

**FOURTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
ADVANCED DIAMOND TECHNOLOGIES, INC.**

**(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)**

Advanced Diamond Technologies, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "General Corporation Law"),

DOES HEREBY CERTIFY:

FIRST: That the name of the corporation is Advanced Diamond Technologies, Inc. (the "Corporation") and that the Corporation was originally incorporated pursuant to the General Corporation Law on December 10, 2003 under the name Advanced Diamond Technologies, Inc.

SECOND: That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of the Corporation, declaring said amendment and restatement to be advisable and in the best interests of the Corporation and its stockholders, and authorizing the appropriate officers of the Corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of the Corporation be amended and restated in its entirety as follows:

ARTICLE I

The name of the Corporation is Advanced Diamond Technologies, Inc.

ARTICLE II

The address of the registered office of the Corporation in the State of Delaware is Corporation Trust Center, 1209 Orange Street in the City of Wilmington, County of New Castle. The name of the Corporation's registered agent at such address is the The Corporation Trust Company.

ARTICLE III

The nature of the Corporation's business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

ARTICLE IV

A. Authorization of Stock. The Corporation is authorized to issue two classes of stock to be designated, respectively, common stock and preferred stock. The total number of

shares that the Corporation is authorized to issue is 28,800,000. The total number of shares of common stock authorized to be issued is 17,000,000, par value \$0.001 per share (the "Common Stock"). The total number of shares of preferred stock authorized to be issued is 11,800,000, par value \$0.001 per share (the "Preferred Stock"), of which 1,700,000 shares are designated as "Series A Preferred Stock," 1,500,000 shares are designated as "Series B Preferred Stock," 4,200,000 are designated as "Series C Preferred Stock," and 4,400,000 shares are designated as "Series D Preferred Stock."

B. Rights, Preferences and Restrictions of Preferred Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Preferred Stock are as set forth below in this Article IV(B).

1. Dividend Provisions.

(a) The holders of shares of Series D Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Series A Preferred Stock, the Series B Preferred Stock, and the Series C Preferred Stock (collectively, the "Junior Preferred Stock") or Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Junior Preferred Stock or Common Stock of the Corporation on the Junior Preferred Stock and Common Stock of the Corporation, payable when, as and if declared by the Board of Directors. Subordinate in all respects to the holders of the Series D Preferred Stock, the holders of shares of Junior Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock of the Corporation) on the Common Stock of the Corporation, payable when, as and if declared by the Board of Directors. Dividends on each share of Preferred Stock shall accrue on a daily basis at the rate of 8.0% per annum of the applicable Original Issue Price for such series of Preferred Stock (calculated on the basis of a year of 360 days consisting of twelve 30-day months) from and including July 1, 2011 to and including the liquidation, dissolution or winding up of the Corporation. Such dividends shall accrue whether or not they have been declared and whether or not there are profits, surplus or other funds of the Corporation legally available for the payment of dividends. The date on which the Corporation initially issues any share shall be deemed to be its "date of issuance" regardless of the number of times transfer of such share is made in the stock records maintained by or for the Corporation.

(b) After payment of such dividends, any additional dividends or distributions shall be distributed among all holders of Common Stock and Preferred Stock in proportion to the number of shares of Common Stock that would be held by each such holder if all shares of Preferred Stock were converted to Common Stock at the then effective conversion rate.

2. Liquidation Preference.

(a) In the event of any Liquidation Event (as defined below), either voluntary or involuntary, the holders of each series of Series D Preferred Stock shall be entitled to receive,

on a senior basis and prior and in preference to any distribution of the assets of the Corporation and the proceeds of such Liquidation Event (collectively, the "Proceeds") to the holders of Junior Preferred Stock and Common Stock by reason of their ownership thereof, an amount per share equal to the sum of the applicable Original Issue Price (as defined below) for the Series D Preferred Stock, plus any accrued but unpaid dividends on such share. If, upon the occurrence of such event, the Proceeds thus distributed among the holders of the Series D Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amounts, then the entire Proceeds legally available for distribution shall be distributed ratably among the holders of the Series D Preferred Stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive under this subsection (a). For purposes of this Fourth Amended and Restated Certificate of Incorporation, "Original Issue Price" shall mean \$ 0.62 per share for each share of the Series A Preferred Stock, \$0.83 per share for each share of Series B Preferred Stock, \$1.27 for each share of Series C Preferred Stock, and \$1.238 for each share of Series D Preferred Stock (each as adjusted for any stock splits, stock dividends, combinations, subdivisions, recapitalizations or the like with respect to such series of Preferred Stock).

