

DSN Antennas Supporting T14

Passes:

Station	Pre-cal	BOT	EOT	Post-Cal
DSS-55	140/0845	140/1150	140/1525	140/1625
DSS-63	140/0850	140/1150	140/1525	140/1625

Equipment scheduled:

- 2 closed-loop receivers per antenna
- All RSRs and VSRs at Madrid (eight subchannels total)
- WVSR at Madrid

Simultaneous Band and Polarization Capabilities:

DSS-63

X-RCP
X-LCP

S-RCP
S-LCP

DSS-55

X-RCP
X-LCP

K-RCP
K-LCP

Either KLCP or monopulse

All-Band Dependent Polarizations

Ambient Load or Cold Sky changes will impact both polarizations/both bands

Same-Band Dependent Polarizations

Ambient Load or Cold Sky changes will impact both polarizations/same band

Independent Polarizations

Ambient Load or Cold Sky changes will only impact polarization being changed

RSR/VSR Assignment

DSS	Operator	Station	RSRs or VSRs	RSR Assignment
63	Danny	rsops1	RSR1	RSR1A -> XRCP RSR1B -> XLCP
63	Elias	rsops2	RSR2	RSR2A -> SRCP RSR2B -> SLCP
55	Don	rsops3	VSR1 and VSR2	VSR1A -> XRCP VSR1B -> XLCP VSR2A -> KRCP VSR2B -> KLCP

Roberto will operate WVRs

Bistatic Calibrations

- Calibrations will be performed during
 - Pre-cal (antennas at stow)
 - 3-hr pre-cal periods were scheduled
 - Normally 60 minutes at 70-m and 90-m at BWG for Ka-band support
 - Observation (mini-cals)
 - Pre-determined and carefully selected times
 - More from Essam
 - Post-Cal (antennas at stow)
 - 1-hr post-cal periods were scheduled
 - Normally 15 minutes

ORTs Completed in Preparation for T14

DOY 126 (5/6) over DSS-55 (X- and Ka-band):

Pass: 06 126 1130 1300 2200 2215 DSS-55 CAS TP RSR23-BIORT1 3134 N750 Also TP

- Objective
 - Collect pointing data (monopulse)
- Results:
 - Nominal ORT. Objective met

DOY 134 (5/14) over DSS-63 and DSS-55 (S, X, and Ka-band)

Pass: 06 134 0940 1245 2145 2245 DSS-55 CAS TP RSR24-BIORT2 3142 N750

Pass: 06 134 0945 1245 2145 2245 DSS-63 CAS TP RSR24-BIORT2 3142 N655 Also TP

- Objective
 - Practice bistatic calibrations at both stations during pre- and post-cal periods
 - DSS-55 to perform a monopulse on-point phase cal
 - Verify KLCP at DSS-55, and test switching between monopulse and KLCP
 - Collect pointing data at DSS-55
 - Verify RCP and LCP at each antenna, both bands
- Results:
 - Successful pre-cal and post-cal calibrations (except for Ka-band noise diode problem)
 - Switching between monopulse and KLCP nominal
 - RCP and LCP verified. Stations in correct configuration
 - Problems:
 - Monopulse during first 90 minutes of track. Two on-point phase calcs required. DR# M103698
 - Ka-band noise diode. DR# M103697