

ION GEOPHYSICAL CORP  
Form 10-K/A  
March 26, 2012  
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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**Form 10-K/A**  
**Amendment No.1**

(Mark One)

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the Fiscal Year Ended December 31, 2011**

or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**Commission file number 1-12691**

**ION Geophysical Corporation**

(Exact Name of Registrant as Specified in Its Charter)

Delaware

22-2286646

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(State or Other Jurisdiction of

(I.R.S. Employer

Incorporation or Organization)

2105 CityWest Blvd

Identification No.)

Suite 400

Houston, Texas 77042-2839

(Address of Principal Executive Offices, Including Zip Code)

(281) 933-3339

(Registrant's Telephone Number, Including Area Code)

**Securities registered pursuant to Section 12(b) of the Act:**

| <u>Title of Each Class</u>     | <u>Name of Each Exchange on Which Registered</u> |
|--------------------------------|--|
| Common Stock, \$0.01 par value | New York Stock Exchange                          |

**Securities registered pursuant to Section 12(g) of the Act:**

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes  No

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

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As of June 30, 2011 (the last business day of the registrant's second quarter of fiscal 2011), the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$1.4 billion based on the closing sale price on such date as reported on the New York Stock Exchange.

As of February 17, 2012, the number of shares of common stock, \$0.01 par value, outstanding was 155,585,036 shares.

### DOCUMENTS INCORPORATED BY REFERENCE

| <b>Document</b>  | <b>Parts Into Which Incorporated</b> |
|--|--------------------------------------|
| Portions of the Proxy Statement for the Annual Meeting of Stockholders to be held May 23, 2012 | Part III                             |

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**Explanatory Note**

This Amendment No. 1 to Annual Report on Form 10-K/A amends the Annual Report on Form 10-K for the year ended December 31, 2011 of ION Geophysical Corporation ( ION ), which was filed with the Securities and Exchange Commission ( SEC ) on February 24, 2012. This Form 10-K/A is being filed for the purpose of providing separate audited financial statements of INOVA Geophysical Equipment Limited in accordance with Rule 3-09 of Regulation S-X. The INOVA Geophysical Equipment Limited ( INOVA Geophysical ) audited financial statements as of December 31, 2011 and 2010, and for the year ended December 31, 2011 and the period from March 26, 2010 (date of inception) to December 31, 2010, and the Report of Independent Registered Public Accounting Firm, are filed as Exhibit 99.1 and are included as financial statement schedules in Item 15. *Exhibits and Financial Statement Schedules* of this Form 10-K/A. ION owns a minority equity interest (49%) in INOVA Geophysical, which ION accounts for under the equity method of accounting, and the financial statements of INOVA Geophysical as of and for the year ended December 31, 2011, were not available at the time that ION filed its Annual Report on Form 10-K in February 2012.

Rule 3-09 of Regulation S-X provides that if a 50%-or-less-owned person accounted for by the equity method meets the first or third condition of the significant subsidiary tests set forth in Rule 1-02(w) of Regulation S-X, substituting 20% for 10%, separate financial statements for that 50%-or-less-owned person shall be filed. The significance tests are calculated as of the end of each of ION 's fiscal years and with respect to each fiscal year.

INOVA Geophysical met the significant subsidiary tests described above as of and with respect to ION 's fiscal years ended December 31, 2011 and 2010, and ION has therefore included in this Form 10-K/A the required audited financial statements for INOVA Geophysical as of and for its corresponding fiscal years ended December 31, 2010 and 2011.

The consent of Ernst & Young LLP, independent registered public accounting firm, for INOVA Geophysical Equipment Limited, is also filed as an exhibit to this Amendment No. 1 to Annual Report on Form 10-K/A. In addition, this Form 10-K/A includes an updated exhibit index in respect thereof and certifications under Sections 302 and 906 of the Sarbanes-Oxley Act of 2002.