(b) Upon completion of the distribution required by subsection (a) of this Section 2, the holders of each series of Junior Preferred Stock shall be entitled to receive, on a pari passu basis and prior and in preference to any distribution of the assets of the Corporation and the Proceeds to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the sum of the applicable Original Issue Price for such series of Junior Preferred Stock, plus any accrued but unpaid dividends on such share. If, upon the occurrence of such event, the Proceeds thus distributed among the holders of the Junior Preferred Stock shall be insufficient to permit the payment to such holders of the full aforesaid preferential amounts, then the entire Proceeds legally available for distribution shall be distributed ratably among the holders of the Junior Preferred Stock in proportion to the full preferential amount that each such holder is otherwise entitled to receive under this subsection (b).

(c) Upon completion of the distributions required by subsections (a) and (b) of this Section 2, all of the remaining Proceeds available for distribution to stockholders shall be distributed ratably among the holders of Common Stock, Series D Preferred Stock, and Junior Preferred Stock, on an as-if-converted to Common Stock basis.

(d) (i) For purposes of this Section 2, a "Liquidation Event" shall be deemed to be occasioned by or to include (A) the closing of the sale, transfer, exclusive license or other disposition, in one transaction or a series of related transactions, of all or substantially all of the Corporation's assets, (B) the consummation of the merger or consolidation of the Corporation, in one transaction, or a series of related transactions, with or into another entity (except a merger or consolidation in which the holders of capital stock of the Corporation immediately prior to such merger or consolidation continue to hold at least 50% of the voting power of the capital stock of the Corporation or the surviving or acquiring entity), (C) the closing of the transfer (whether by merger, consolidation or in any other manner), in one transaction or a series of related transactions to which the Corporation is a party, to a person or group of affiliated persons (other than an underwriter of the Corporation's securities), of the Corporation's securities if, after such closing, such person or group of affiliated persons would hold 50% or more of the outstanding voting stock of the Corporation (or the surviving or acquiring entity), (D) the grant of an exclusive and irrevocable license of the Corporation's intellectual property to

a third party or (E) a liquidation, dissolution or winding up of the Corporation; provided, however, that a transaction shall not constitute a Liquidation Event if: (w) its sole purpose is to change the state of the Corporation's incorporation; (x) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Corporation's securities immediately prior to such transaction; (y) or consolidate the Corporation with a wholly owned subsidiary; or (z) the holders of at least two-thirds of the outstanding shares of each series of Preferred Stock elect not to treat such event as a Liquidation Event. Notwithstanding the prior sentence, the sale of shares of capital stock in a financing transaction in which the Corporation is the surviving corporation shall not be deemed a "Liquidation Event."

(ii) In any Liquidation Event, if Proceeds received by the Corporation or its stockholders is other than cash, its value will be deemed its fair market value, as mutually determined by the Corporation and the holders of at least two-thirds of all then outstanding shares of Preferred Stock. Any securities shall be valued as follows:

(A) Securities not subject to investment letter or other similar restrictions on free marketability covered by (B) below:

(1) If traded on a securities exchange or through the Nasdaq National Market, the value shall be deemed to be the average of the closing prices of the securities on such exchange or system over the twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event;

(2) If actively traded over-the-counter, the value shall be deemed to be the average of the closing bid or sale prices (whichever is applicable) over the twenty (20) trading-day period ending three (3) trading days prior to the closing of the Liquidation Event; and

(3) If there is no active public market, the value shall be the fair value thereof, as mutually determined by the Corporation and the holders of at least 66 2/3% of the voting power of all then outstanding shares of Preferred Stock.

(B) The method of valuation of securities subject to investment letter or other restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall be to make an appropriate discount from the market value determined as above in (A) (1), (2) or (3) to reflect the approximate fair market value thereof, as mutually determined by the Corporation and the holders of at least 66 2/3% of the voting power of all then outstanding shares of such Preferred Stock.

