

# HF Log 01000V 2018

H2255

12:00

START

low FREQ  $\Rightarrow$  5.085  $\Rightarrow$  1, 3, 5

Hi FREQ  $\Rightarrow$  5.1  $\Rightarrow$  2, 4, 6

mesh 5 MHz

~~RF~~ O-mode (RHCP)

manually change the

13:50

RAN 2 FREQ, the 1 FREQ

1.327 m7

5.085

6

5.001 + 5.085

14:05

5.085 5.085

A 5 kHz auto

A 6 kHz ✓

10 on

11 off

~ 15:00

D = 5 6 7 8 9 10 Prog2.cmp

14:59:55

timing has a glitch before the next start

16:11:00

start Prog3.cmp

5 MHz

16:37

CW Pur profile

16:42:30

sw off to switch to 8 MHz

MA: HAVE HAD wrong Programme in log file.



H3255 / 01 NOV 18

17:10 - START TO Bring up 8.175 MHz

17:29:00 START Prog3.cmpd hoppie  
8.175 8.180 8.181 8.182 8.183 8.184 8.185  
10sec on 10sec off at each FREQ

~~17:30~~ only had 0, 6, 7, 8, 9, 10 KHz  
Restarted with 0, 5, 6, 7, 8, 9, 10 KHz

17:35:00 Restarted prog3.cmpd.

17:52:XY Restarted SYNTHgui, RF went off for a minute  
Leave Running till 8:00 AM.

SYNTHfile

- rhp. 8mhz 80kw 181101. hf synth -  
02 NOV 18

7:02 switch to CW 8.175 MHz to  
measure power.  
A094377 kW.

7:06 - switch to 5 MHz

9:58 Started Warmup to 5.095 MHz  
(there was a crowbar @ ISR, H.V. went down,  
wait 20 min for reset)

10:08 up to 80 kW x 6 but 430 went down with  
CROWBAR. USRP STOPPED.



02 NOV 18

10:27:00 START H3111 without JSR.  
10min off 3min on 3min off  
5.095 MHz RCT.  
During 10min low HF SUMMA H<sub>u</sub> up  
about 1000A

10:42:19 Restarted PROBL.CMD with the 10min OFF  
(it had been off for > 10min)  
430 off. no usrp.

11:02:50 START ASHANTHI prog1.cmd.

11:05 turned tx2 off arcing went away.  
11:06 20min back off since bad arcing  
when 20u.

12:06:12 To cw 5.1 MHz to get Power Levels  
for Ashanthi  
Tx5 tripped sometime during ashanti's  
exp.  
= H3255

13:40 START 8MHz cycle  
aborted arcing

13:53 & heads with started 8MHz cycle.

15:43 STOP to test siggen code



02 NOV 11 143255

166405 START Prog4.cmd  
Omode 3 cycle Xmode 3 cycle  
Repeat 13x 140 sec FREQ Hop cycles.  
START omode

161219 STARTED XMODE FREQ hop.  
1919 DONE

1621:00 XMODE prog3.cmd

16:32:00 off switch to 5 MHz

16:50:01 - Bring up 5.095 MHz

16:57:00 START Prog3.cmd REC FREQ Hopping

17:03 BRING down TX2 1db to lessen  
arcing.

17:05 TX 2 now down 2db

17:06 TX2 down 2.5db from original

17:21 TX2 off. arcing continues

17:21:14 TX2 Back on

17:25 TX3 down 1db

17:26 TX3 down 1.5db

TX3 down 2db

17:27 TX3 down 3db

17:28 TX3 off



5

02 NOV 18

17:28:37

Tx3 on

Leave Tx3 and Tx2 on Bat at Reduced Power.



02 NOV 18

3/Nov/2018  
24:00

3

~~Return~~ Enter

⇒ enter command file name  
h3110/prog1.cmd

20:07:45 TX 3 off to see if arcing stops off.

20:21 TX 3 on for 30 secs to check reflected Power - (stable) the Back off.

20:54 got to cw to check Power raised TX 2 abit to 54kw. 366kw TOT with TX 3 off. - no arcing

20:58:33 Back to FREQ Hopping.

23:50 - cw to measure Power - TX 3 still off. was on for a minute at 23:48.

