

NOVA MEASURING INSTRUMENTS LTD  
Form 6-K  
September 20, 2007

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UNITED STATES  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 6-K**

Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934

Date of Report: September 20, 2007  
Commission File No.: 000-30688

**NOVA MEASURING INSTRUMENTS LTD.**

Building 22 Weizmann Science Park, Rehovot  
P.O.B 266  
Israel

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F  Form 40-F

Indicate by check mark whether the registrant is submitting this Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_\_

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to 12g3-2(b) under the Securities Exchange Act of 1934.

Yes  No

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with 12g3-2(b):N/A.

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Attached hereto and incorporated by reference are the following documents:

1. The Registrant's Notice of Annual General Meeting of Shareholders and Proxy Statement for its 2007 Annual General Meeting of Shareholders.
  2. Proxy card for use in connection with the Registrant's 2007 Annual General Meeting of Shareholders.
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This report on Form 6-K is hereby incorporated by reference into Nova Measuring Instruments Ltd.'s registration statements on Form S-8, filed with the Securities and Exchange Commission on the following dates: September 13, 2000 (File No. 333-12546); March 5, 2002 (File No. 333-83734); December 24, 2002 (File No. 333-102193, as amended by Amendment No. 1, filed on January 5, 2006); March 24, 2003 (File No.

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333-103981); May 17, 2004 (three files, File Nos. 333-115554, 333-115555, and 333-115556, as amended by Amendment No. 1, filed on January 5, 2006); March 7, 2005 (File No. 333-123158); December 29, 2005 (File No. 333-130745); and September 21, 2006 (File No. 333-137491) and into Nova Measuring Instruments Ltd. s registration statement on Form F-3, filed with the Securities and Exchange Commission on May 11, 2007 (File No. 333-142834).

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### Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: September 20, 2007

Nova Measuring Instruments Ltd.  
(the "Registrant")

By: /s/ Dror David

Dror David  
Chief Financial Officer

### Exhibit Index

99.1 Notice of Annual General Meeting of Shareholders and Proxy Statement  
99.2 Proxy Card

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