(iii) In the event the requirements of this Section 2 are not complied with, the Corporation shall forthwith either:

(A) cause the closing of such Liquidation Event to be postponed until such time as the requirements of this Section 2 have been complied with; or

(B) cancel such transaction, in which event the rights, preferences and privileges of the holders of the Preferred Stock shall revert to and be the same as

such rights, preferences and privileges existing immediately prior to the date of the first notice referred to in subsection 2(c)(iv) hereof.

(iv) This corporation shall give each holder of record of Preferred Stock written notice of such impending Liquidation Event not later than twenty (20) days prior to the stockholders' meeting called to approve such transaction, or twenty (20) days prior to the closing of such transaction, whichever is earlier, and shall also notify such holders in writing of the final approval of such transaction. The first of such notices shall describe the material terms and conditions of the impending transaction and the provisions of this Section 2, and the Corporation shall thereafter give such holders prompt notice of any material changes. The transaction shall in no event take place sooner than twenty (20) days after the Corporation has given the first notice provided for herein or sooner than ten (10) days after the Corporation has given notice of any material changes provided for herein; provided, however, that subject to compliance with the General Corporation Law such periods may be shortened or waived upon the written consent of the holders of Preferred Stock that represent at least 66 2/3% of the voting power of all then outstanding shares of such Preferred Stock (voting together as a single class and not as separate series, and on an as-converted basis).

3. Conversion. The holders of the Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

(a) Right to Convert. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share, at the office of the Corporation or any transfer agent for such stock, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the applicable Original Issue Price for such series by the applicable Conversion Price for such series (the conversion rate for a series of Preferred Stock into Common Stock is referred to herein as the "Conversion Rate" for such series), determined as hereafter provided, in effect on the date the certificate is surrendered for conversion. The initial Conversion Price per share for each series of Preferred Stock shall be the Original Issue Price applicable to such series; provided, however, that the Conversion Price for the Preferred Stock shall be subject to adjustment as set forth in subsection 3(d).

(b) Automatic Conversion.

(i) Each share of Preferred Stock shall automatically be converted into shares of Common Stock at the Conversion Rate at the time in effect for such Preferred Stock immediately upon the date specified by written consent or agreement of the holders of at least 66 2/3% of the then outstanding shares of Preferred Stock (voting together as a single class).

(ii) Notwithstanding Section 3(b)(i) above, each share of Series D Preferred Stock shall automatically be converted into shares of Common Stock at the Conversion Rate at the time in effect for the Series D Preferred Stock immediately upon the date specified by written consent or agreement of a majority of the holders of the then outstanding shares of Series D Preferred Stock.

(iii) Notwithstanding Section 3(b)(i) above, each share of Preferred Stock shall automatically be converted into shares of Common Stock at the Conversion Rate at the time in effect for such series of Preferred Stock immediately upon the Corporation's sale of its Common Stock in a firm commitment underwritten public offering pursuant to a registration statement on Form S-1 or Form SB-2 under the Securities Act of 1933, as amended, and in which the net proceeds to the Corporation exceed \$25,000,000 (before deduction of underwriters commissions and expenses) (a "Qualified Public Offering").

(c) Mechanics of Conversion. Before any holder of Preferred Stock shall be entitled to voluntarily convert the same into shares of Common Stock, he or she shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Preferred Stock, and shall give written notice to the Corporation at its principal corporate office, of the election to convert the same and shall state therein the name or names in which the certificate or certificates for shares of Common Stock are to be issued. This corporation shall, as soon as practicable thereafter, issue and deliver at such office to such holder of Preferred Stock, or to the nominee or nominees of such holder, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Preferred Stock to be converted, and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock as of such date. If the conversion is in connection with an underwritten offering of securities registered pursuant to the Securities Act of 1933, as amended, the conversion may, at the option of any holder tendering Preferred Stock for conversion, be conditioned upon the closing with the underwriters of the sale of securities pursuant to such offering, in which event the persons entitled to receive the Common Stock upon conversion of the Preferred Stock shall not be deemed to have converted such Preferred Stock until immediately prior to the closing of such sale of securities. If the conversion is in connection with Automatic Conversion provisions of subsection 4(b)(ii) above, such conversion shall be deemed to have been made on the conversion date described in the stockholder consent approving such conversion, and the persons entitled to receive shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holders of such shares of Common Stock as of such date.

