Repeated resetting of the Antenna Unit Processing (AUP) module due to high contact resistance of connector on Interconnection Board (ICB)

It has appeared that the 6-way connector used for the connection of the supply voltages from the power supply module A5PS to the Interconnection Board A5ICB – see photos below - may have a considerable contact resistance. If this is the case, this may cause the supply voltage of the Antenna Unit Processing (AUP) module to drop below the minimum voltage, upon which the AUP module will repeatedly reset itself.

The AUP module in the Artemis MK5 Antenna Unit type A5AU and the Beacon Unit type A5BU will reset itself if the 5.1 V supply voltage drops below 4.8 V, as measured on the AUP module.
Where the 5.1 VDC output voltage of the power supply module type A5PS is normally around 5.2 V, the 5.1 V supply voltage as measured on the AUP board is normally well above 5.1 V.

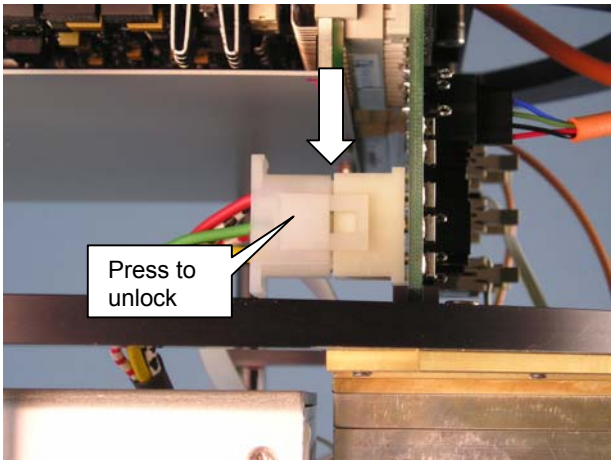

Photo 1

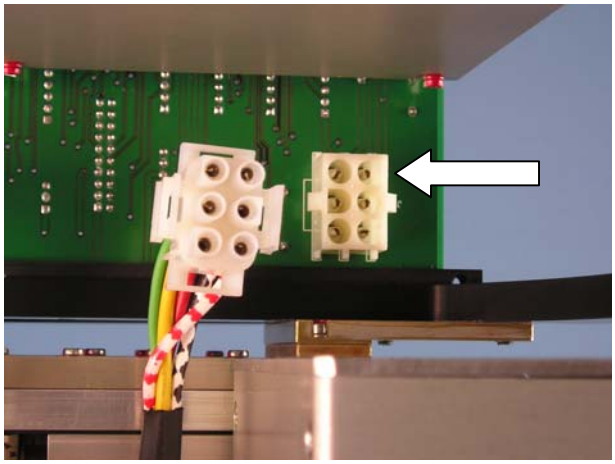

Photo 2

Investigation of the 6-way connector has revealed that the male and female part of the connector may mechanically not match properly. An official complaint has in the mean time been filed with the supplier of the connector, who in turn has filed this complaint with the manufacturer.

If the phenomenon of a repeatedly resetting AUP module is experienced, the cause of this may be a high contact resistance of the 6-way connector, and in particular of the contacts carrying the 5.1 V supply voltage from the power supply module A5PS to the Interconnection Board A5ICB. If this is the case, the following may be a remedy (see overleaf).

(continued overleaf)

Distribution

CHL NETHERLANDS B.V.	: AKI, AKO, BBA, CDH, EVL, HEB, JMH, PCE, SHH
Reson B.V.	: A. van Valkenhoef, S. Gillebaard, T. Mulyono, N. van Woerkom
Other	: All Artemis MK5 users (via Reson B.V.)

Artemis MK5 Engineering Note EN5-1

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Remedy

1. Switch the Antenna Unit or Beacon Unit off (switch off the power to the unit).
2. Remove the bottom cover from the Antenna Unit or Beacon Unit.
3. Locate the white 6-way cable connector at the inside of the Interconnection Board (photo 1).
4. Press the locking mechanism on the connector with thumb and index finger and pull the cable connector from the Interconnection Board.
5. Take a small, sharp screwdriver and push it carefully in the slot of each of the six male contact pins (on the Interconnection Board) until the two halves of the contact pins are a bit more apart from each other (photo 2).
6. Spray some contact cleaner (e.g. CRC contact cleaner) on the contact pins and the contact receptacles of the mating cable connector.
7. Spray some anti-corrosive spray (e.g. CRC 2-26) on the contact pins and the contact receptacles of the mating cable connector.
8. Insert the cable connector in the connector receptacle and push until it locks.

If this did not solve the problem:

With the unit switched on, measure the 5.1 V supply voltage at the output of the power supply module A5PS, at the interconnection board A5ICB and at the AUP module A5AUP (refer to the Artemis MK5 Field Service Manual).

The 5.1 V output voltage of the power supply module A5PS should be at least 5.15 V. The voltage drop between the output of the power supply module and the AUP module should not be more than 0.1 V.
If it is more, measure the voltage drop between the output of the power supply module and the interconnection board A5ICB.
If the voltage drop is more than 0.1 V, repeat steps 4 through 6 and measure again.

If the 5.1 V supply voltage on the AUP module is ≥ 4.8 V and the problem of the AUP module resetting itself still exists, the problem is most probably the AUP module itself. In that case, replace the AUP module.