27:54 TX 3 on to check.

H 3110 02NOV18

00:00 Raise Power to 467kw

00:02 off for 1 min to check on/off switching.  
H 3110

00:2:01 STARTED Program 5 min on off

18:00 - measured Power out of signal at input BNC - 8dbu v correct.

00:25:00 - had to lower tx 2 2db to stop the arcing



0310018

H3286, Ashanti

10:57:52 switch to ashanti / prog.cmd  
[ started here had been running  
5 min on 5 min off (front herb)  
only set for 1 loop  
ended cycle 11:19:52

11:19:59. Restarted cycle -  
H3110 herb

11:30:28 START Prog.cmd 5 min on 5 min off

14:10:28 - switched to xmode for 2 5 on, 5 off  
cycles. file RCP\_5min\_80kw\_20181031.2558  
- used Ampl. of RCP. was off - so  
had to adjust Power level during first  
on. will do 3 complete cycles since  
first on had ~~many~~ lots of aging during  
changes. should have used  
Lhcp\_5min\_80kw\_20181031.hf54NTH.

14:40:28 Back to RCP 5 min on / 5 min off.  
04 NOV 15 | H3108

00:00:02 START Prog.cmd  
110 off (5 min on 5 min off) 2 hours 3 Repeat

XX:XX carlo move cycle / ew switch to cycle  
09:4X - moved switch cycle to ew on front panel

10:XX - Restarted ~~low~~ Fidd Fox spatial analysis SO  
Dir ~~update~~ to correct PA



04 NOV 18

09:55

stopped H3108 prog1.cmd  
testiy Prog2.cmd  
= H3286 Ashanti =

16:02:35

START Prog1.cmd H3286.  
474 KW

=> Restarted FieldFox prog to get new DATE  
=> copied siggen.log to archive.

11:01:38

H3108  
start prog1.cmd 5min ON / 5min OFF  
OTHR from 13:00-13:30 @ 18.5MHz & 18.222MHz

13:59:58

H3108  
start prog2.cmd. 3min ON / 3min OFF.

16:xx

panel switch changed from cycle to cw <sup>halves in</sup> <sub>cycle</sub>

16:20

CW. (OTHR time)

16:30:18

START prog1.cmd [10h (5on 5off) 2hrs] Repeat.

H3108

Note: Kp = 5 (Geomagnetic Storm in progress).

23:55

Last cycle 5min ON.

23:56

Stop transmission. / End of experiment

Turn of Tx.





05 Nov 18

9:06 verified that 430 RF Pulse still align with 1 sec tick.

testing chipchop.cm (H3252) with everything off

9:47 START TO BRING up HF 5.091 MHz CW daeron having trouble Restarting.

9:55 430 up. uspp Recording, daeron echotek down for now  
[H3252]

10:11:35 start 5 min on, 5 min off using h3110/program left X12 low 408 kW. greg 10.967° az 640.00 ch 8.347 since start

10:30 RF off. Power was at  $2\alpha = 10.967^\circ$  - need to move it down to 1.06

10:35:15 Restarted 5 min on 5 min off with power now at 1.06 d.  $\alpha z = 640$  deg

11:03:01 20 min on 10 min off  
h3252/oua/2010.cmd

11:06 echotek Back online

11:10:00 turned RF off for natasha till 11:30  
From syst

11:17.  $\rightarrow$  level switch from Front Panel to get rid of last few db of leakage.



= Phil #286

(10)

05 NOV 16

11:30 AM CW. Power output ~~calibration~~ calibration.

11:32:00 ASHANTHI ~~PROG~~ PROG1.CMD 5.1 MHz / 370 kW

12:31:40 5 min on 5 min off H3252/000/550.cmd

13:32:07 START H3252 prog1.cmd - ASD  
wave form

14:18 ISR OUT

14:53 Switching to Generators (ISR to Generators).

14:53 Turned off HF RFout due to AEE alarm

14:54:00 (Manual) Turned ON after AEE alarm reset  
(HF)

15:09 ISR back online, → Working on generators

\*

15:16:00 HF OFF, Nestor's request to reposition azimuth arm.  
manually going from 60° to 220°

15:30:05 Started ~~H3252~~ H3252 100W/50FF still  
waiting to turn HF ON after Az arm repositioning.

