**Description**

This is a retrofitted Antonio feed. It includes at control board, diaphragm pump, turbo pump, cryo cooler, fan, base plate, glass dome, pyramid, and wire harness. Note that the diaphragm pump is an MVP 006-4 and therefore uses the older diaphragm to control board wire harness and does NOT have a control board modification.

**Feed Status**

|  |  |
| --- | --- |
| Document last update | 2021-06-03 |
| Feed ser. num (rev) | 5C4-002-A |
| Last worked on | 2018-11-06 |
| Antenna ( previous/current ) | 4J, 1E, 2H |
| Original build date | 2015-01-01 |
| Number of cooldown cycles | 3 (2018-06-01) |
|  |  |

**Critical Component Summary**

|  |  |
| --- | --- |
| ATA Feed  Control Board | S.N. 27a |
| Sunpower CryoTel GT  Cryocooler | S.N. GT15-18 |
| Sunpower GT Gen II  Cryo Controller | S.N. 50031135039 |
| Pfeiffer Hi Pace 80  Turbo Pump | S.N. 15763938 |
| Pfeiffer TC 110  Electronic Drive Unit | S.N. 73034469 |
| Pfeiffer MVP 006-4  Diaphragm Pump | S.N. 28413301  ~~S.N. 28413332~~ |
| H.S. Martin  Borosilicate Glass Radome | S.N. 004 |
| Pyramid | S.N. 003 |

**Retrofits**

|  |  |
| --- | --- |
| Temp S. Isolation | X |
| New Wire Harness | X |
| Bellow Removed | X |
| Cryo Tuned | X |
| Firmware 5.4 | X |

|  |  |
| --- | --- |
| **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 |  |
|  |  |
|  |  |
|  |  |

**Vibration Measurements**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Before Tuning | Tuned | Re-tune #1 | Re-tune #2 | Re-tune #3 |
| X | 0.23 | 0.14 |  |  |  |
| Y | 0.07 | 0.06 |  |  |  |
| Z | 0.22 | 0.15 |  |  |  |

**HISTORY**

2015-03-27 Systems Test, had problems with: Pfeiffer Control Parameters, Diaphragm pump (not running in intermittend mode) and fan speed (running slow). Vac & Cryo systems working (8.5e-06/201K), data log saved. Need to contact Rob A. about Control Board issues.

2015-08-14 Rob A’s board latest software & 12v jumper (rev a on board sn), Cooler vibration system up-date, Metal Flex bellows 347/304ss, vac gage removed, emi filter at hermetic d-sub up-date, Viton O-rings at SS base plate & borosilicate glass installed. Noise test completed very good results, vac & cryo working properly (data saved), HC PAX set-up & installed.

2015-08-18 Delivered to HC (1of2), installed on antenna 4J, 24+48v power supply up-dates added to Rim Box, Turbo & Cryo working properly, X pole poor performance, Y pole very good.

2015-08-24 Feed Test Report sent to HC (Elin).

2015-12-17 Control Board firmware up-dated to 3.12 at Hat Creek.

2018-06-01? Jon Richards had Mark move this Feed from Antenna 4J to 1E for testing reasons.

2018-08-01 HC Trip Rob S., Feed has a very loud Diaphragm pump but cooling to 67K/240watts, Vac 90k/16watts, ran out of time & parts, will replace the Diaphragm pump when we return in the fall to install new Feeds.

2018-10-26 Feed delivered from Hat Creek by Jon Richards (3of4).

2018-10-(30-31) Removed Feed from transport box into Screen room, checked LNA’s condition, both poles have structure (data saves), biasing working properly (x -.50\_.08\_1.20\_40.9)

(y -.50\_.07\_1.20\_41.8), started pumpdown, Turbo stalled out at 12krpms, Diaphragm pump not running?, changed out Diaphragm pump & working properly, started pumpdown, Turbo stalled out at 26krpms, ran Diaphragm pump all night on hi-speed. Started pumpdown, got to 90krpms in 5min, Turbo working ok (90k/10w)(data saved), started cooldown but stopped once it looked correct (266K/301K/82watts)(data saved). Turned off Feed & set aside for inspection of tip.

2018-11-06 Removed Glass to inspect Pyramid & Tip, signs of some vibration, some Rexolite dust (stand-offs), all 4 sides of the Tip have damage (data saved), no signs of moisture, inside of enclosure dusty, Feed has been in continuous use sense 8/2015.

2019-01-02