**Feed Status**

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| --- | --- |
| Document last update | 2021-06-28 |
| Feed Ser. Num. (Rev) | 5C4-020-A |
| Last worked on | 2019-01-04 |
| Antenna (previous/current) | 4J, 3C |
| Original Build Date | 2017-05-19 |
| Number of cooldown cycles | 4 (2017-10-04) |
|  |  |

**Critical Component Summary**

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| --- | --- |
| ATA Feed  Control Board | S.N. 8a |
| Sunpower CryoTel GT  Cryocooler | S.N. GT15-74 |
| Sunpower GT Gen II  Cryo Controller | S.N. 50031064043  ~~50031135079~~ |
| Pfeiffer Hi Pace 80  Turbo Pump | S.N. 15790897 |
| Pfeiffer TC 110  Electronic Drive Unit | S.N. 74454914 |
| Pfeiffer MVP 006-4  Diaphragm Pump | S.N. 28404552  ~~28377467~~ |
| H.S. Martin  Borosilicate Glass Radome | S.N. 016 |
| Pyramid | S.N. 020 |

**Retrofits**

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

**Vibration Measurements**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Before Tuning | Tuned | Re-tune #1 | Re-tune #2 | Re-tune #3 |
| X | 0.12 | 0.11 |  |  |  |
| Y | 0.07 | 0.03 |  |  |  |
| Z | 0.22 | 0.09 |  |  |  |

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| --- | --- |
| **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 (BellowsTech) | Turbo Centering Ring w/Screen |
| Control Board 12v Jumper |  |
| Control Board Firmware 3.12 |  |
| Foreline/Valve Layout Change |  |
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|  |  |
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**HISTORY**

2017-05-19 Started Chassis & sub-assembly build-up

2017-05-26 SS Base plate, Turbo & roughing pumps, Cryo cooler & 90% of wiring installed

2017-06-27 Installed dumpy Pyramid assy(heat load) on SS Base plate/bellows assy, Bellows Tech adapter (316/347 SS), finished wiring, new RTD sensor wire length & routing.

2017-06-30 Firmware installed on new Control Board, started vac pumpdown & cooldown for bellows run-in test, 90k/9w, 65K/162w vacuum system shutdown over weekend, cryo still running.

2017-07-(05-06) Shutdown cryo, let Feed warm-up, started pumpdown, had problems with moisture in the roughing pump, ran roughing at atmosphere twice, finely got the system cleared, started pumpdown & cooldown, 90k/17w, 65K/164w (data saved).

2017-07-24 Bellows run-in test going fine, 90k/16w, 65K/187w.

2017-08-10 Bellows run-in test going fine, 90k/17w, 65K/214w, Cryo board switched out & going to HCRO for repair on Antenna 1C feed -007

2017-08-14 Bellows run-in test going fine, 90k/18w, 65K/212w.

2017-08-21 Bellows run-in test going fine, 90k/17w, 65K/227w.

2017-09-(14-15) Shutdown Cryo & Turbo, will let Feed warm-up to allow contaminants

to outgas, start roughing pump in high speed mode, after a few hours started Turbo & normal roughing, once Turbo at 90k & watts less than 20, started Cryo cooldown.

90k/18w, 65K/190w.

2017-09-25 Bellows run-in test going fine, 90k/19w, 65K/199w.

2017-10-(02-04) Shutdown bellows run-in test, removed Turbo, Roughing pump & Control board to take to HCRO for repair of Feed -007 in Antenna 1C, parts not used in Feed -007, re-installed parts back in Feed & started Bellows run-in testing.

2017-10-10 Bellows run-in test going fine, 90k/16w, 65K/186w.

2018-03-19 Bellows run-in test going fine, 90k/20w, 65K/223w.

2018-04-02 Bellows run-in test, 90k/16w, 67.5K/240w, shutting down cryo.

2018-05-04 Bellows run-in test, vac only, 90k/17w, 295K/0.0w.

2018-06-08 Bellows run-in test, vac only, 90k/16w, 295K/0.0w.

2018-07-20 Started LNA module build-up.

2018-08-06 Bellows run-in test, vac only, 90k/15w.

2018-09-10 Bellows run-in test, vac only, 90k/15w.

2018-09-(07-11) LNA module assy completed, LNA module & Arms installed, LNA temp sensor working.

2018-09-18 Bellows run-in test, vac only, 90k/15w.

2018-09-(28-29) Pyramid/LNA assy completed, stopped Bellows run-in test, prepped Base plate & flex plate, installed Pyramid/LNA assy on Base plate, LNA temp sensor working, installed Glass Dome & finished the rest of the Enclosures wiring. Started pumpdown, 2 try’s 90k/10w, both poles LNA’s working fine (data saved), started cooldown, cooldown completed 65K/190w, LNA’s checked & both pole look fine, biasing values not correct?

2018-11-26 Checked on Cryo & Turbo, Cryo watts are rising to 240?, TTARGET set to 72K/216w, Vac is good 90k/12w.

2019-01-(02-03) Checked Feeds Vac & Cryo, 90k rpms/28w, 72K/74K/226w, not looking good (data saved). Cryo moved up to 72.2/240w, changed roughing pump to hi-speed & set TTARGET to 74K, 90k rpms/12w, 74K/213w. Changed roughing pump back to low speed, Vac has leveled out at 90k rpms/20w, Cryo still fair 74K/77K/204w.

2019-01-04 Turbo watts back up to 28, replacing Diaphragm pump to see if Turbo watts improve, Watts looking a lot better, 90k/13w, Cryo still struggling.

2019-01-07 Vac looks good, adjusted Cryo to TTARGET of 70.8K, 90k/12w, 70.8K/73.5K/203w.