

Power PMAC Problems and Associated Fixes

- 1) Position window displays incorrect Az and/or El. This typically occurs when power is cycled on the PPMAC. In this case, the azimuth and/or elevation position are often 180 degrees off. I have only seen this occur in elevation, when the PPMAC is rebooted when the elevation is less than 0 degrees. Occasionally, the azimuth and/or elevation position are twice the real angle. The fixes below apply to either scenario.
 - a) Type the following command in the IDE terminal window: `enable plc1<cr>`. If this fails move to b).
 - b) Abort current scan in scan control GUI. Also type `abort` in PPMAC IDE terminal window.
 - c) Stop syscon process in control1 PC. Open taskmanager from IDE tools menu. Go to programs tab. Stop Program 4 (prog4.pmc). Proceed to d) and or e).
 - d) If the problem is in Az only, then type the following command in the IDE terminal window: `#1j=0 <cr>`(moves Az to absolute position 0 cts); `enable plc 1<cr>`
 - e) If the problem is in El only, then type the following command in the IDE terminal window: `#2j:2000 <cr>`(moves El up by about 11 degrees); `enable plc 1<cr>`
 - f) Start syscon process in control1 PC. Start Program 4 (prog4.pmc) in Taskmanager.
 - g) Power cycle PPMAC. This is a last resort and should not be necessary.

In order to re-enable scan control from the GUI, type &1 enable in the IDE terminal window!

- 2) Position window is not scaled correctly, e.g. readout makes no physical sense when interpreted as degrees.
 - a) Set position window scaling correctly -- window scaling is often lost when PPMAC is rebooted. Right click mouse when cursor is on position window. Select from pull down properties => control => motor specific. Set scale factor to 182.044444 and units to deg for motors 1 and 2.
- 3) Antenna won't move
 - a) Check coordinate system definitions are correct: in IDE pull-down menu select; Delta Tau=>Configure=>Setup Variables=>Coordinate System=>Coord1=>Axis Definition.

Motor 1 182.044444a (this value is what you type, what is displayed is slightly different)

Motor 2 182.044444b (this value is what you type, what is displayed is slightly different)

b) Enable coordinate system by typing &1 enable <cr> in IDE terminal window

c) Try issuing a jog command from the IDE terminal window:

Az (absolute move) -- #1j=2000 <cr>

Az (incremental move) -- #1j:2000 <cr>

El (absolute move) -- #2j=2000 <cr>

El (incremental move) -- #2j:-2000 <cr> (negative is down, positive is up)

d) Reboot PPMAC

4) Re-establish communication with PPMAC after reboot

a) In IDE pull-down menu select; Tools=>Options=>Power PMAC=>Communication Setup=>OK