Except as described above, this Amendment No. 1 on Form 10-K/A is not intended to update or modify any other information presented in ION 's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, as originally filed. This Amendment No. 1 does not update or modify in any way the financial position, results of operations, cash flows or related disclosures in ION 's Annual Report on Form 10-K, and does not reflect events occurring after the Form 10-K 's original filing date of February 24, 2012. Accordingly, this Form 10-K/A should be read in conjunction with ION 's other filings made with the SEC subsequent to the filing of its Annual Report on Form 10-K for the year ended December 31, 2011.

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**PART IV**

**Item 15. Exhibits and Financial Statement Schedules**

(a) *List of Documents Filed*

(1) *Financial Statements*

The financial statements were previously filed with the Annual Report on Form 10-K for the year ended December 31, 2011, filed on February 24, 2012.

(2) *Financial Statement Schedules*

The following financial statement schedule was previously filed with the Annual Report on Form 10-K for the year ended December 31, 2011, filed on February 24, 2012:

Schedule II Valuation and Qualifying Accounts

The following financial statement schedule is included in this Amendment No. 1 to Annual Report on Form 10-K/A pursuant to Rule 3-09 of Regulation S-K:

INOVA Geophysical Equipment Limited Audited Financial Statements as of and for the periods ended December 31, 2011 and 2010.

All other schedules are omitted because they are not applicable or the requested information is shown in the financial statements or noted therein.

(3) Exhibits

- 3.1 Restated Certificate of Incorporation dated September 24, 2007 filed on September 24, 2007 as Exhibit 3.4 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.2 Amended and Restated Bylaws of ION Geophysical Corporation filed on September 24, 2007 as Exhibit 3.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.3 Certificate of Ownership and Merger merging ION Geophysical Corporation with and into Input/Output, Inc. dated September 21, 2007, filed on September 24, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.1 Certificate of Rights and Designations of Series D-1 Cumulative Convertible Preferred Stock, dated February 16, 2005 and filed on February 17, 2005 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.2 Certificate of Elimination of Series B Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.3 Certificate of Elimination of Series C Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.4 Certificate of Designation of Series D-2 Cumulative Convertible Preferred Stock dated December 6, 2007, filed on December 6, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.5

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Certificate of Designations of Series A Junior Participating Preferred Stock of ION Geophysical Corporation effective as of December 31, 2008, filed on January 5, 2009 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.

- 4.6 Form of Senior Indenture, filed on December 19, 2008 as Exhibit 4.3 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.7 Form of Senior Note, filed on December 19, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.8 Form of Subordinated Indenture, filed on December 19, 2008 as Exhibit 4.5 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.

