

HF Run June 16  
02 June 16 Pla

18:00 5.1 MHz FREQ

~~18:00~~ 19:08 #3 Trip off, PA SCRIP.  
Carlo fixed, then BB amp regained  
its health, 200W indicated, 110 kW.  
Had to drop drive almost 4dB.

19:13 Back to stable op

19:35 Turned off RF for approx 1 min at  
Phil's request.

19:48 Turned off RF for arc-free dome  
& CH moves.

20:08 RF turned back on, retweaking.

21:05 - finished Brett  
CH  $\Rightarrow$  CD  $\Rightarrow$  15 deg.  
START microwave here  
switched RCP, CD 0000  
15 min. need a few minutes  
to rest.

21:2 - RCP 2 dB low

21:13 - RCP ~~2 dB~~ low full power

21:17 - RCP Full power.

21:21 - moving off  $\Rightarrow$  0 dB

- Back to 285.0001.

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P20

21:30 → left LCP Full Power

~~21:45 → RHP~~

changed Filts. w/dly

21:45 - off 15 min

22:00 RCD ✓

22:15 off ✓

increases all +ld's except

22:30 ~~LCP~~ LCP ✓ 4 = +0.5 db

22:45 off ✓

23:00 RPP ✓

23:15 off ✓

23:30 LCP ✓

23:45 off ✓

00:00 RCD ✓

00:15 OFF ✓

00:30 LCP ✓

03 Jun 6 A.M. #3a

00:45	OFF	✓	
01:00	RCP	✓	
01:15	OFF	✓	
01:30	LCP	✓	
01:45	OFF	✓	
02:00	RCP	✓	
02:15	OFF	✓	
02:30	LCP	✓	- increase 0.1 dB TX3
02:45	OFF	✓	
03:00	RCP	✓	
03:15	OFF	✓	
03:30	LCP	✓	
03:45	OFF	✓	
04:00	RCP		

END wing change

DM = 7.8 ch = 0

4:30 off 2min Sumner FREQ

4:32 ON RE Still S. 1.447

6:56 - -.5 db because of wiring

6:58 - test with 1.7 x 0.129

TX3 off gone

~~TX4~~ gone but returns

03 Jun 66

P4a

TX5 off - NO ARC'Y  
TX6 off - NO ARC'Y

7:00 all baden +.5 dB  
NO ARC'Y.

10:22 Paul Bornhart  
BREWING COY  
S.I. M47 fixed.

10:48 - ~~10:54~~

10:36 occultation = 11:06

10:48 Back on satellite

passed thru

set back off till

11:54 - switched to chirp

S.I. cent 25 KHz BW

- 2 dbm out, filter in

sweep from 25 Hz cal.

tied to 10 MHz.

11:49:10 sweep of SAM

psu onto

11:50 sweep on

12:00 STOPPED

HF Run June 16  
 03 June 16 - night Run - ①  
 FREQ 5.1 MHz

17:45 START Buryin up HF

BREK cycle

→ .13 59.87 ← 10 mil  
 30 30 10 mil  
 2 58.

7:47  
 WDFQ1000H

~~18:15~~ #18 10 minutes

18:10 + .13 Sec

18:20 + 30/30

18:30 + 2/58 # 3-1db

18:40 + .13/59.87

18:50 + 30/30

19:00 + 2/58

19:10 + .13/59.87

19:20 + 30/30

19:30 + 2/58

19:40 + .13/59.87

19:50 + 30/30

20:00 + 2/58

20:10 + .13/59.87

20:20 + 30/30

20:30 + 2/58

20:40 + .13/59.87

20:50 + 30/30

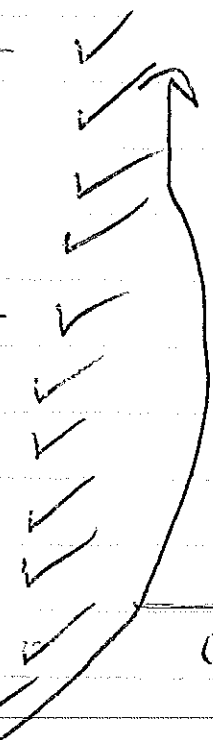
03 June 2016 Night run (cont'd)

