

540 Rev 68
SATurn gravity + Atmospheric Occ

5/17/08
Rev 68
DOY 138 ①

ACE: Dave Deady, then

NOPE: Lu & Scandy?

RSCps: Aseel, Danny, Don, Elias (kader)
Dave Rochbicek

A, D & D in cps room 11:30am
Not there for 55 pre-cc

In room: Sumi for little bit, Arv for occ

DSS-55	Pre-cc	138/1550, BUT 1720, EOT 131/0050,	Pass # 3878
DSS-25		138/1850 2020, 0600	3878
26*		1920 d/L only 2020	3878 3878
15		2100	
63		2125	3878
		0100	

* Original EOT 0600. PHX asked for time on DOY 137 (5/16) for TCM
Madrid weather: clear & calm cloudy wind 1.9 mph

DSS-55 1-hr w/o doing much.

DSS-55 XMTR on 1819
off 2003... per SOE

First time
using 15 for
occ. PHX has
14. We

DSS-25 clear & calm weather

XMTR on 2240

off 0255 (5 mins after SOE time)

DSS-55 expected 2-way time 205312
(2 minutes for sweep)

Fqam: DSS-25 X43 K56
change for occ to 56

DSS-25 X43 K56
change for occ to 56

DSS-55 X43 K56
change for occ to 56

DSS-15 X56 S46 change prior to occ to 49

DSS-63 X61 S51 change prior to occ to 49

1954 Nope called to say that weather at Madno is calm so they did not configure w/ LQG Coefficients.

2019 25 said their cooler is running out of water, want to turn XMTR off until needed
ACE → OK

Start RSRs: 1-way

2027 AH auto at 55, 25 & 26

2032 ~~SNT~~ measurement. Asked stations to enable SNT on all d/L channels

25 X	37.0
25 K	101.4
26 X	40.2
26 K	79.0
55 X	24.2
55 K	43.0

2034 Asked 25 to disable SNT on both X & Ka

2036 Asked 26 & 55 to disable SNT

2035 55 started to ~~see~~ see X-band signal .. } s/c turning
2036 Ka-band too } to Earth point.

2038 ACE told stations to lock RCVRS on ca but delay locking up TUM until 2051

2038 25 & 26 1/L

2040 NOPE asked stations 25 & 26 to enable

204030 25 & 26 have monopulse enabled

2041 NOPE asked 55 to enable monopulse.

204115 55 has monopulse enabled

2041 Told NOPE that our monopulse displays are looking good & all updating as supposed to be
2042 ACE asked 25 & 26 for I/L times
26 X 203841
K 203838

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26 Don reporting improvement in Ka power w/ monopulse
w/ .8 dB. Also look steadier.

2045 ACE asked 55 for I/L times
55 X 203957
K 204005

2048 Asked 25 for weather status
Temp 33.5°C Wind speed 5.6 km/hr Sky clear

2049 Asked 55 for weather status
Temp 15°C Wind speed \emptyset Sky cloudy

205216 LOS going coherent

2053 Stations I/L 2-way / 3-way w 55

2054 Told stations to re-enable monopulse if they haven't already done so

2052 Lu ~~con~~ferenced call w/ 26 operator Mike ^{static}
26 displays (monopulse) freeze for first - fifth. Is that
20 minutes delay I talked about? Seems like it. Operator
We weren't checking, but saw & agree. Operator wants to
disable & reenable monopulse. \Rightarrow I said now is a good time.
Switching to 3-way \Rightarrow operator: oh!

2059 Told NOPE 26 displays looking better now.
25 power slow (just as I was saying that they
got better). Nope said let's do workaround,
told him to wait, already seeing improvement

2013 Ace briefing 15 Pass 3878

15 Weather v nice. Shame to be inside.
Clear, calm. Temp 90°F.

2100 P_c/N₀ Gravity

55 X	33.5		55 XL	9.8	
55 K	48.6	(16k)	55 KL	14.4	error channel
25 X	31.6				
25 K	47.2	(16k)			
26 X	32.7		26 XL	5.3	
26 K	32.7 48.5	(16k)	26 KL	16.4	error channel

Pointing Models:

25 revert to pointing model before last occ due to high residuals observed during last occ

26 kept as is

55 Updated

2122 ACE briefing 63
weather particulates cloudy, 10 mph wind

2131 Nope telling station 25 & 26 to open DR on ~~monopulse~~ AMC software. Degraded monitor data. Per request of Antenna OE, Monopulse first-5th values get stuck for ~15 mins. Later asked 55 for same.

