

**ATS9871** is a customized version of AlazarTech's ATS9870 waveform digitizer board.

*Except for the exceptions listed below, the specifications of ATS9870 also apply to ATS9871.*

Specifications for ATS9870 can be found here:

[http://www.alazartech.com/products/ATS9870\\_v\\_1\\_5A.pdf](http://www.alazartech.com/products/ATS9870_v_1_5A.pdf)

## ATS9871 Exceptions:

1. Input range of ATS9871 CH A and CH B inputs is fixed at +/- 500 mV
  - a. Reflection signal is guaranteed to be less than 1% for pulse from a 50 Ohm generator
2. Input coupling of ATS9871 CH A and CH B inputs is fixed at DC
3. On-board acquisition memory is fixed at 256MB (128 MSamples per channel in 2 channel mode)
4. Master/Slave capability is not supported
5. AUX I/O BNC connector is not supported
6. ECLK SMA connector is not supported
7. External clock capability is not supported. Only internal clock is supported.
8. External trigger input ranges supported are:
  - a. Analog: +/- 2.5V full scale input with 50 Ohm input impedance
    - i. External trigger sensitivity is increased to +/- 20%
  - b. TTL: 0 to +5V digital input with 50 Ohm impedance
    - i. Minimum pulse height is 0 to +2V
    - ii. Minimum pulse width is 16 clock cycles
9. There is no hardware averaging firmware for ATS9871
10. No amplifier bypass mode is supported
11. ATS9870 firmware v43.15 or higher works with ATS9871 as well as with the ATS9871-T variant. This firmware can be found here:  
[http://alazartech.com/Support/Download%20Files/ATS9870\\_v43\\_15\\_SFX.zip](http://alazartech.com/Support/Download%20Files/ATS9870_v43_15_SFX.zip)
12. ATS9870 Driver v5.10.12 or higher is recommended for ATS9871. The latest driver and related release notes can be found on the ATS9870 product page on AlazarTech website:  
<http://www.alazartech.com/product/ats9870>

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## DRAWINGS

[ATS9871 2D Drawing](#)

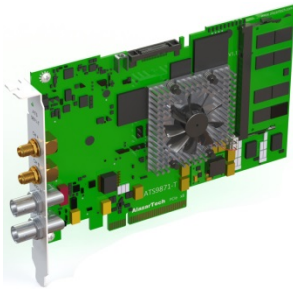
[ATS9871 3D PDF Model](#)

[ATS9871 3D STEP Model](#)

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## Document change history

V1.0:	2015-12-22	Initial release
V1.1:	2016-08-11	Changed firmware version requirement Added product picture and link to 2D & 3D drawings and STEP model



**ATS9871-T** is a customized version of AlazarTech’s ATS9871 waveform digitizer board.  
*The specifications of ATS9871 also apply to ATS9871-T with the exceptions listed below.*

## ATS9871-T Exceptions:

1. AUX I/O BNC connector is populated on ATS9871-T
  - a. On the card bracket, this connector is labeled as “TAG”
  
2. FPGA firmware v43.15 and higher allows user to capture the state of TAG input on the AUX I/O connector when a trigger occurs.
  - a. State of this TAG input is embedded into a “Footer” that can be included in the last 16 bytes (128 bits) of each record captured in NPT mode
  
3. ATS9870 firmware v43.15 or higher is required for ATS9871-T to be compatible with ATS9871. This firmware can be found here:  
[http://alazartech.com/Support/Download%20Files/ATS9870\\_v43\\_15\\_SFX.zip](http://alazartech.com/Support/Download%20Files/ATS9870_v43_15_SFX.zip)
  
4. ATS9870 Driver v5.10.12 or higher is required for ATS9871-T to be compatible with ATS9871. The latest driver and related release notes can be found on the ATS9870 product page on AlazarTech website:  
<http://www.alazartech.com/product/ats9870>

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## DRAWINGS

[ATS9871-T 2D Drawing](#)

[ATS9871-T 3D PDF Model](#)

[ATS9871-T 3D STEP Model](#)

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## Document change history

V1.0:	2015-12-22	Initial release
V1.1:	2016-08-11	Changed firmware version requirement Added product picture and link to 2D & 3D drawings and STEP model