(d) Conversion Price Adjustments of Preferred Stock for Certain Dilutive Issuances, Splits and Combinations. The Conversion Price of the Preferred Stock shall be subject to adjustment from time to time as follows:

(i) (A) If the Corporation shall issue, on or after the date upon which this Fourth Amended and Restated Certificate of Incorporation is accepted for filing by the Secretary of State of the State of Delaware (the "Filing Date"), any Additional Stock (as defined below) without consideration or for a consideration per share less than the Conversion Price applicable to a series of Preferred Stock in effect immediately prior to the issuance of such Additional Stock, the Conversion Price for such series in effect immediately prior to each such issuance shall forthwith (except as otherwise provided in this clause (i)) be adjusted to a price determined by multiplying such Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of Common Stock that the aggregate consideration

received by the Corporation for such issuance would purchase at such Conversion Price; and the denominator of which shall be the number of shares of Common Stock Outstanding (as defined below) immediately prior to such issuance plus the number of shares of such Additional Stock. For purposes of this Section 3(d)(i)(A), the term "Common Stock Outstanding" shall mean and include the following: (1) outstanding Common Stock, (2) Common Stock issuable upon conversion of outstanding Preferred Stock, (3) Common Stock issuable upon exercise of outstanding stock options (4) Common Stock issuable upon exercise (and, in the case of warrants to purchase Preferred Stock, conversion) of outstanding warrants, and (5) Common Stock issuable upon conversion or exchange of any security (other than any Preferred Stock, stock options or warrants described in (2) through (4) above) that by its terms is convertible into or exchangeable for Common Stock or the option to purchase or the right to subscribe for Common Stock. Shares described in (1) through (5) above shall be included whether vested or unvested, whether contingent or non-contingent and whether exercisable or not yet exercisable.

(B) No adjustment of the Conversion Price for the Preferred Stock shall be made in an amount less than \$0.001 per share, provided that any adjustments that are not required to be made by reason of this sentence shall be carried forward and shall be either taken into account in any subsequent adjustment made prior to three (3) years from the date of the event giving rise to the adjustment being carried forward, or shall be made at the end of three (3) years from the date of the event giving rise to the adjustment being carried forward. Except to the limited extent provided for in subsections (E)(3) and (E)(4), no adjustment of such Conversion Price pursuant to this subsection 3(d)(i) shall have the effect of increasing the Conversion Price above the Conversion Price in effect immediately prior to such adjustment.

(C) In the case of the issuance of Additional Stock for cash, the consideration shall be deemed to be the amount of cash paid therefor before deducting any reasonable discounts, commissions or other expenses allowed, paid or incurred by the Corporation for any underwriting or otherwise in connection with the issuance and sale thereof.

(D) In the case of the issuance of the Additional Stock for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the fair value thereof as determined by the Board of Directors irrespective of any accounting treatment.

(E) In the case of the issuance of options to purchase or rights to subscribe for Common Stock, securities by their terms convertible into or exchangeable for Common Stock or options to purchase or rights to subscribe for such convertible or exchangeable securities, the following provisions shall apply for purposes of determining the number of shares of Additional Stock issued and the consideration paid therefor:

(1) The aggregate maximum number of shares of Common Stock deliverable upon exercise (assuming the satisfaction of any conditions to exercisability, including without limitation, the passage of time, but without taking into account potential antidilution adjustments) of such options to purchase or rights to subscribe for Common Stock shall be deemed to have been issued at the time such options or rights were issued and for a consideration equal to the consideration (determined in the manner provided in subsections 3(d)(i)(C) and (d)(i)(D)), if any, received by the Corporation upon the issuance of such options

or rights plus the minimum exercise price provided in such options or rights (without taking into account potential antidilution adjustments) for the Common Stock covered thereby.

(2) The aggregate maximum number of shares of Common Stock deliverable upon conversion of, or in exchange (assuming the satisfaction of any conditions to convertibility or exchangeability, including, without limitation, the passage of time, but without taking into account potential antidilution adjustments) for, any such convertible or exchangeable securities or upon the exercise of options to purchase or rights to subscribe for such convertible or exchangeable securities and subsequent conversion or exchange thereof shall be deemed to have been issued at the time such securities were issued or such options or rights were issued and for a consideration equal to the consideration, if any, received by the Corporation for any such securities and related options or rights (excluding any cash received on account of accrued interest or accrued dividends), plus the minimum additional consideration, if any, to be received by the Corporation (without taking into account potential antidilution adjustments) upon the conversion or exchange of such securities or the exercise of any related options or rights (the consideration in each case to be determined in the manner provided in subsections 3(d)(i)(C) and (d)(i)(D)).