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| 4.9     | Form of Subordinated Note, filed on December 19, 2008 as Exhibit 4.6 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.  |
| 4.10    | Certificate of Elimination of Series A Junior Participating Preferred Stock dated February 10, 2012, filed on February 13, 2012 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.  |
| **10.1  | Amended and Restated 1990 Stock Option Plan, filed on June 9, 1999 as Exhibit 4.2 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.   |
| 10.2    | Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park II, LP as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.   |
| 10.3    | Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park District as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference. |
| **10.4  | Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan, filed on June 9, 1999 as Exhibit 4.3 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.  |
| **10.5  | Amendment No. 1 to the Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan dated September 13, 1999 filed on November 14, 1999 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended August 31, 1999 and incorporated herein by reference. |
| **10.6  | Input/Output, Inc. Employee Stock Purchase Plan, filed on March 28, 1997 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-24125), and incorporated herein by reference.   |
| **10.7  | Fifth Amended and Restated - 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2010 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2010, and incorporated herein by reference.  |
| 10.8    | Registration Rights Agreement dated as of November 16, 1998, by and among the Company and The Laitram Corporation, filed on March 12, 2004 as Exhibit 10.7 to the Company's Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference.                                |
| **10.9  | Input/Output, Inc. 1998 Restricted Stock Plan dated as of June 1, 1998, filed on June 9, 1999 as Exhibit 4.7 to the Company's Registration Statement on S-8 (Registration No. 333-80297), and incorporated herein by reference.   |
| **10.10 | Input/Output Inc. Non-qualified Deferred Compensation Plan, filed on April 1, 2002 as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 2001, and incorporated herein by reference.   |
| **10.11 | Input/Output, Inc. 2000 Restricted Stock Plan, effective as of March 13, 2000, filed on August 17, 2000 as Exhibit 10.27 to the Company's Annual Report on Form 10-K for the fiscal year ended May 31, 2000, and incorporated herein by reference.  |
| **10.12 | Input/Output, Inc. 2000 Long-Term Incentive Plan, filed on November 6, 2000 as Exhibit 4.7 to the Company's Registration Statement on Form S-8 (Registration No. 333-49382), and incorporated by reference herein.  |
| **10.13 | Employment Agreement dated effective as of March 31, 2003, by and between the Company and Robert P. Peebler, filed on March 31, 2003 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.  |
| **10.14 | First Amendment to Employment Agreement dated September 6, 2006, between Input/Output, Inc. and Robert P. Peebler, filed on September 7, 2006, as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.   |
| **10.15 | Second Amendment to Employment Agreement dated February 16, 2007, between Input/Output, Inc. and Robert P. Peebler, filed on February 16, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.   |
| **10.16 | Third Amendment to Employment Agreement dated as of August 20, 2007 between Input/Output, Inc. and Robert P. Peebler, filed on August 21, 2007 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.  |
| **10.17 | Fourth Amendment to Employment Agreement, dated as of January 26, 2009, between ION Geophysical Corporation and Robert P. Peebler, filed on January 29, 2009 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.  |
| **10.18 | Employment Agreement dated effective as of June 15, 2004, by and between the Company and David L. Roland, filed on August 9, 2004 as Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.                              |



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\*\*10.19 GX Technology Corporation Employee Stock Option Plan, filed on August 9, 2004 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.

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| 10.20   | Concept Systems Holdings Limited Share Acquisition Agreement dated February 23, 2004, filed on March 5, 2004 as Exhibit 2.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.   |
| 10.21   | Registration Rights Agreement by and between ION Geophysical Corporation and 1236929 Alberta Ltd. dated September 18, 2008, filed on November 7, 2008 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q and incorporated herein by reference.   |
| **10.22 | Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. Concept Systems Employment Inducement Stock Option Program, filed on July 27, 2004 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-117716), and incorporated herein by reference.   |
| **10.23 | Form of Employee Stock Option Award Agreement for ARAM Systems Employee Inducement Stock Option Program, filed on November 14, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-155378) and incorporated herein by reference.   |
| 10.24   | Agreement dated as of February 15, 2005, between Input/Output, Inc. and Fletcher International, Ltd., filed on February 17, 2005 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.   |
| 10.25   | First Amendment to Agreement, dated as of May 6, 2005, between the Company and Fletcher International, Ltd., filed on May 10, 2005 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| **10.26 | Input/Output, Inc. 2003 Stock Option Plan, dated March 27, 2003, filed as Appendix B of the Company's definitive proxy statement filed with the SEC on April 30, 2003, and incorporated herein by reference.   |
| **10.27 | Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. GX Technology Corporation Employment Inducement Stock Option Program, filed on April 4, 2005 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-123831), and incorporated herein by reference.   |
| **10.28 | ION Stock Appreciation Rights Plan dated November 17, 2008, filed as Exhibit 10.47 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008, and incorporated herein by reference.   |
| 10.29   | Canadian Master Loan and Security Agreement dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Rentals Corporation, a Nova Scotia corporation, filed on August 6, 2009 as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference. |
| 10.30   | Master Loan and Security Agreement (U.S.) dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Seismic Rentals, Inc., a Texas corporation, filed on August 6, 2009 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference.       |
| 10.31   | Registration Rights Agreement dated as of October 23, 2009 by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation filed on March 1, 2010 as Exhibit 10.54 to the Company's Annual Report on Form 10-K for the year ended December 31, 2009, and incorporated herein by reference.   |
| 10.32   | Stock Purchase Agreement dated as of March 19, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.   |
| 10.33   | Investor Rights Agreement dated as of March 25, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| 10.34   | Share Purchase Agreement dated as of March 24, 2010, by and among ION Geophysical Corporation, INOVA Geophysical Equipment Limited and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.3 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| 10.35   | Joint Venture Agreement dated as of March 24, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.4 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| 10.36   | Credit Agreement dated as of March 25, 2010, by and among ION Geophysical Corporation, ION International S.À R.L. and China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender, filed on March 31, 2010 as Exhibit 10.5 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |

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- \*\*10.37 Fifth Amendment to Employment Agreement dated June 1, 2010, between ION Geophysical Corporation and Robert P. Peebler, filed on June 1, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.38 Employment Agreement dated August 2, 2011, effective as of January 1, 2012, between ION Geophysical Corporation and R. Brian Hanson, filed on November 3, 2011 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2011, and incorporated herein by reference.
- \*\*10.39 Employment Agreement dated effective as of November 28, 2011, between ION Geophysical Corporation and Gregory J. Heinlein, filed on December 1, 2011 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

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| *21.1  | Subsidiaries of the Company.  |
| *23.1  | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.  |
| 23.2   | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.  |
| *24.1  | The Power of Attorney is set forth on the signature page hereof.  |
| 31.1   | Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).  |
| 31.2   | Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).  |
| 32.1   | Certification of Chief Executive Officer Pursuant to 18 U.S.C. §1350.   |
| 32.2   | Certification of Chief Financial Officer Pursuant to 18 U.S.C. §1350.   |
| 99.1   | INOVA Geophysical Equipment Limited Audited Financial Statements as of and for the periods ended December 31, 2011 and 2010.  |
| ***101 | The following materials are formatted in Extensible Business Reporting Language (XBRL): (i) Consolidated Balance Sheets at December 31, 2011 and 2010, (ii) Consolidated Statements of Operations for the years ended December 31, 2011, 2010 and 2009, (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2011, 2010 and 2009, (iv) Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss) for the years ended December 31, 2011, 2010 and 2009, (v) Notes to Consolidated Financial Statements and (vi) Schedule II - Valuation and Qualifying Accounts. |

\* Filed with ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission on February 24, 2012.

\*\* Management contract or compensatory plan or arrangement.  
Filed herewith.

\*\*\* In accordance with Rule 406T of Regulation S-T, the XBRL-related information in Exhibit 101 to ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, is deemed not filed or part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act, is deemed not filed for purposes of section 18 of the Exchange Act and otherwise is not subject to liability under these sections. All of the interactive files have been previously furnished with ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission on February 24, 2012.

(b) *Exhibits required by Item 601 of Regulation S-K.*

Reference is made to subparagraph (a) (3) of this Item 15, which is incorporated herein by reference.

(c) Financial statement schedules.

The audited financial statements of INOVA Geophysical Equipment Limited referred to in subparagraph (a) (2) of this Item 15, are being filed herewith as financial statement schedules to this Amendment No. 1 to Annual Report on Form 10-K/A, in accordance with Rule 3-09 of Regulation S-X.

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Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Houston, State of Texas, on March 26, 2012.

## ION GEOPHYSICAL CORPORATION

By /s/ R. Brian Hanson  
 R. Brian Hanson  
*President and Chief Executive Officer*  
*(Principal Executive Officer)*

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Form 10-K/A (Amendment No. 1 to Annual Report on Form 10-K) has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

