

2011 July 13

A. Horneffer did:

1) Check LBA RCU 8

Measured the voltage at RCU 8 and RCU 16: both ca. **7.8 V**

Impedance of the antenna cable 8 and 16: both ca. **90 kOhm** (after letting it settle)

Connected antenna cable 8 to RCU 16, and cable 16 to RCU 8: No power on RCU 16, normal signal on RCU 8.

2) Swap questionable LBA cables with "good" RCUs

Some antennas stayed down: 8, 72, 78, 86, 148

Some antennas showed a good spectrum in a quick check: 68, 74, 130, 152

Some antennas showed varying power levels: 12, 44, 164, 178

Antenna 164 also showed a spectrum with increased (higher than normal) power at some frequencies: Oscillating?

3) RCU module 185 is broken

During re-connecting of all antennas the LBH connector of RCU 185 started turning! This connector is apparently broken. The RCU should be switched out. (I couldn't get a HBA modem mounted on a replacement RCU, so I put the RCU back so that the HBAs are all working.)

2011 July 1

K. Schlich and A. Horneffer did the following:

1) Check problematic RCU

As seen on [June 30](#) the tile 64/65 was not working properly, because RCU 64 did not provide the necessary power.

We tested the impedance of the cables to tile 64/65 and 70/71: **64**: 200 kOhm, **65**: 21 kOhm, **70**: 240 kOhm, **71**: 24 kOhm

On removing RCU 65, the half-lit LED on RCU 64 went off. Measuring the output voltage on then gave the correct results, and the tile 64/65 worked. We also replaced the RCU 65 with a new board, for this we had to remove the current limiting NTC/varistor(?) on the new RCU module to place and connect the HBA modem.

All tests afterward (modemtest and spectrum check with rspctl) were successfull afterward.

RCU modules now in place:

64: -> 10638002067

65: -> 10638002051

RCUs to return:

broken with high ADC noise: 10638001026

were at some point at position 64 and did not provide power to the HBA tile: 10638002049, 10638002087, 10638002001

2) LBA tests

A quick check of the spectra of the LBAs gave the following results:

RCU	Problem	RCU	Problem	RCU	Problem
8	low signal	12	low signal	44	low signal
62	Oscillating	68	low signal	72	low signal
78	low signal	82	deformed spectrum	86	low signal
88	Oscillating	106	deformed spectrum	130	low signal
148	low signal	150	low signal	164	low signal
178	low signal				

A visual inspection revealed, that the cable tie attaching one of the dipoles of antenna 106 to the ground was broken. Replacing the cable-tie fixed the deformed spectrum of antenna 106.

Dis- and reconnecting the cables and RCU boards of antennas 62 and 88 did not remove the oscillations. So we replaced the LBAs 62/63 and 88/89. New serial numbers:

62/63: -> LBA-24-818-00110

88/89: -> LBA-24-818-00031