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# Checking Slow Piezo Amplifier Card

## Symptomatics

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If slow piezo doesn't show any activity and if it has been checked with respect to Matisse Service Note 6 with correct results, one has to check the slow piezo amplifier card.

## Requirements

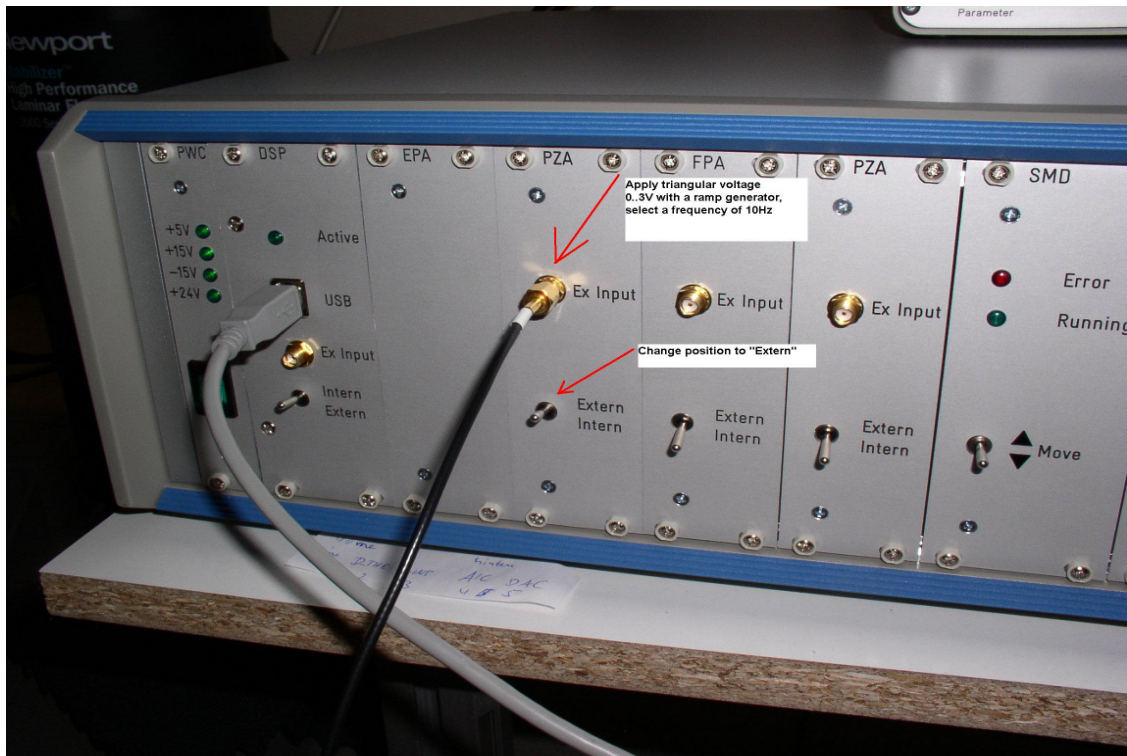
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- Ramp generator (triangular 0..3V Peak-Peak)
- Oscilloscope + fine Measurement probe with variable probe with factor (1x ..10x)