| Name   | Capacities   | Date           |
|--|--|----------------|
| /s/ R. BRIAN HANSON<br>R. Brian Hanson           | President, Chief Executive Officer and Director<br>(Principal Executive Officer)   | March 26, 2012 |
| * GREGORY J. HEINLEIN<br>Gregory J. Heinlein     | Senior Vice President and Chief Financial Officer<br>(Principal Financial Officer) | March 26, 2012 |
| * MICHAEL L. MORRISON<br>Michael L. Morrison     | Vice President and Corporate Controller<br>(Principal Accounting Officer)          | March 26, 2012 |
| * ROBERT P. PEEBLER<br>Robert P. Peebler         | Executive Chairman of the Board of Directors and<br>Director                       | March 26, 2012 |
| * JAMES M. LAPEYRE, JR.<br>James M. Lapeyre, Jr. | Lead Independent Director  | March 26, 2012 |
| * DAVID H. BARR<br>David H. Barr                 | Director   | March 26, 2012 |
| * HAO HUIMIN<br>Hao Huimin                       | Director   | March 26, 2012 |
| * MICHAEL C. JENNINGS<br>Michael C. Jennings     | Director   | March 26, 2012 |
| * FRANKLIN MYERS<br>Franklin Myers               | Director   | March 26, 2012 |
| * S. JAMES NELSON, JR.<br>S. James Nelson, Jr.   | Director   | March 26, 2012 |
| * JOHN N. SEITZ<br>John N. Seitz                 | Director   | March 26, 2012 |

\*By: /s/ R. Brian Hanson  
 R. Brian Hanson  
*Attorney-in-fact*

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EXHIBIT INDEX

- 3.1 Restated Certificate of Incorporation dated September 24, 2007 filed on September 24, 2007 as Exhibit 3.4 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.2 Amended and Restated Bylaws of ION Geophysical Corporation filed on September 24, 2007 as Exhibit 3.5 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 3.3 Certificate of Ownership and Merger merging ION Geophysical Corporation with and into Input/Output, Inc. dated September 21, 2007, filed on September 24, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.1 Certificate of Rights and Designations of Series D-1 Cumulative Convertible Preferred Stock, dated February 16, 2005 and filed on February 17, 2005 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.2 Certificate of Elimination of Series B Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.3 Certificate of Elimination of Series C Preferred Stock dated September 24, 2007, filed on September 24, 2007 as Exhibit 3.3 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.4 Certificate of Designation of Series D-2 Cumulative Convertible Preferred Stock dated December 6, 2007, filed on December 6, 2007 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.5 Certificate of Designations of Series A Junior Participating Preferred Stock of ION Geophysical Corporation effective as of December 31, 2008, filed on January 5, 2009 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- 4.6 Form of Senior Indenture, filed on December 19, 2008 as Exhibit 4.3 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.7 Form of Senior Note, filed on December 19, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.8 Form of Subordinated Indenture, filed on December 19, 2008 as Exhibit 4.5 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.9 Form of Subordinated Note, filed on December 19, 2008 as Exhibit 4.6 to the Company's Registration Statement on Form S-3 (Registration No. 333-156362) and incorporated herein by reference.
- 4.10 Certificate of Elimination of Series A Junior Participating Preferred Stock dated February 10, 2012, filed on February 13, 2012 as Exhibit 3.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.1 Amended and Restated 1990 Stock Option Plan, filed on June 9, 1999 as Exhibit 4.2 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.
- 10.2 Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park II, LP as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.
- 10.3 Office and Industrial/Commercial Lease dated June 2005 by and between Stafford Office Park District as Landlord and Input/Output, Inc. as Tenant, filed on March 31, 2006 as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 2005, and incorporated herein by reference.