(3) In the event of any change in the number of shares of Common Stock deliverable or in the consideration payable to the Corporation upon exercise of such options or rights or upon conversion of or in exchange for such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way affected by or computed using such options, rights or securities, shall be recomputed to reflect such change, but no further adjustment shall be made for the actual issuance of Common Stock or any payment of such consideration upon the exercise of any such options or rights or the conversion or exchange of such securities.

(4) Upon the expiration of any such options or rights, the termination of any such rights to convert or exchange or the expiration of any options or rights related to such convertible or exchangeable securities, the Conversion Price of the Preferred Stock, to the extent in any way affected by or computed using such options, rights or securities or options or rights related to such securities, shall be recomputed to reflect the issuance of only the number of shares of Common Stock (and convertible or exchangeable securities that remain in effect) actually issued upon the exercise of such options or rights, upon the conversion or exchange of such securities or upon the exercise of the options or rights related to such securities.

(5) The number of shares of Additional Stock deemed issued and the consideration deemed paid therefor pursuant to subsections 3(d)(i)(E)(1) and (2) shall be appropriately adjusted to reflect any change, termination or expiration of the type described in either subsection 3(d)(i)(E)(3) or (4).

(ii) "Additional Stock" shall mean any shares of stock issued (or deemed to have been issued pursuant to subsection 3(d)(i)(E)) by the Corporation on or after the Filing Date other than:

- after the date hereof;
- (A) Up to 4,400,000 shares of Series D Preferred Stock issued
- Preferred Stock.
- (B) Common Stock issued upon conversion of Series D
- in subsection 3(d)(iii) hereof;
- (C) Common Stock issued pursuant to a transaction described
- (D) Common Stock issued to employees, officers, directors, consultants, contractors or advisors of the Corporation and other service providers for the primary purpose of soliciting or retaining their services pursuant to stock purchase or stock option plans or agreements or other incentive stock arrangements approved by the Corporation's Board of Directors;
- (E) Common Stock issued upon conversion of the Preferred Stock and pursuant to a Qualified Public Offering;
- (F) Common Stock issued pursuant to the conversion or exercise of convertible or exercisable securities outstanding on the Filing Date;
- (G) Common Stock issued or deemed issued pursuant to subsection 3(d)(i)(E) as a result of a decrease in the Conversion Price of any series of Preferred Stock resulting from the operation of Section 3(d); or
- (H) Common Stock issued to financial institutions or lessors in connection with commercial credit arrangements, equipment financings, commercial property lease transactions, or similar transactions approved by the Board of Directors, provided such issuances are primarily for other than equity financing purposes.
- (iii) In the event the Corporation should at any time or from time to time after the Filing Date fix a record date for the effectuation of a split or subdivision of the outstanding shares of Common Stock or the determination of holders of Common Stock entitled to receive a dividend or other distribution payable in additional shares of Common Stock or other securities or rights convertible into, or entitling the holder thereof to receive directly or indirectly, additional shares of Common Stock (hereinafter referred to as "Common Stock Equivalents") without payment of any consideration by such holder for the additional shares of Common Stock or the Common Stock Equivalents (including the additional shares of Common Stock issuable upon conversion or exercise thereof), then, as of such record date (or the date of such dividend distribution, split or subdivision if no record date is fixed), the Conversion Price of the Preferred Stock shall be appropriately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase of the aggregate of shares of Common Stock outstanding and those issuable with respect to such Common Stock Equivalents.
- (iv) If the number of shares of Common Stock outstanding at any time after the Filing Date is decreased by a combination of the outstanding shares of Common Stock, then, following the record date of such combination, the Conversion Price for the Preferred Stock

shall be appropriately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in outstanding shares.

(e) Other Distributions. In the event the Corporation shall declare a distribution payable in securities of other persons, evidences of indebtedness issued by the Corporation or other persons, assets (excluding cash dividends) or options or rights not referred to in subsection 3(d)(iii), then, in each such case for the purpose of this subsection 3(e), the holders of the Preferred Stock shall be entitled to a proportionate share of any such distribution as though they were the holders of the number of shares of Common Stock of the Corporation into which their shares of Preferred Stock are convertible as of the record date fixed for the determination of the holders of Common Stock of the Corporation entitled to receive such distribution.