(2)

MC Lee exp 5.1 MHz

(200CP) (0 PWR)

21:30 ~~start~~ dana\_lhcp.hfsynth start  
 21:45 RF off  
 22:00 dana\_rhcp.hfsynth start  
 22:15 RF off  
 22:30 dana\_lhcp.hfsynth start  
 22:45 RF off  
 23:00 dana\_rhcp.hfsynth start  
 23:15 RF off  
 23:30 dana\_lhcp.hfsynth start  
 23:45 RF off  
 24:00 dana\_rhcp.hfsynth start  
 00:15 RF off  
 00:30 ~~dana\_lhcp.hfsynth~~ start  
 00:45 RF off  
 1:00 dana\_rhcp.hfsynth start  
 1:15 RF OFF  
 1:30 dana\_lhcp.hfsynth start  
 1:45 RF OFF  
 2:00 dana\_rhcp.hfsynth start  
 2:15 RF OFF  
 2:30 dana\_lhcp.hfsynth start  
 2:45 RF OFF  
 3:00 dana\_rhcp.hfsynth start  
 3:15 RF OFF  
 3:30 dana\_lhcp.hfsynth start  
 3:45 RF OFF  
 4:00 dana\_rhcp.hfsynth start



04 June 16

changed NAMES to  
 lhcp-160603.hfsynth

Suman 979 f.b ch=0, single coded

08/26/16

P3

Scena ~~continues~~ continues after 8:30 AM

9:00

~~RF~~ RF off, data taken running ~~still~~ still  
running for background.  
FRFQ still 5.1 MHz

10:00

cu  $\rightarrow$  10, dave  $\rightarrow$  1.06

10:05

START RF FOR 2 dB LOW

10:27

START sweep in Paul B

39ms sweep 40ms trigger filter 25 kHz centered at 5.1 MHz

10:30

~~RF~~ RF off

11:00

more done, ch 1 Hz = 168

setup for twisted Beam Paul B.

~~tblm rep. hfsynth twisted Beam L-~~

~~tblm~~

tblm1 rep. hfsynth twisted Beam L- 100

tblp1 rep. hfsynth L+1 100

- fixed 5.1 MHz

11:12

enable RF 15 dB low

tblp1 rep [000, 0, 105, 5, 177, 312.5, 177]  
175 dbm/cm<sup>2</sup>

tblm1 - lots of arcing - 266 loss

tblp1 - Back hill

11:14

sweeping with tblp1 -

Regular 25 kHz sweep - 70ms/39ms

2:20

stopped - HF Broadband of

DATA TAKING STOPPED

7:30

down - saw some Boosts at the EA

do corfile. x01.06.16.2

AST 04 June 2016 Evening Session

P4

16:45 Dana checked phase synthesizer outputs for 120 Hz modulation and/or 18 kHz sidebands. All channels clean. These "faults" were noted last night on signals picked up on ad hoc antennas in the HF bldg control room area.

8:00 changed broadband #3  
updated RACP, LHCP wfsynth file  
- Need to check Tb twisted beam files

18:20 bringing up all 6 tx. RCP.

18:50 + 0.13/59.87 start Brett experiment

19:00 + 30/30

19:10 + 2/58

19:20 + 0.13/59.87

19:30 + 30/30 finished full cycle.

19:40 Stop to reduce power by 0.5 dB (req by Brett)

20:05 + 2/58

20:15 + 0.13/59.87

20:25 + 30/30

20:35 + 2/58

20:45 + 0.13/59.87

20:55 + 30/30

21:05 END BRETT experiment, begin setting up Paul B.