15:32:30 Manual turn ON after Az arm repositioning  
(HF)



05008U18



16:00:02 H3252 SON / SOFF 385 kW 5.095 MHz  
16:30:02 H3252 TID Pseudo Random Seq 439 kW 5.095 MHz  
18:30:00 H3252 SON / SOFF 439 kW 5.095 MHz  
18:40:00 Turned OFF manually per Natasha's request.

18:59:57 5 min on 5 min off on off 55. cur  
[ RF switch was off for 210 sec? ]  
18:

19:30:04 Starting H3252 / prog1. cmd  
waveform from Natasha.  
FoF2 below 5 MHz.

20:10 Stop RF  
FoF2 below 3.2 MHz.  
ISR continues.

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06 NOV 18 H3252 Nakasaka

(12)

pat conducting grease on counter weight pulleys + insulator under fall cable.  
deeron working

10:07:30 430 ISR online

10:08:50 HF warming up ; ramping up power.

10:14:43 H3252 15min ON / 15min OFF 437.5 kW

10:26 TX 2 Down 1 db because of arcing.

A Shortc

10:59:57 ashanti prog 1. comp

H3286

12:00:04 H3252 20ON / 10 OFF with chirp 390.7 kW

SWEEP  $\rightarrow$  5.095 MHz  $\rightarrow$  5.125 MHz

12:07:24 TX 4 +.2 db by accident meant +.2 db

12:08 vada down by -2 db

12:08:50 TX 4 +.4 db

12:09:40 TX 5 +.4 db

12:11:02 TX 4 +.4 db.

12:12:18 TX 5 +.5 db

12:13:00 TX 4 +.5 db

12:14:32 TX 5 +.2 db

12:15:35 TX 2 +.5 db

12:16:22 TX 2 +.5 db

12:18:02 TX 2 +.3 db

12:18:52 TX 2 +.2 db



06 NOV 1F

(13)

12:30:37 h3252/prog1.cm 5 on 5 off no chirp.

13:00:00 othr 5 min on, 5 min off.

13:11:40 CHOP-CHIRP  $\Rightarrow \frac{1}{2}$  ~~CHIRP~~ +  $\frac{1}{2}$  CW  
All the codes are now ~~chop chirp~~ CHIRP-CW

13:22:28 H3252 5 ON / 5 OFF ~~CHIRP-CHIRP~~ <sup>CHIRP-CW</sup> 460 kW

13:30:01 H3252 TID - CHIRP/CW 460 kW

15:31:02 H3252 10 min ON / 15 min OFF / 5 min ON 460 kW

16:02:41 H3252 ~~5 ON / 5 min OFF~~ 5 sec CHIRP / 5 sec CW  
5 min ON / 5 min OFF ON  
onoff55\_chirp10.cm 25 us sweep

looks like coming up at :21 not 20

16:30:09 h3252/prog1\_chirp10.cm TID with  
10 sec chirp sweep = 25 us.

16:45:20 Minor network problems. We lost the tx monitoring, gulfasz connection, and

16:48:25 Data taking aborted.

17:20 Network came back online

(14)

455 kW

18:32:27 H3252 5on / 5off  $\frac{1}{2}$ sec CHIRP /  $\frac{1}{2}$ sec CW  
onoff55 - chirp.cmd

18:51 HF Pur Off manually per Natasha's request.

19:00:39 H3252 5CW / 5off CW-CHIRP ~~#~~ 5sec / 5sec  
onoff55 - chirp10.cmd  $f_{oF2} \approx 3.75 \text{ MHz}$

19:25:46 Manual ~~turn~~ turn off. Rewire 3pps for next run.

19:30:01 H3252 TID - CHIRP/CW prog1 - chirp.cmd 450kW  
 $f_{oF2} \approx 3.25 \text{ MHz}$

NOTE: All 10sec CHIRPS are synced to 1 sec AFTER  
the 1pps of our MASER. This applies to all runs  
during today.

20:02 RF OFF  
 $f_{oF2} = 3.2$

End of Experiment



07 NOV 18

10:26:37 Bring up HF XMODE to set levels.  
doeren out working.