2145 15 reporting I/L on both X & S

2148 Asked 15 to enable SWT on both X & S

X 24.2

S 36.3

2151 Elias started seeing 63 signal

215150 Asked 15 to disable SWT

2153 b3 not yet BOT, but SNT enabled,
50 got values

X 19.9
S 17.6

Monopulse offsets looking good at all. Below 3 mostly.
55 probably looking best. No oscillations so far.

2159 Asked b3 to disable SNT on both channels.

2210 Nope advised if OK to have 15 Conscan
→ that would be OK

Pc/No X 35.34
S 33.10

221050 15 conscan enabled

Plan for Occ

2233 ATT auto

222 Prdx change (4-way but called 3-way w/3 in prdx)

Queue { S fro 1 -300 to capture signal
fgain X to 56 at 25, 26 & 55
S at b3 to 49

*Elias noted that only Ka-band will drift, so no need for offset at S or X. True.

Will Queue changes at 2233. Switch to occ is not until 2236, but since open-loop is prime for occ, be ready from then.

2223 Pc/No

55 X 33.0
55 Ka 48.6

25 X 32.5
25 Ka 49.1

26 X
26 Ka

15 X
15 S

63 X
63 S

Oops no time

2229 15 disabled Conscom

(spoke to NOT & told him that it should be disabled before beg. of OCC, so NOT said let's do now).

2233 Commands in Q executed

Monopulse plan: (arrived from Essam w/ suggestions)

26 looks weakest

55 & 25 could disable & clear offsets

26 keep offsets

I suggested keep one antenna w/ monopulse since we have three.

All have to do egres on blind pointing

223952 XMTR ON at 25 (they didn't announce but I checked at 0010. Phew!!)

2243 Asked 55 to disable monopulse & clear offset.

⇒ 2244 done.

2246 Asked 55 to put switch 43 in B position (Do they have KLCP?)

⇒ 224650 confirmed

2248 Asked 25 to disable monopulse & clear offsets

Drop .25 dB

2251 Asked 25 to re-enable monopulse

225230 Asked 25 to disable monopulse but keep offsets
⇒ no obvious drop

225352 Asked 26 to disable monopulse & clear offsets

2254 26 confirmed

⇒ .15 drop

2255 Asked 26 to re-enable monopulse

I suggested we keep monopulse enabled at one antenna since we have three

225840 63 said they have SNT enabled
want it disabled? \Rightarrow yes
(I asked them before !)

2259	Pc/No	Start baseline (again)	LCP
55X	49.1	56	55X 25.9
55Ka	48.5	56	55K 23.3
25X	49.1	56	
25Ka	49.4	56	
26X	49.1	56	26X 19.0
26K	50.2	56	26Ka 13.5 (error cleared)
15X	49.54	56	
15S	35.45	42	
63X	55.01	61	63X 33.6
63S	43.05	49	63S 22.6

Actual monopulse plan:

- 25 disable, keep offsets
- 55 disable, clear offsets
- 26 keep enabled

2312 55 dropped \approx 5 dB
elevation? (station settings)

Any oscillations?

2315 Asked 25 for weather update
Temp 34.7°C Wind speed 3.7 km/hr Sky condition cloudy

2316 Asked 55 for weather update
Temp 14°C wind speed 9 mph Sky condition partially cloudy

Danny's DMD displays show
km/hr, & asked station for confirmation, they said mph.

2326 All stations reported LOS

232638 Nope asked station to configure d/L channel 8 in open-loop mode.

2327 26 asked if disable monopulse \Rightarrow a

2327 Nope asked station to configure d/L channel 8 in open-loop mode.

2230 1k drifted out of Ka-band

Should've had $f = 300$ ← checked w/ X-band plots)
for egress, use -350 (got values from Paul's plots).

Signals lost ~3 minutes before times in timeline
Being interference (Ring A). Won't happen
during egress (clear of rings).

2358 Told stations that we want to do SNT
measurements. Enable SNT on all d/L channels

55 X	31.3
55 Ka	64.1
63 X	26.5
63 S	24.2
25 X	23.9
25 K	53.8
26 X	26.3
26 K	37.3
15 X	22.1
15 S	30.4

(not as hot at Goldstone as when we started!)