04 June 2016 21:30

P5

GMT AST (pm) WRCW BCW

09:30 FMCW 25/25k

09:40 CW ✓

09:50 FMCW ✓

10:00 CW ✓

10:10 FMCW ✓

10:20 CW ✓

10:30 FMCW ✓

10:40 CW ✓

10:50 FMCW ✓

11:00 CW ✓ ↓ / 25k (11:02 - 11:03 FMCW)

11:10 FMCW ✓

11:20 ~~FMCW~~ CW ✓

11:30 FMCW ✓

11:40 CW ✓

11:50 FMCW ✓

12:00 CW ✓ (25H3)

12:05 OFF ✓

12:10 FMCW ✓ 25/25k

12:15 OFF ✓

12:20 CW ✓

12:25 OFF ✓

12:30 FMCW ✓

12:35 OFF ✓

12:40 CW ✓

12:45 OFF ✓

12:50 FMCW ✓

12:55 OFF ✓

01:00 ~~OFF~~ CW ✓

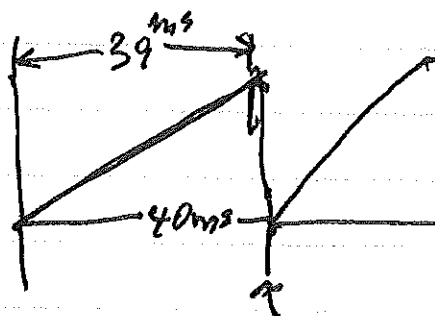
Low Power in Dome

1.3mw Dome + Carousel Hotel

05 JUNE 01:00

P6

SMT	AST	MODE	(Hz) ✓
	01:00	CW	✓
	01:05	OFF	✓
	01:10	FMCW	✓ 1/25K
	01:15	OFF	✓
	01:20	CW	✓
	01:25	OFF	✓
	01:30	FMCW	✓
	01:35	OFF	✓
	01:40	CW	✓ 5.125 MHz
	01:45	OFF	✓
	01:50	FMCW	✓ 1 Hz / 25 kHz
	01:55	OFF	
	02:00	FMCW	1 Hz 999ms 25 kHz
	02:05	OFF	
	02:10	FMCW	25 Hz 39ms 25 kHz
	02:15	OFF	
	02:20	FMCW	1 Hz 999ms 25 kHz
	02:25	OFF	
	02:30	FMCW	25 Hz 39ms 25 kHz
	02:35	OFF	
	02:40	FMCW	1 Hz ✓
	02:45	OFF	
	02:50	FMCW	25 Hz ✓
	02:55	OFF	✓
	03:00	CW	



05 Jun 16

P7

0300 CW ✓  
 0305 OFF ✓  
 0310 CW ✓  
 0315 OFF ✓  
 0320 CW  
 0325 OFF  
 0330 CW → Bret called  
 1 CW  
 0400 CW  
 1 CW  
 0420

2:49 CW back on

3600vrit

3:40 arcing 50

alt Daeton stopped, all power to Power  
uncoden lms Pulse cl P.

I 04:52 + 0.13/59.87 [Jan Bergman, j\_b@irfuse]

05:02 + 30/30

5:12 + 2/58

5:22 + 0.13/59.87

5:32 + 30/30

5:42 + 2/58

5:52 + 0.13/59.87

6:02 + 30/30

6:12 + 2/58

6:22 + 0.13/59.87

6:32 + 30/30

6:42 + 2/58

6:52 + 0.13/59.87

9.2

AST

5 June 2016

28

7:02 + 30/30

7:12 = 2/58

7:22

Ctrl - C →

99 → (Best)

7:22

Heater off

BI END

~~99~~

X

12565 - 9:30

9:30

Bringin up Xmitters 5.1 MHz.

