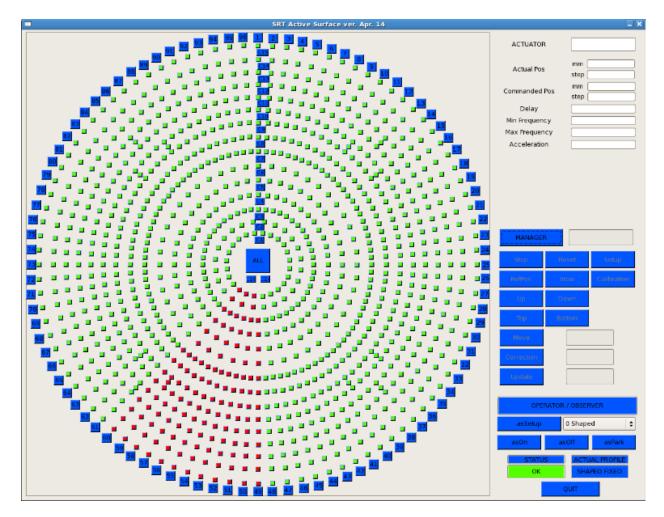


Fig.4.42: A fraction of the active surface (red squares) does not work properly.

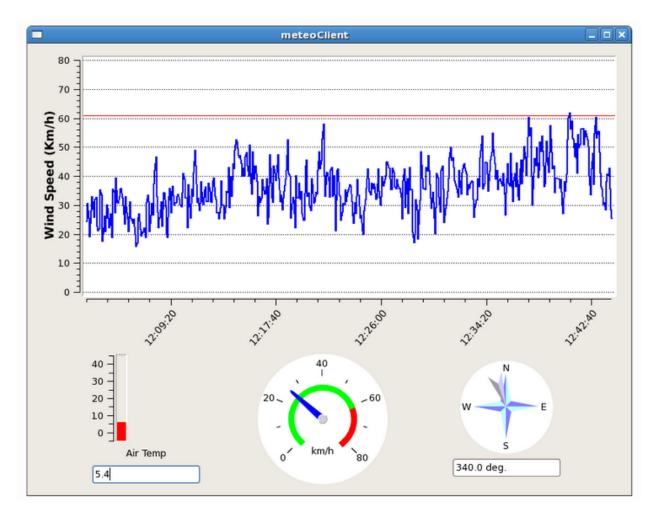


Fig.4.43: The antenna is automatically stowed when the wind speed exceeds 60km/h.