**Feed Status**

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| --- | --- |
| Document last update | 2021-06-28 |
| Feed ser. num. (rev) | 5C4-009-A |
| Last worked on | 2018-11-06 |
| Antenna (previous/current) | 2H, |
| Original build date | 2015-12-01 |
| Number of cooldown cycles | 5 (2017-02-06) |
|  |  |

**Critical Component Summary**

|  |  |
| --- | --- |
| ATA Feed  Control Board | S.N. 15a |
| Sunpower CryoTel GT  Cryocooler | S.N. GT15-92 |
| Sunpower GT Gen II  Cryo Controller | S.N. 50031125051 |
| Pfeiffer Hi Pace 80  Turbo Pump | S.N. 15861948 |
| Pfeiffer TC 110  Electronic Drive Unit | S.N. 74484300 |
| Pfeiffer MVP 006-4  Diaphragm Pump | S.N. 28409625 |
| H.S. Martin  Borosilicate Glass Radome | S.N. 012 |
| Pyramid | NA |

**Vibration Measurements**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Before Tuning | Tuned | Re-tune #1 | Re-tune #2 | Re-tune #3 |
| X | 0.13 | 0.08 |  |  |  |
| Y | 0.05 | 0.03 |  |  |  |
| Z | 0.14 | 0.15 |  |  |  |

|  |  |
| --- | --- |
| **Chassis Up-Dates** | **Vac & Cryo Up-Dates** |
| 15 pin Hermetic Feedthur Filter | RTD Wire Routing? |
| 48v Through Control Board | Buna-n O-Rings |
| Vibration System (Metal Flex) | Turbo Centering Ring w/Screen |
| Control Board 12v Jumper |  |
| Control Board Firmware 3.12 |  |
| Foreline/Valve Layout Change |  |
|  |  |
|  |  |
|  |  |

**HISTORY**

2015-12-(01-10) Rob A’s board latest software & 12v jumper (rev a on board sn), Cooler vibration system, Metal Flex bellows 347/304ss, no vac gage, emi filter at hermetic d-sub up-date, Buna-n O-rings at SS base plate & borosilicate glass installed. Noise test completed, very good results, vac good (9-10watts) & cryo (65K) (data saved), HC PAX set-up & installed.

2015-12-17 Delivered to HC (3of5), installed on antenna 2H, 24+48v power supply

up-dates added to Rim Box, X & Y poles working very well (data saved), Cryo & Turbo pumps running too high a watts, may have vacuum leak, removed from antenna to return to Minex.

2015-12-21 Checked X & Y poles in hot load, X pole has developed large structure, probably a broken input lead, Y pole OK.

2016-01-22 Photos show one of the Tip Arm Links broken (data saved).

2016-12-24 Disassemble Dewar & remove Pyramid, replaced broken Tip Arm Link, disassembled SS Base plate, during leak test found leak at Bellow assembly, installed new SS Base plate, Metal Flex bellows 347/304ss, installed Pyramid & Glass on Feed, started pumpdown & cooldown, all working properly.

2016-01-25 Noise testing, X pole oscillating due to Y poles oscillation, adjusted Y pole Vd down from std 1.20 to 0.97, then adjusted Vg up until Id was at 25.2, X & Y both stopped oscillating (data saved), need to talk to Niklas. Vac & cryo working properly (data saved).

2016-01-27 Delivered to HC (1of2), installed on antenna 2H. Turbo, Cryo & LNAs working properly, Noise test preformed for X & Y (data saved).

2016-02-04 Feed Test Report sent to HC (Elin.

2017-02-01 24v power supply in Rim box failed a few weeks ago, for some time the 24v was switching on & off, Mark shut the whole system down & tried to restart the system a few times, the result of that was the Vacuum system was off & the Cryo kept running, everything iced up. Matt & Rob while installing Feeds in other antennas this week, had brought a parts to do an infield repair. Try start the vacuum system, lots of error codes & normal start procedures would not start the system, finely got the high speed roughing pump to start, but something was making a loud hammering noise & the system shutdown on its own. We replaced the Turbo & tried to start the system but failed, replaced the Diaphragm pump & the restart went correctly.

2017-02-02 Vacuum system & Cryo pump working fine, 90k/11watts, 65/68K/120watts,

told Elin that they could start using Antenna 2H again.

2018-10-26 Feed delivered from Hat Creek by Jon Richards (2of4).

2018-10-(29-30) Removed Feed from transport box into Screen room, checked LNA’s condition, both poles have different structures (data saves), biasing working properly (x -.50\_.06\_1.20\_36.1)(y -.50\_.08\_1.20\_42.4), started pumpdown, Diaphragm pump loud, Turbo stalled out at 36k & 51k rpms, multiple restarts, finely got to 90k rpms but over shot rpms & erratic watts 0635rpms/10/30/47watts, shut off & on Turbo, Turbo working ok (90k/10w)(data saved), Control board log not seeing Cryo data, rebooted Control & Cryo boards 3-4 times, data started to display, started cooldown but stopped once it looked correct (270K/282K/77watts)(data saved). Turned off Feed & set aside for inspection of tip.

2018-11-06 Removed Glass to inspect Pyramid & Tip, signs of prolonged vibration, lots of Rexolite dust (stand-offs), all 4 sides of the Tip have damage (data saved), no signs of moisture, inside of enclosure dusty.

2019-01-02