~~2000~~

DOY 139

0001 asked 55 & 26 to disable SNT on Ka-band only

0003 asked 15, 25 & 63 to disable SNT on both d/L channels

⇒ Confirmed by Danny

0005 Put ~~AS500~~ "Sfro" \perp -350" in prep for occ.

000530 Told NOPE that we can enable SNT at 15 (he had asked earlier) during the last half hour of the track after we are done w/ occultation & start out-bound gravity)

0010 Verified w/ 25 that they had XMTR on at ~~2240~~ .. no one made note of that

⇒ Station confirmed. XMTR on at 223952 ..
Panicked for a minute!

~~0010~~

0015 26 said it EOT ... what!? I thought we had it until 0115

checked email .. yep, 0015.

Oh well.

DR for monopulse monitor G108616

0020 End recording for 0020

~ 002850 Start seeing 63 S-band signal

0035 25, 55 & 63 have revs I/L

003841 David says 55 offset pointing looks v. good

003930 15 both bands I/L

0040 Asked NOPE if 55 still has d/L channel 8 configured in open-loop

⇒ NOPE said that 55 still has both x & ka I/L

* SFRO worked this time!

then ... KK captured entire egress.

0047 P_c/N₀

55X 46.4

55Ka 40.3

25X 49.2

25Ka 47.6

15X 49.72

15S 35.34

63X 50.02

63S 40.28

LCP

55X 20.8

55Ka 11.6

(=36.9 after switch 43 in A position for monopulse).

004710 Asked 55 to put switch 43 in A position

004750 confirmed

004810 Asked 55 to enable monopulse
w/ 2.5 dB increase in SNR

0051 55 elevation 7.9

0052 55 EOT 0050.

DR# M104848 for monopulse monitor

0100 DSS-63 EOT

011027 Asked 25 to enable monopulse w/ 1.5 dB increase

Playback

26 Gravity ¹³⁸138/2030 to ¹³⁸138/2233

Occ ¹³⁸138/2233 to ¹³⁸0000

w/ 011337 3-way at 15

011440 25 I/L 2-way

011450 25 monopulse

2240
232
1.2

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0120 Nope asked if censcom at 15
→ no
0120 enabled SNT on d/L channel 4

Playbacks

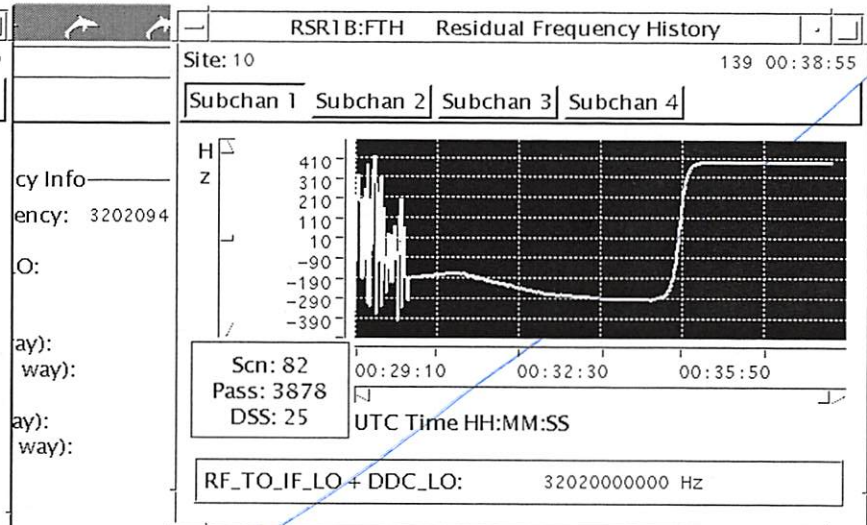
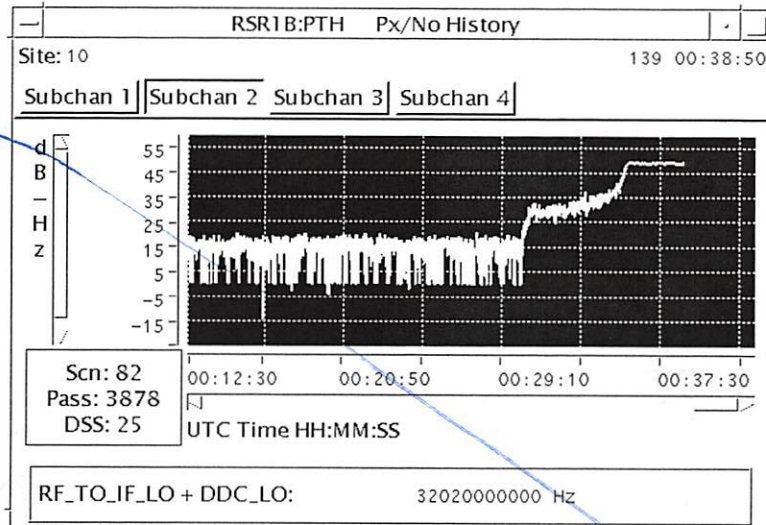
55 gravity 138/2030 to 2233
Occ in 138/2233 to ¹³⁴0000
Occ out ~~138~~/0000 to ¹³⁴0115