(f) Recapitalizations. If at any time or from time to time there shall be a recapitalization of the Common Stock (other than a subdivision, combination or merger or sale of assets transaction provided for elsewhere in this Section 3 or in Section 2) provision shall be made so that the holders of the Preferred Stock shall thereafter be entitled to receive upon conversion of the Preferred Stock the number of shares of stock or other securities or property of the Corporation or otherwise, to which a holder of Common Stock deliverable upon conversion would have been entitled on such recapitalization. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 3 with respect to the rights of the holders of the Preferred Stock after the recapitalization to the end that the provisions of this Section 3 (including adjustment of the Conversion Price then in effect and the number of shares purchasable upon conversion of the Preferred Stock) shall be applicable after that event as nearly equivalently as may be practicable.

(g) No Fractional Shares and Certificate as to Adjustments.

(i) No fractional shares shall be issued upon the conversion of any share or shares of the Preferred Stock and the aggregate number of shares of Common Stock to be issued to particular stockholders, shall be rounded down to the nearest whole share and the Corporation shall pay in cash the fair market value of any fractional shares as of the time when entitlement to receive such fractions is determined. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the number of shares of Common Stock issuable upon such conversion.

(ii) Upon the occurrence of each adjustment or readjustment of the Conversion Price of Preferred Stock pursuant to this Section 3, the Corporation, at its expense, shall promptly compute such adjustment or readjustment in accordance with the terms hereof and prepare and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. This corporation shall, upon the written request at any time of any holder of Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (A) such adjustment and readjustment, (B) the Conversion Price for such series of Preferred Stock at the

time in effect, and (C) the number of shares of Common Stock and the amount, if any, of other property that at the time would be received upon the conversion of a share of Preferred Stock.

(h) Notices of Record Date. In the event of any taking by the Corporation of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend (other than a cash dividend) or other distribution or to receive any other right, the Corporation shall mail to each holder of Preferred Stock, at least twenty (20) days prior to the date specified therein, a notice specifying the date on which any such record is to be taken for the purpose of such dividend, distribution or right, and the amount and character of such dividend, distribution or right.

(i) Reservation of Stock Issuable Upon Conversion. This corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Preferred Stock, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, in addition to such other remedies as shall be available to the holder of such Preferred Stock, the Corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Fourth Amended and Restated Certificate of Incorporation.

(j) Notices. Any notice required by the provisions of this Section 3 to be given to the holders of shares of Preferred Stock shall be deemed given if deposited in the United States mail, postage prepaid, and addressed to each holder of record at his address appearing on the books of the Corporation.

(k) Waiver of Adjustment to Conversion Price. Notwithstanding anything herein to the contrary, any downward adjustment of the Conversion Price of any series of Preferred Stock may be waived, either prospectively or retroactively and either generally or in a particular instance, by the consent or vote of the holders at least two-thirds of the outstanding shares of such series of Preferred Stock. Any such waiver shall bind all future holders of shares of such series of Preferred Stock.

4. Voting Rights. The holder of each share of Preferred Stock shall have the right to one vote for each share of Common Stock into which such Preferred Stock could then be converted, and with respect to such vote, such holder shall have full voting rights and powers equal to the voting rights and powers of the holders of Common Stock, and shall be entitled, notwithstanding any provision hereof, to notice of any stockholders' meeting in accordance with the Bylaws of the Corporation, and except as provided in subsection 5(b) below with respect to the election of directors by the separate class vote of the holders of Common Stock, shall be entitled to vote, together with holders of Common Stock, with respect to any question upon which holders of Common Stock have the right to vote. Fractional votes shall not, however, be permitted and any fractional voting rights available on an as-converted basis (after aggregating

all shares into which shares of Preferred Stock held by each holder could be converted) shall be rounded to the nearest whole number (with one-half being rounded upward).