10:36 TX1 crowbar Reset

10:37 switch to RHCP

10:42:23 Ashanthi / prog1.cmd. ≈ 465 kW

11:31:48 fullen / prog1.cmd.

12:59 test gracl

13:04:21 Anthea / prog1.cmd  
- lightning - lots of RAIN

13:46 TX3 down lab because of arcing.

432531

14:31:28 START 432531 gracl / prog1.cmd

14:36:37 RAN prog 1 - wanted prog 4

~~14:36:37~~ 14:36:37 STARTED PROG 4

14:56:20 restarted with 0 mode  
nice overshoot 70ms or 30ms off.

14:52:00 daeron backup.

15:21:20 STOPPED PROG 4. RF off

15:30:00 STARTED PROG 1.

15:13:44 ENDED RF off

16:05:00 STARTED PROG 2.



07NOV18

143253

18:45:00

STOPPED PROG 2. Done for the night  
- FoF2 Below 4 MHz.

==

END 07NOV18

~~Handwritten scribbles at the bottom of the page.~~



(17)

08 NOV 18

09:45

430 up. Bring up HF

9:54

lowered TX 2 1db arciny.

9:57

TX2 100w .5db low

SIS started with ca 100w CLR/PSIDE for a few min

09:58:43

START Ashathi/progl. ca ~ 460 kW 43286

10:00:00

go to CW to measure Power with 43286 set then Raise Power, Remeasure Power ~ 460kW

11:04:15

CW power up ~ 460kW total fallen / prog. and started.

12:55

to CW to measure Power <sup>for 43286</sup> - 460 kW TX2 +.5db 466kW

13:00

-.5db TX2 back to where it was. 460kW

saw large SPIKE and blanking // went away with HF.

13:02:01

432U Antenna STARTED 457kW. ~~spat 2 mi~~

13:16:00

TXS tripped and reset.

13:41

TX2 down .5db

14:04

TX2 up .5db



08NOV18

14:30

to XMODE

43253

14:30:53

START prog4.cmd XMODE graph on monoplexor turn off, large INTF for about 300 uses. only with the 70ms pulse every 100ms.

14:55:53

off, <sup>on</sup> load RACP, <sup>on</sup> measure Power - turn off till 15:00

15:25:10

turn off wait for prog1

15:30:00

START Prog1.cmd

15:42

ready - Rain 88F

16:14:00

HF off wait for Prog2.cmd



16:15:00

START Prog2.cmd

- lightning. -

16:38

TX2 Reset

16:39

TX1 down waiting for Filament timer

16:42

TX Backup

18:14

off For final setup Prog1.

18:15

START prog1.cmd

18:30

stop Prog1. go to cw to measure Power

Power = 423 KW.cw,

NOTE 08NOV18 43253 just Prog1.

at 14:30

18:40

done



09 NOV 18

9:30

warming up HF  
usrp started. daemon not responding  
TX2 not going. Filament Fil Delay to standby.  
= Intik error. come up with 5TX

9:47:06

START ASHWNTKI/prog1.cmd H3251

9:59:30

BRING up TX2.

10:03

TX2 up to full power

10:06

TX1, TX2 tripped PA SCRIP  
TX2 Reset, TX1 filament timer.

10:30

go to cw to measure power.  
478 KW

10:33:40

Fallen H3251 10s on / 10s off

11:28:00

bring TX2 down .5db to see if it helps arcing.

12:43:xx

TRIED tuning off 1 TX at a time to see who is arcing. - wasn't obvious.

15:55:03

- went to cw to measure power  
- 455 KW.

H3211 Anthea

13:00:10

START ANThea/prog1.cmd

13:22:xx

TRY turning TX off 1 by 1 to see which is arcing. No one TX fixes prob -

13:37:30

all TX down .3db to try and fix arcing  
418 KW



09 NOV 19

13:53

TX 2 down .5db to see if it helps in arcing. Yll KW still hot w/ arcing. osp at start. losing overshoot.

14:30:10

ANTHEA P on

14:31:00

grach/prog1.cmd START

132531

do

15:16

- HF off

15:20xx

saw enhancement? in esrp?