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## Settings for ARC-78 Power Board

### Procedure:

- 1 - Connect +24Vdc to CON1
- 2 - Set Jumper JP12
- 3 - Power On

4 – Chip cooling set-point:

The potentiometer **RW1** accessible on the front panel shall be tuned for obtaining 0.52V ( $\approx -30^{\circ}\text{C}$ ) across the Test Points GND (black) and TSET (red immediately left from GND) both on the front panel.

5 - Alarm set-points:

Name	Test Point	Component	Setting	Correspondence
CCD_HOT	S1	R111	3.7V	$\approx +38^{\circ}\text{C}$
COLD_OK	S2	R113	0.9V	$\approx -20^{\circ}\text{C}$

6 - Peltier cooler Set-points:

Name	Component	Setting	Correspondence
MAXV	R59	0.9V	$\approx 3.6\text{V}$
MAXIP	R61	0.9V	$\approx 3.6\text{A}$

7 - Power Off

8 - Remove jumper JP12

### Observations:

The signal **CCD\_HOT** should in fact be named **CCD\_NOT\_HOT** as the electronics implements a negative logic. Hence the DSP code shall revert this bit in order to restore a positive logic (DSP Register **X : HDR** bit 4).

When the cooling is interrupted, the Peltier element warms up and the notification via the driver of this dysfunction shall occur when the temperature increases above  $+38^{\circ}\text{C}$ .

In case of a failure of the Peltier element, the chip may not reached the set point of  $-30^{\circ}\text{C}$ .

The notification via the driver shall occur when the chip temperature is above  $-20^{\circ}\text{C}$ .

The LED **D15** is Red when the chip temperature is above  $-30^{\circ}\text{C} + 1.5^{\circ}\text{C} = -28.5^{\circ}\text{C}$ ; and

is Green when the temperature is below  $-30^{\circ}\text{C} - 1.5^{\circ}\text{C} = -31.5^{\circ}\text{C}$ . In between, the LED is

switched Off. The control of this LED is independent of the signals **CCD\_HOT** and

**COLD\_OK**.

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