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- \*\*10.4 Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan, filed on June 9, 1999 as Exhibit 4.3 to the Company's Registration Statement on Form S-8 (Registration No. 333-80299), and incorporated herein by reference.
- \*\*10.5 Amendment No. 1 to the Input/Output, Inc. Amended and Restated 1996 Non-Employee Director Stock Option Plan dated September 13, 1999 filed on November 14, 1999 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended August 31, 1999 and incorporated herein by reference.
- \*\*10.6 Input/Output, Inc. Employee Stock Purchase Plan, filed on March 28, 1997 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-24125), and incorporated herein by reference.
- \*\*10.7 Fifth Amended and Restated - 2004 Long-Term Incentive Plan, filed as Appendix A to the definitive proxy statement for the 2010 Annual Meeting of Stockholders of ION Geophysical Corporation, filed on April 21, 2010, and incorporated herein by reference.
- 10.8 Registration Rights Agreement dated as of November 16, 1998, by and among the Company and The Laitram Corporation, filed on March 12, 2004 as Exhibit 10.7 to the Company's Annual Report on Form 10-K for the year ended December 31, 2003, and incorporated herein by reference.
- \*\*10.9 Input/Output, Inc. 1998 Restricted Stock Plan dated as of June 1, 1998, filed on June 9, 1999 as Exhibit 4.7 to the Company's Registration Statement on S-8 (Registration No. 333-80297), and incorporated herein by reference.
- \*\*10.10 Input/Output Inc. Non-qualified Deferred Compensation Plan, filed on April 1, 2002 as Exhibit 10.14 to the Company's Annual Report on Form 10-K for the year ended December 31, 2001, and incorporated herein by reference.
- \*\*10.11 Input/Output, Inc. 2000 Restricted Stock Plan, effective as of March 13, 2000, filed on August 17, 2000 as Exhibit 10.27 to the Company's Annual Report on Form 10-K for the fiscal year ended May 31, 2000, and incorporated herein by reference.
- \*\*10.12 Input/Output, Inc. 2000 Long-Term Incentive Plan, filed on November 6, 2000 as Exhibit 4.7 to the Company's Registration Statement on Form S-8 (Registration No. 333-49382), and incorporated by reference herein.
- \*\*10.13 Employment Agreement dated effective as of March 31, 2003, by and between the Company and Robert P. Peebler, filed on March 31, 2003 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.14 First Amendment to Employment Agreement dated September 6, 2006, between Input/Output, Inc. and Robert P. Peebler, filed on September 7, 2006, as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.15 Second Amendment to Employment Agreement dated February 16, 2007, between Input/Output, Inc. and Robert P. Peebler, filed on February 16, 2007 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.
- \*\*10.16 Third Amendment to Employment Agreement dated as of August 20, 2007 between Input/Output, Inc. and Robert P. Peebler, filed on August 21, 2007 as Exhibit 10.2 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.17 Fourth Amendment to Employment Agreement, dated as of January 26, 2009, between ION Geophysical Corporation and Robert P. Peebler, filed on January 29, 2009 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.
- \*\*10.18 Employment Agreement dated effective as of June 15, 2004, by and between the Company and David L. Roland, filed on August 9, 2004 as Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.
- \*\*10.19 GX Technology Corporation Employee Stock Option Plan, filed on August 9, 2004 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2004, and incorporated herein by reference.
- 10.20 Concept Systems Holdings Limited Share Acquisition Agreement dated February 23, 2004, filed on March 5, 2004 as Exhibit 2.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.

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| 10.21   | Registration Rights Agreement by and between ION Geophysical Corporation and 1236929 Alberta Ltd. dated September 18, 2008, filed on November 7, 2008 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q and incorporated herein by reference.   |
| **10.22 | Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. Concept Systems Employment Inducement Stock Option Program, filed on July 27, 2004 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-117716), and incorporated herein by reference.   |
| **10.23 | Form of Employee Stock Option Award Agreement for ARAM Systems Employee Inducement Stock Option Program, filed on November 14, 2008 as Exhibit 4.4 to the Company's Registration Statement on Form S-8 (Registration No. 333-155378) and incorporated herein by reference.   |
| 10.24   | Agreement dated as of February 15, 2005, between Input/Output, Inc. and Fletcher International, Ltd., filed on February 17, 2005 as Exhibit 10.1 to the Company's Current Report on Form 8-K and incorporated herein by reference.   |
| 10.25   | First Amendment to Agreement, dated as of May 6, 2005, between the Company and Fletcher International, Ltd., filed on May 10, 2005 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| **10.26 | Input/Output, Inc. 2003 Stock Option Plan, dated March 27, 2003, filed as Appendix B of the Company's definitive proxy statement filed with the SEC on April 30, 2003, and incorporated herein by reference.   |
| **10.27 | Form of Employment Inducement Stock Option Agreement for the Input/Output, Inc. GX Technology Corporation Employment Inducement Stock Option Program, filed on April 4, 2005 as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (Reg. No. 333-123831), and incorporated herein by reference.   |
| **10.28 | ION Stock Appreciation Rights Plan dated November 17, 2008, filed as Exhibit 10.47 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008, and incorporated herein by reference.   |
| 10.29   | Canadian Master Loan and Security Agreement dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Rentals Corporation, a Nova Scotia corporation, filed on August 6, 2009 as Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference. |
| 10.30   | Master Loan and Security Agreement (U.S.) dated as of June 29, 2009 by and among ICON ION, LLC, as lender, ION Geophysical Corporation and ARAM Seismic Rentals, Inc., a Texas corporation, filed on August 6, 2009 as Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2009, and incorporated herein by reference.       |
| 10.31   | Registration Rights Agreement dated as of October 23, 2009 by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation filed on March 1, 2010 as Exhibit 10.54 to the Company's Annual Report on Form 10-K for the year ended December 31, 2009, and incorporated herein by reference.   |
| 10.32   | Stock Purchase Agreement dated as of March 19, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.   |
| 10.33   | Investor Rights Agreement dated as of March 25, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.2 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| 10.34   | Share Purchase Agreement dated as of March 24, 2010, by and among ION Geophysical Corporation, INOVA Geophysical Equipment Limited and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.3 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| 10.35   | Joint Venture Agreement dated as of March 24, 2010, by and between ION Geophysical Corporation and BGP Inc., China National Petroleum Corporation, filed on March 31, 2010 as Exhibit 10.4 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |



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| 10.36   | Credit Agreement dated as of March 25, 2010, by and among ION Geophysical Corporation, ION International S.À R.L. and China Merchants Bank Co., Ltd., New York Branch, as administrative agent and lender, filed on March 31, 2010 as Exhibit 10.5 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| **10.37 | Fifth Amendment to Employment Agreement dated June 1, 2010, between ION Geophysical Corporation and Robert P. Peebler, filed on June 1, 2010 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| **10.38 | Employment Agreement dated August 2, 2011, effective as of January 1, 2012, between ION Geophysical Corporation and R. Brian Hanson, filed on November 3, 2011 as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2011, and incorporated herein by reference.   |
| **10.39 | Employment Agreement dated effective as of November 28, 2011, between ION Geophysical Corporation and Gregory J. Heinlein, filed on December 1, 2011 as Exhibit 10.1 to the Company's Current Report on Form 8-K, and incorporated herein by reference.  |
| *21.1   | Subsidiaries of the Company.   |
| *23.1   | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.   |
| 23.2    | Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.   |
| 31.1    | Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).   |
| 31.2    | Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) or Rule 15d-14(a).   |
| 32.1    | Certification of Chief Executive Officer Pursuant to 18 U.S.C. §1350.  |
| 32.2    | Certification of Chief Financial Officer Pursuant to 18 U.S.C. §1350.  |
| 99.1    | INOVA Geophysical Equipment Limited Audited Financial Statements as of and for the periods ended December 31, 2011 and 2010.   |
| ***101  | The following materials are formatted in Extensible Business Reporting Language (XBRL): (i) Consolidated Balance Sheets at December 31, 2011 and 2010, (ii) Consolidated Statements of Operations for the years ended December 31, 2011, 2010 and 2009, (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2011, 2010 and 2009, (iv) Consolidated Statements of Stockholders' Equity and Comprehensive Income (Loss) for the years ended December 31, 2011, 2010 and 2009, (v) Notes to Consolidated Financial Statements and (vi) Schedule II - Valuation and Qualifying Accounts.  |
| *       | Filed with ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission on February 24, 2012.   |
| **      | Management contract or compensatory plan or arrangement.<br>Filed herewith.  |
| ***     | In accordance with Rule 406T of Regulation S-T, the XBRL-related information in Exhibit 101 to ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, is deemed not filed or part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act, is deemed not filed for purposes of section 18 of the Exchange Act and otherwise is not subject to liability under these sections. All of the interactive files have been previously furnished with ION Geophysical Corporation's Annual Report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission on February 24, 2012. |