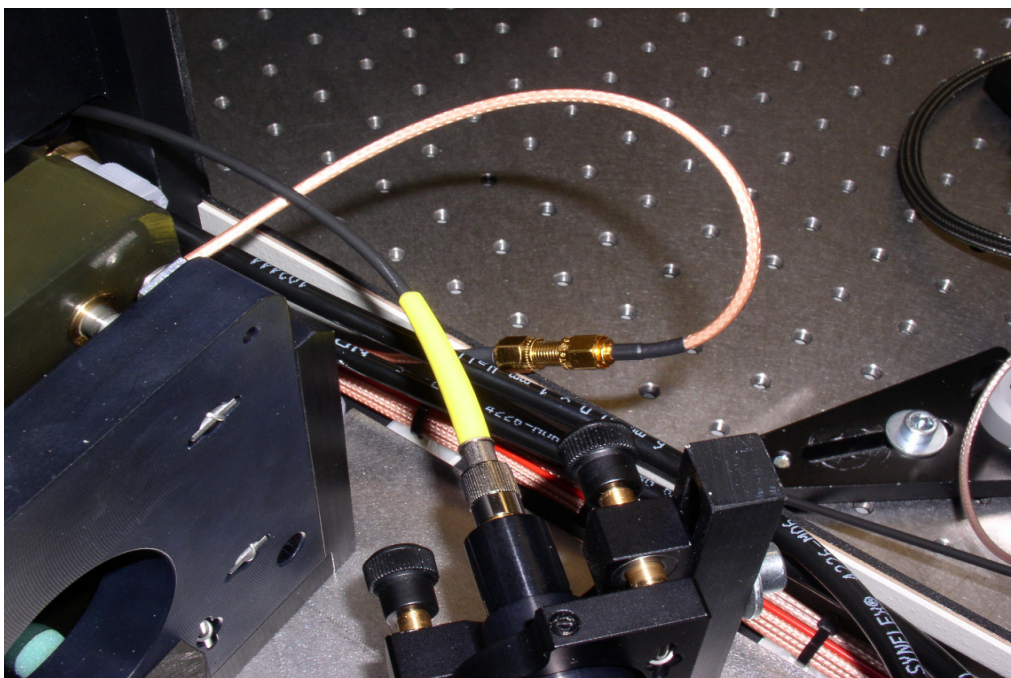
## Procedure

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1. If you see that while operating Matisse via software there is no activity on the slow piezo, please verify that all switches on the electronic box are set to "Internal" position. If one of them was on "external" switch it back to "internal" and try again to operate Matisse. Take care on ESD! (Electro Static Discharge can damage sensitive electronic parts)
2. In case that there is still no activity from the slow piezo detected, switch off ALL Matisse electronics.