9:42

15 dBm all-cw

Dual Beam  $g_r = 1.00$ ,  $ch = 8.4997$ ,  $af = 16.8$

toggle 5min on 5min off, off=cw, sweep

25Hz sweep 25kHz

10:40

+ 5min on cw

10:45

+ off (→ sweep) ✓

10:50

+ on sweep

10:55

+ off (→ cw) ✓

11:00

+ on cw

11:05

+ off (→ sweep) ✓

11:10

+ on SWP

11:15

+ off (→ cw) ✓

11:20

+ on cw

11:25

+ off (setup 1sec sweep 999 msec) ✓

11:30

+ 1 PPS trigger 999 us. 5min RFO or 5min RFO off

11:55

(END of emission) no CW, just sweeping, saw fluctuations in Tx2

12:00

HF OFF, switch observers.

15:35

left 430 Rummy Dad Bean, Rebooted Daeron

15:35

mike started his CCP coned. all power to

15:35

done. echotele was left Rummy with no signal

10:53 disconnected SPS 90W

Echotele wasn't rebooted files empty, no link?

AST

Sunday night

0.13/59.87

OS Sun 16

30.0/30.0

2.0/58.0

29

16:xx  
16:30  
17:30

usrd disc filled up  
Restarted usrd Discs 5/60605  
Prepare for Brett 22881  
single Bean was CLP CODED Puls  
q12A = 1.06 → usrd echotek off.

18:00

~~0.13/59.87~~

~~30/30~~

~~2/30~~

18:00

Begin warmup for Brett I...

18:28

+ 0.13/59.87

18:38

+ 30/30

18.40

stop (changing)

~~18:48~~

~~2/58~~

18:56

+ 30/30

54:48

19:08

+ 2/58

19:17

+ 0.13/59.87

19:27

- 30/30

19:37

2/58

TX1 off still accu

TX2 off coty/or

TX3 off still on

TX4 off still on

TX5 off no accien

TX6 off lots sparcin

TX5 off No acci

19:58

TX5 m.h. Power Run with 5

16-4 dba off

AST

5 June 2016 night (continued) P10

08:00 PM + 0.13/59.87  
 08:10 PM + 30/30  
 08:20 PM + 2/58  
 08:30 PM + 0.13/59.87  
 08:40 PM + 30/30  
 08:50 PM + 2/58  
 09:00 PM + 0.13/59.87

~~09:00~~ ~~30/30~~ BI exp END  
~~09:20~~

TX 5 not on. chip B0 30kHz CFR ~~5.12MHz~~  
 sweep 1 sec 5.115 MHz  
 toggle 5 on 5 off.

AST  
 21:35 + 5 min ON  
 21:40 + 5 min OFF  
 21:45 + 5 min ~~ON~~ OFF converted setup error on timer.  
 21:50 + 5 min ~~OFF~~ ON  
 21:55 + 5 min ~~ON~~ OFF (change to 25 Hz)  
 22:00 + 5 min ~~OFF~~ ON (change to ~~25 Hz, 39 msec~~) w/sweep  
 22:05 + 5 min ~~ON~~ OFF (→ sweep off) ✓  
 22:10 + 5 min ON, no sweep  
 22:15 + 5 min OFF (→ sweep ON) ✓  
 22:20 + 5 min ON, w/sweep  
 22:25 + 5 min OFF (→ sweep OFF) ✓  
 22:30 + 5 min ON, no sweep  
 22:35 + 5 min OFF (→ sweep ON) ✓, (→ 5.08 MHz) ✓  
 22:40 + 5 min ON, w/sweep  
 22:45 + 5 min OFF (→ sweep OFF) ✓ (→ 5.12 MHz) ✓  
 continued ✓