5. Protective Provisions; Election of Directors.

(a) So long as any shares of Preferred Stock are outstanding, the Corporation shall not (by amendment, merger, consolidation or in any other manner) without first obtaining the approval (by vote or written consent) of at least 66 2/3% of the then outstanding shares of Preferred Stock (voting together as a single class and not as a separate series and on an as-converted basis):

(i) Authorize or issue any securities (or securities convertible into or exchangeable for such securities) having a preference over or being on a parity with any series of Preferred Stock (including any security convertible into or exercisable for such shares of Preferred Stock);

(ii) Alter the rights, preferences or privileges of the Preferred Stock;

(iii) Amend the charter or bylaws;

(iv) Increase the authorized number of shares of Common Stock or issue additional Common Stock, except for shares issuable upon conversion of convertible securities and the exercise of options included in the Corporation's option pool;

(v) Enter into any merger, consolidation, reorganization or recapitalization or sell, license, transfer or encumber all or a substantial portion of its assets; or

(vi) Voluntarily liquidate, dissolve or wind up the Corporation.

(b) In addition, so long as at least 50% of the originally issued shares of Series D Preferred Stock remain outstanding, the Corporation shall not (by amendment, merger, consolidation or in any other manner) without first obtaining the approval (by vote or written consent) of a majority of the then outstanding shares of Series D Preferred Stock:

(i) Alter any provision of this Fourth Amended and Restated Certificate of Incorporation or the Corporation's Bylaws in a manner that adversely affects the Series D Preferred Stock or the Series D Directors as defined in the Stockholders Agreement;

(ii) Increase or decrease the authorized number of shares of Preferred or Common Stock;

(iii) Authorize or issue any securities (or securities convertible into or exchangeable for such securities) having a preference over or being on a parity with any series of Series D Preferred Stock (including any security convertible into or exercisable for such shares of Series D Preferred Stock);

(iv) Approve any Liquidation Event;

(v) Declare or pay any dividend or distribution or approve any repurchase with respect to the Junior Preferred Stock (except as provided in Section 2(b)) or the Common Stock (except as provided in Section 2(c));

(vi) Increase or decrease the authorized size of the Corporation's Board of Directors from seven (7);

(vii) Change the nature of the Company's business to something other than the fields of the application of diamond films or synthetic diamond technology in industrial, electronics, medical, environmental, semiconductor, sensor, energy, biological or electrochemical devices or machines or fields reasonably related thereto;

(viii) Sell, transfer, pledge or encumber technology or intellectual property of the Corporation, other than licenses granted in the ordinary course of the Corporation's business;

(ix) Increase the number of shares authorized under the Corporation's 2006 Stock Option Plan above 15% of the Corporation's aggregate outstanding stock on a fully-diluted basis;

(x) Expend funds in excess of \$100,000 per year for capital improvements or other infrastructure of the Corporation, except as provided in an annual plan or budget previously approved by the Board of Directors for such year;

(xi) Enter into any agreement, including but not limited to leases, that obligates the Corporation to make annual payments in excess of \$50,000 in the aggregate, except as provided in an annual plan or budget previously approved by the Board of Directors for such year; or

(xii) Establish or invest in any subsidiary or joint venture, other than subsidiaries wholly owned by the Corporation.

(c) Election of Directors. The holders of Preferred Stock and Common Stock shall be entitled to elect the directors of the Corporation as set forth in the Company's Amended and Restated Stockholders Agreement dated as of July 8, 2011, as may be further amended or amended and restated (the "Stockholders Agreement").

6. Redemption.

(a) Series D Preferred Stock. At any time after June 27, 2017 (the "Redemption Date"), the holders of a majority of the then outstanding Series D Preferred Stock may deliver written notice to the Corporation (the "Series D Redemption Notice") calling for the redemption of all of the outstanding Series D Preferred Stock. Upon receipt of the Series D Redemption Notice, the Corporation shall send notice to each holder of Series D Preferred Stock informing them that the holders of the Series D Preferred Stock have asserted their right of redemption pursuant to this Section 6(a). Within 120 days after receipt of the Series D Redemption Notice and to the extent it may lawfully do so, the Corporation will redeem the Series D Preferred Stock for an amount equal to the greater of (i) fair market value as determined

by an appraiser selected by the Corporation plus any accrued but unpaid dividends and (ii) two (2) times the Original Issue price plus any accrued but unpaid dividends (the "Series D Redemption Price"). From and after the Redemption Date and the holders' receipt of the Series D Redemption Price, such shares shall no longer be deemed to be outstanding shares for any purpose and shall be deemed to have been reacquired by the Corporation, and the holder or holders of such shares shall not have any rights with respect to such shares except the right to receive the Series D Redemption Price upon the surrender of the shares to the Corporation.