63 gravity 138/2152 to 2233
Occ in 138/2233 to 0000
Occ out 0000 to 0115

15 gravity 138/2110 to 2233
Occ in 138/2233 to 0000
Occ out 134/0000 to 011245
Gravity out 134/01245 to 020000

25

Grow out 139/011335 to 0615

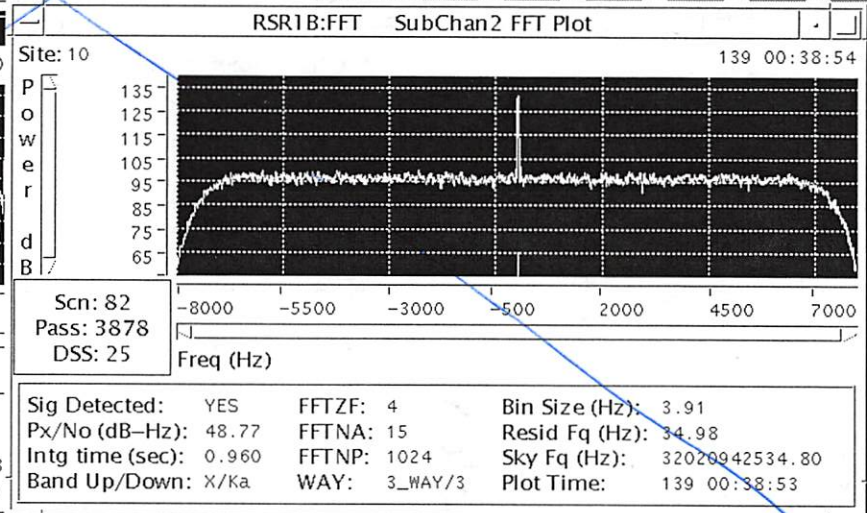
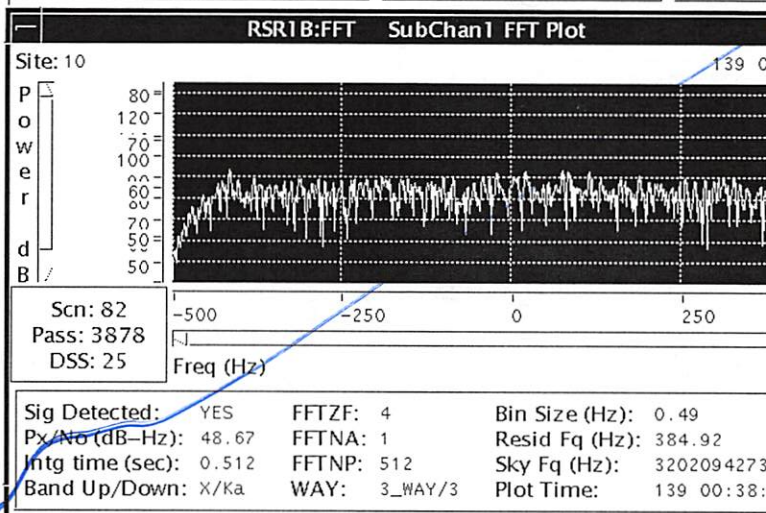
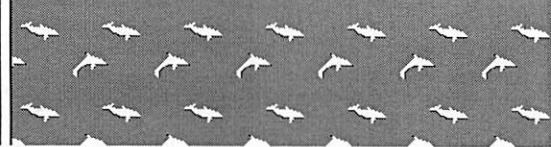


IF Source: 25_K_RCP
Prdx Shift: 0 sec
ATT setting: 22.5 dB

WAY... ATT...

Source File: 82_2008_138_25K_w123.d1f

DDCLO... FRO... FRR... FROV...



Terminal

rsops1:rsgg /u/msop/rsgg 118>

predicts DSS25 DSS55 KR DSS25 KR

Window Edit Options Help