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# **RadIIS Documentation**

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Documentation of RadIIS



# CHAPTER 1

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## Hardware

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documentation of the hardware side of RadIIS:



## CHAPTER 2

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### Firmware

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documentation of the firmware side of RadIIS:



documentation of the (advanced) usage of RadIIS:

SCPI commands:

**SYStem:BIAS <INT>**

Set the SiPM bias, given in [mV]. Higher bias means a higher signal amplification. If a very low bias is set it might be impossible to digitize the signals. It is not possible to choose a bias that damages the system if the enclosure is intact.

*Maximum = 29950 mV Minimum = 24304 mV Default = ?*

Example: SYS:BIAS 26000 (Sets the bias to 26.00V).

**SYStem:BIAS?**

*Returns: SiPM bias in mV [INT]*

**SYStem:ATC <BOOL>**

Activates or deactivates the **\*\*A\*\*utomatic \*\*T\*\*emperature **\*\*C\*\*ompensation****. If enabled the bias of the SiPM is automatically adjusted to achieve a constant gain during temperature variations. It is very recommended to activate the ATC during measurements.

*Default = ?*

Example: SYS:ATC ON (Activates the ATC).

**SYStem:ATC?**

*Returns: State of the ATC [BOOL]*

**SYStem:TEMPerature?**

*Returns: SiPM temperature in mC [INT]*

**SYStem:COMPerator:THReshold <INT>**

Set the comperator threshold for the external and internal channel. The number is given in DAC counts. Higher numbers mean a higher signal level that is needed to trigger a detection of a pulse.

*Maximum = 4095 Minimum = 0 Default = 0*

Example: SYS:COMP:THR 100