(b) Preferred Stock. At any time after the Redemption Date, the holders of at least 66 2/3% of the Preferred Stock may deliver written notice to the Corporation (the "Preferred Stock Redemption Notice") calling for the redemption of all of the outstanding Preferred Stock. Upon receipt of the Preferred Stock Redemption Notice, the Corporation shall send notice to each holder of Preferred Stock informing them that the holders of Preferred Stock have asserted their right of redemption pursuant to this Section 6(b). Within 120 days after the receipt of the Preferred Stock Redemption Notice and to the extent it may lawfully do so, the Corporation will redeem the Preferred Stock for an amount equal to the applicable Original Issue Price for such series of Preferred Stock plus any accrued but unpaid dividends (the "Preferred Stock Redemption Price"). From and after the Redemption Date and the holders' receipt of the Preferred Stock Redemption Price, such shares shall no longer be deemed to be outstanding shares for any purpose and shall be deemed to have been reacquired by the Corporation, and the holder or holders of such shares shall not have any rights with respect to such shares except the right to receive the Preferred Stock Redemption Price upon the surrender of the shares to the Corporation.

7. Status of Converted Stock. In the event any shares of Preferred Stock shall be converted pursuant to Section 3 hereof, the shares so converted shall be cancelled and shall not be issuable by the Corporation. The Fourth Amended and Restated Certificate of Incorporation of the Corporation shall be appropriately amended to effect the corresponding reduction in the Corporation's authorized capital stock.

C. Common Stock. The rights, preferences, privileges and restrictions granted to and imposed on the Common Stock are as set forth below in this Article IV(C).

1. Dividend Rights. Subject to the prior rights of holders of all classes of stock at the time outstanding having prior rights as to dividends, the holders of the Common Stock shall be entitled to receive, when, as and if declared by the Board of Directors, out of any assets of the Corporation legally available therefor, any dividends as may be declared from time to time by the Board of Directors.

2. Liquidation Rights. Upon the liquidation, dissolution or winding up of the Corporation, the assets of the Corporation shall be distributed as provided in Section 2 of Article IV(B) hereof.

3. Redemption. The Common Stock is not redeemable at the option of the holder.

4. Voting Rights. The holder of each share of Common Stock shall have the right to one vote for each such share, and shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of the Corporation, and shall be entitled to vote upon such matters and in such manner as may be provided by law. Subject to subsection 5(a) above, the number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

ARTICLE V

Except as otherwise provided in this Fourth Amended and Restated Certificate of Incorporation, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

ARTICLE VI

Except as otherwise provided in the Fourth Amended and Restated Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

ARTICLE VII

Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

ARTICLE VIII

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

ARTICLE IX

To the fullest extent permitted under applicable law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law, or (iv) for any transaction from which the director derived any improper personal benefit. If the General Corporation Law is amended after approval by the stockholders of this Article IX to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article IX by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification, regardless of whether any proceeding has commenced prior to such amendment, repeal or modification.

ARTICLE X

This corporation reserves the right to amend, alter, change or repeal any provision contained in this Fourth Amended and Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon stockholders herein are granted subject to this reservation.

ARTICLE XI

To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) agents of the Corporation (and any other persons to which General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law, subject only to limits created by applicable General Corporation Law (statutory or non-statutory), with respect to actions for breach of duty to the Corporation, its stockholders, and others.

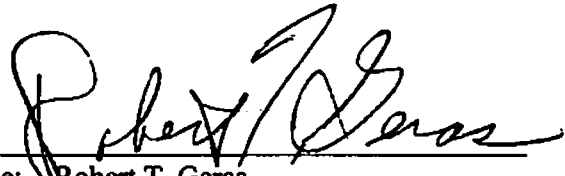
Any amendment, repeal or modification of the foregoing provisions of this Article XI shall not adversely affect any right or protection of a director, officer, agent, or other person existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director, officer or agent prior to, such amendment, repeal or modification, regardless of whether any proceeding has commenced prior to such amendment, repeal or modification.

* * *

THIRD: The foregoing amendment and restatement was approved by the holders of the requisite number of shares of said corporation in accordance with Section 228 of the General Corporation Law.

FOURTH: That said Fourth Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of the Corporation's Amended and Restated Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Fourth Amended and Restated Certificate of Incorporation has been executed by a duly authorized signatory of the Corporation on this 7th day of July 2011.

By: 
Name: Robert T. Geras
Title: Chairman of the Board of Directors