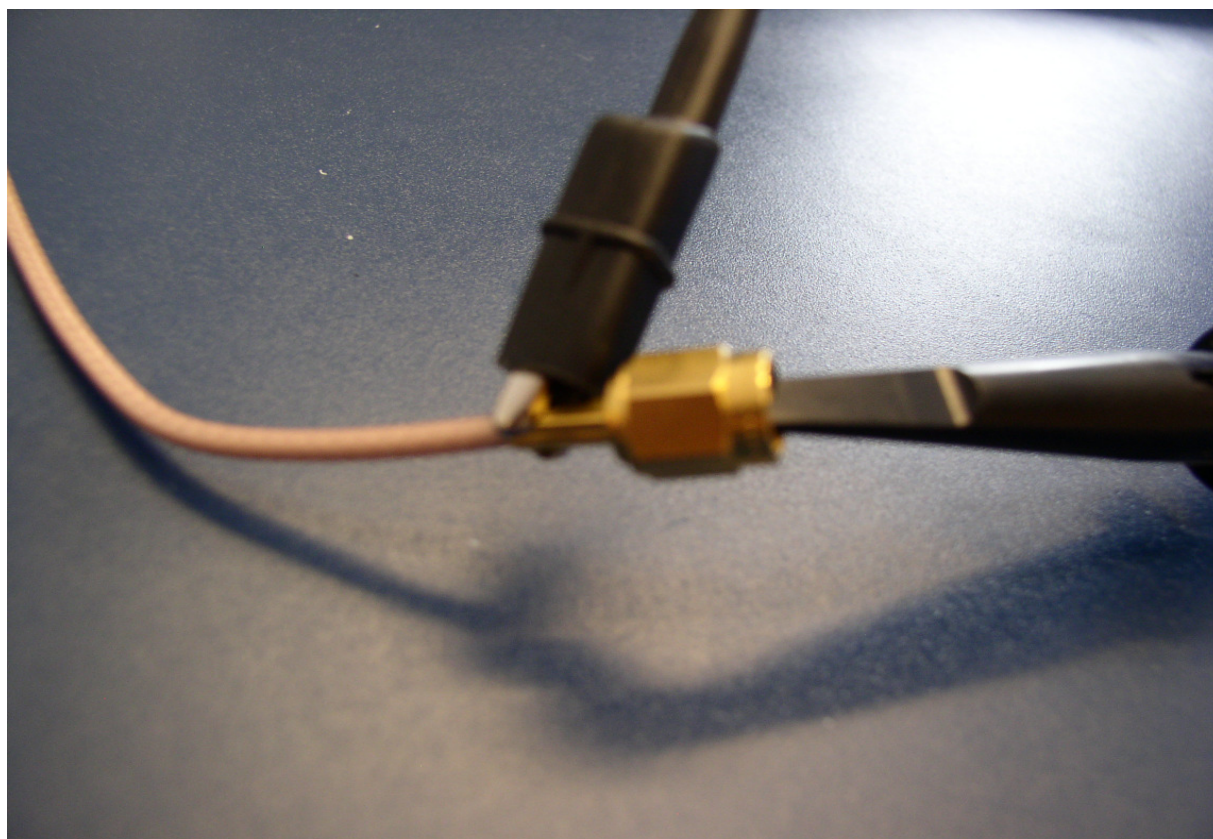
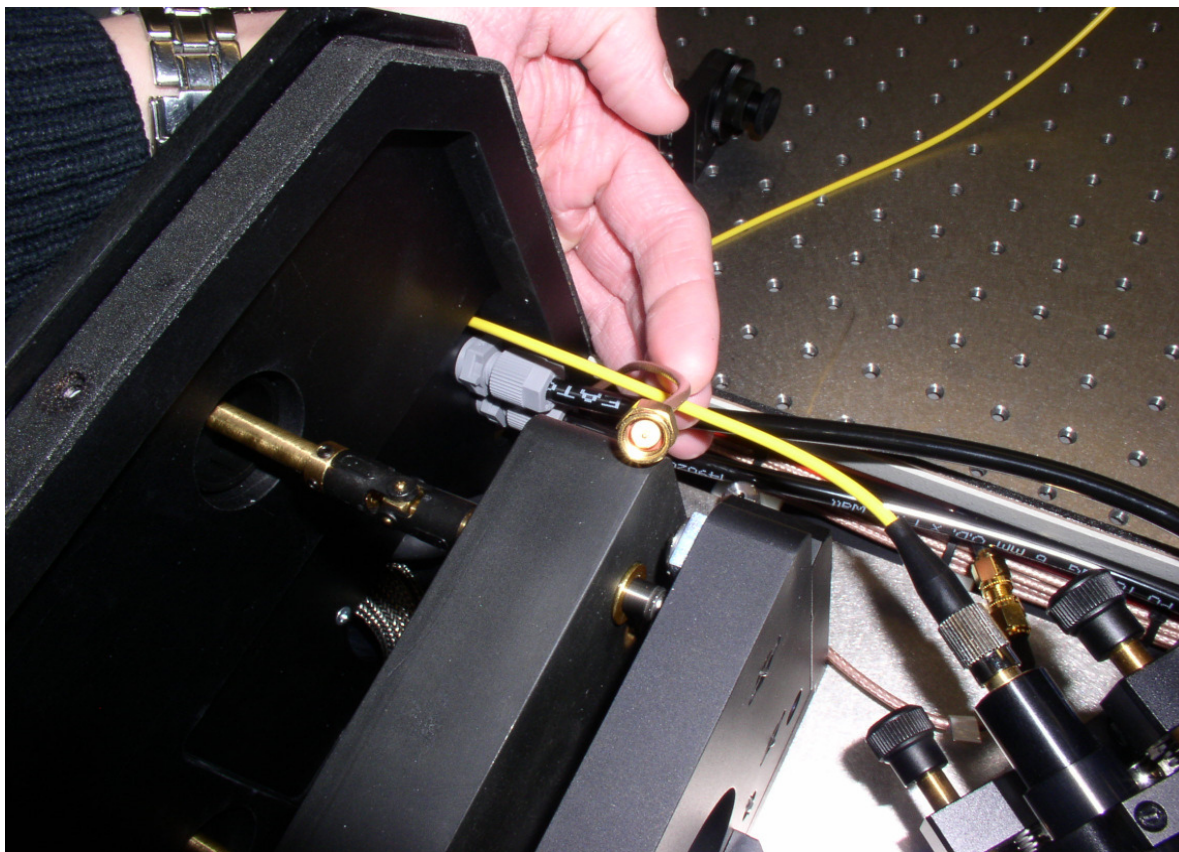


