

# Tidbinbilla notes for V185b

## Config notes

- Centre freq = 2280 MHz
- Polarisation = RCP (IF1), LCP (IF2)
- 1st LO = 2000 MHz
- mix to 160 MHz into DAS
- so 2nd LO for USB mix =  $2280 - 2000 + 160 = 440$  MHz
- DAS profile = ti16s\_f.pro
- receiver configs:
  - DCC1: RCP → LNA2 (low noise path) → out (output 1 for SNT monitoring). So `SRLA201
  - DCC2: LCP → LNA1 (high noise diplexed path) → out (output 2 for SNT monitoring). So 'SLDA102'

## SOE

### Before the track

- Tapes
  - get labels
  - load first set
- Block 0 rack config
  - RCP → IF1
  - LCP → IF2
  - 2nd LOs 1 and 2 to 440 MHz
- PCFS
  - sched files
    - fix timing
    - add source commands
  - modify PRC file
    - ND control
      - copy calon, caloff, toload, tosky from ndtest.prc
    - VFC patching
      - patch in S-band and set LOs to 272 MHz
    - S2 config
- start DAS software
  - configuration ti16s\_f.pro
  - adjust attenuators
- telnet s2
  - check time
- tidvsi
  - 203.5.58.205
  - check time
  - start disk
  - tunnel ports 7420 and 7426 to pentane.ssi.swin.edu.au via venice

- configure and start
- xplot
  - on eac40: /opt/rmc/bin/xplot -rh pcfs40
- start PCFS software
  - ssh ops@pcfs40
  - pcfsa-remote
    - S2, S-RCP, S-LCP, maintenance
  - start the schedule
  - configure VFCs with ifds and vclba

## At start of track

- NMC
  - Link
    - Build link with antenna and receiver, spacecraft 50 (VLBI), pass 0, two receivers.
  - antenna startup
    - in NMC:CTRL Connection Control:
      - AP D TRK (to show the track display)
        - Check for:
        - \* delut ~ +291 ms
        - \* models for encoder and position should be 3SPIG.AC1 and 3SCIB.SEM respectively
      - ap band s
      - ap move r=240
      - ap semn 3spig.ac1
      - ap semn 3scib.sem
      - ap radec 217.08656 -42.13415 (1424-418)
      - ap mode ac1
      - ap d sts (check all green. click on antenna to see brakes status)
      - ap trk (start the antenna)
      - (make safety page)
      - ap resm trk
  - start three connection blocks
    - connection blocks → NDcontrol (Note PID)
    - connection blocks → UWVcontrol (Note PID)
    - connection blocks → APCcontrol (Note PID)
  - start the E-log TDN
    - TDNs → **log?**
    - move to 'logs' workspace
  - receiver config
    - us d smap
    - us d xmap
    - (double-click on dichroic to move it IN)
    - (configure with double-clicks)
    - D1 D CNF 3
    - (select S band and [apply])
    - if fails, try SC 99
    - make carrier 2280 MHz
    - if fail to pick up correct LNA:
      - D1 set uwv reset

- d1 set uwv srla2o2
- D2 D CNF 4
- (select S band and [apply])
- if fails, try SC 99
- make carrier 2280 MHz
- if fail to pick up correct LNA:
  - select connection "none"
  - select connection DSS43SO2
- if still failing
  - D1 set uwv reset
  - d1 set uwv srla2o2
- configure noise diode
  - d1 d prf 3 and d2 d prf 4
  - click on REC button in CNF windows
  - select 12.5K and frequency = on, apply
  - then enable/disable
  - to modulate
  - \* 0.25 K, 20 Hz, 5s, enable
  - repeat for D2
- boresight
  - manual offsets e.g:
    - ap po xel 0.1
- PCFS
  - check atten levels

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