5 June 2016 Night (continued)

P11

AST

- 22:50 + 5 min ON, no sweep  
22:55 + 5 min OFF (→ sweep ON)  
23:00 + 5 min ON, w/sweep  
23:05 + 5 min OFF, (→ sweep OFF)  
23:10 + 5 min ON, ~~no~~ no sweep  
23:15 + 5 min off,  
23:20 + 5 min on sweep  
23:25 + 5 min off no sweep  
23:30 + 5 min on cw ~~50 kHz BW.~~  
23:35 + 5 min off w/sweep  
23:40 + 5 min on sweep 50 kHz.  
23:45 + 5 min off no sweep  
23:50 + 5 min on cw  
23:55 + 5 min off (w/sweep) ~~off~~  
00:00 + 5 min on sweep 60 kHz.  
00:05 + 5 min off (no sweep) 60 kHz BW  
00:10 + 5 min on (sweep cw) 1 PPS, 999ms sweep  
(Late with sweep on 10:48)  
11:53 No sweep [I screwed up]  
00:15 + 5 min off [w/sweep]  
00:20 + 5 min on 60 kHz BW 1 PPS sweep.  
~~00:25~~ ~~5 min off (no sweep) Done~~  
leading 9:30 ON

06 JUN 16 Morning-

P12

10:30 - 2 tone test

- TX5 down

- bring up 15.25 nestor sees arcing

11:12 shut STANIS 70 down up

RF HF off -

11:30 HF TX5 off 30k $\omega$  in the other 5 tripped STANIS while in standby

14:53 - test all 6 TX

15:27 - TX6 tripped.

- had problem RF shutting off

looks like if you abort hf-switch while toggling, when you restart, it starts toggling again.

Need to re-enter toggle, turn on, run, then stop.

15:40

went to inspect Dipole 6.

most of power was reflected.

16:08 TX6 HF off test TX1-5 for arcing

16:25 more AZ  $\Rightarrow$  16h ch, 2a and  $\phi$ , dan (d.

had

AZ = 168 Done = 1.06 ch = 8.5 arcing

- turn off any TX, went away

16:45

- Back to AZ = 285 2Ach =  $\phi$  2agr =  $\phi$   
to see if no arcing [previously this position was clean]



06 Jun 16 afternoon

13

testin Tx 1-5 continue

17:04 - no significant activity to 15.1 dbm for 20 min  
17:12 - 15.5 db ok. let run for ~~10 min~~ till 17:30.

22:45 <sup>(07)</sup> Bring up for Paul's satellite pass  
5.1 MHz CW TX6 is down

23:11 15.5 db. START 1 sec on 2 sec off  
5.1 MHz, RCP

23:20:00 START auto toggle  
Daeron, Fowline, ch@ody ZA.  
File t2565\_20160606

23:40 to put in after daeron 2 db

23:44 430 Power was still split ch, down  
But down ~~was~~ has been disconnected  
now moving back to all power to CH.  
Lower 430 Power < 1 mW with trouble at  
end of IPP.

23:55 added 2 min db down - enhanced Plasma here  
was chipping 430 ch - 800 kW.  
will turn off 430 @ 01:30.

12:00 went to 00 cycling. Activity stopped.  
08 Jun Sat: 00:00 to 00:45 Wed morning.

07 June 16 morning. 14

00:29 3 db atten - to get rid of arcing.

00:31 - 5 db because of arcing.

00:34 - turned off RF a few seconds, ARCADE  
return back on. Arcing Returns.

00:36 turned tx4 RF on, m4x - arcing stopped  
still at 14 dbm.

==

07:27 HF OP 5.1 MHz, TX1-5 (TX6 Down)  
440 usec CONEN  $\Rightarrow$  ch 2A =  $\phi$   
Paul's satell. 1 00:00 to 00:45

08 June morning

00:20 RF Switch and arduino not talking on  
Ethernet, turned off for a while see it helps  
- problem was arduino not arduino  
Back 00:34

12:48 - start to raise Power to see where  
arcing starts. We've been at 15 dbm  
16.2 dbm drive, but TX4 had Refl. Power  
(110) Lowered it .2 db.

12:58 END of June 16 meeting Comp.  
Dana Whitlow Phil

Leave 430 running for aight the Plasma line  
08 Jun Sat Weds morning 00:00 to 00:45