3. Connect an SMA cable to the slow piezo amplifier card, for safety check in the manual which one is it. (see also picture above)
4. Flip the switch to "Extern"
5. Take a ramp generator and select a triangular voltage with 0..3V range.
6. Select a frequency of  $\sim 10\text{Hz}$
7. Disconnect the SMA connection between the slow piezo and Matisse cabling (see picture)

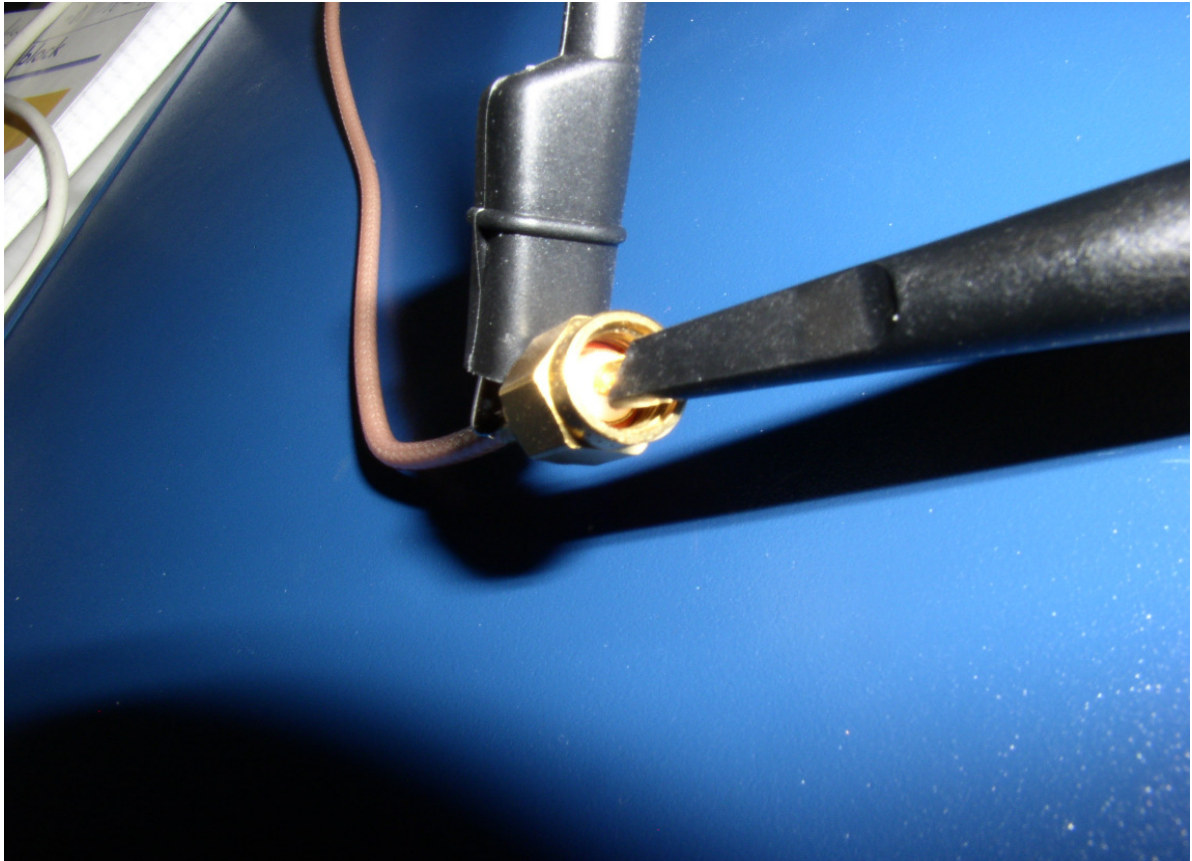




8. Now take the SMA cable coming from the umbilical and connect a probe like in the following pictures:







9. Select on the probe factor “10x” on the probe tip and on the oscilloscope too!



10. After that turn on the electronics and observe the voltage on the oscilloscope. You should see following values:

- When applied voltage is 0V (voltage from the ramp generator) you should see

  - ~-12V on the scope.

- When applied voltage is 3V (voltage from the ramp generator) you should see ~+140V on the scope.

If you can see these values the piezo amplifier card is OK, if not please contact us with your results