

RESTATED CERTIFICATE OF INCORPORATION

OF

DSP GROUP, INC.

The following Restated Certificate of Incorporation of DSP Group, Inc. (the "Corporation") (i) amends and restates the provisions of the Certificate of Incorporation of DSP Group, Inc. originally filed with the Secretary of State of the State of Delaware on September 23, 1993, and (ii) supersedes the original Certificate of Incorporation and all prior amendments and restatements thereto in their entirety.

ARTICLE I

The name of this corporation is DSP Group, Inc. (the "Corporation").

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is 1209 Orange Street, Wilmington, Delaware 19801, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

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

ARTICLE IV

The Corporation is authorized to issue two classes of stock to be designated, respectively, Preferred Stock, par value \$.001 per share ("Preferred"), and Common Stock, par value \$.001 per share ("Common"). The total number of shares of Common that the Corporation shall have authority to issue is 20,000,000. The total number of shares of Preferred that the Corporation shall have authority to issue is 11,666,667. The Preferred Stock may be issued from time to time in one or more series.

The Corporation shall from time to time in accordance with the laws of the State of Delaware increase the authorized amount of its Common if at any time the number of Common shares remaining unissued and available for issuance shall not be sufficient to permit conversion of the Preferred.

The first series of Preferred Stock shall be designated "Series A Preferred" and shall consist of 1,000,000 shares. The second series of Preferred Stock shall be designated "Series B Preferred" and shall consist of 1,500,000 shares. The third series of Preferred Stock shall be designated "Series E Preferred" and shall consist of 3,774,510 shares. The fourth series of Preferred Stock shall be designated "Series F Preferred" and shall consist of 392,157 shares. The Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred shall be collectively referred to as the "Existing Series." The Existing Series and any other series of Preferred Stock hereafter authorized and entitled to a preference as to dividends or

upon liquidation preference on a parity with the Existing Series are collectively referred to as the "Parity Preferred."

The Board of Directors is hereby authorized, subject to limitations prescribed by law and the provisions of this Article IV, to provide for the issuance of the shares of Preferred in one or more series, and by filing a certificate pursuant to the General Corporation Law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each such series and the qualifications, limitations or restrictions thereof.

The authority of the Board with respect to each series shall include, but not be limited to, determination of the following:

- A. The number of shares constituting that series and the distinctive designation of that series;
- B. The dividend rate on the shares of that series, whether dividends shall be cumulative, and, if so, from which date or dates, and the relative rights of priority, if any, of payment of dividends on shares of that series;
- C. Whether that series shall have the voting rights in addition to the voting rights provided by law, and, if so, the terms of such voting rights;
- D. Whether that series shall have conversion privileges, and, if so, the terms and conditions of such privileges, including provision for adjustment of the conversion rate in such events as the Board of Directors shall determine;
- E. Whether or not the shares of that series shall be redeemable, and, if so, the terms and conditions of such redemption, including the date or dates upon or after which they shall be redeemable, and the amount per share payable on case of redemption, which amount may vary under different conditions and at different redemption rates;
- F. Whether that series shall have a sinking fund for the redemption or purchase of shares of that series, and, if so, the terms in the amount of such sinking funds;
- G. The rights of the shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the Corporation, and the relative rights of priority, of any, of payment of shares of that series; and
- H. Any other relative rights, preferences and limitations of that series.

ARTICLE V

The relative rights, preferences and restrictions granted to or imposed upon the Common Stock and the Existing Series of Preferred Stock and the holders thereof are as follows:

A. Dividends.

1. Series A Preferred-Limited Right to Dividends. Each holder of outstanding shares of Series A Preferred shall be entitled to receive, when and if declared by the Board of Directors and out of any funds legally available therefor, non-cumulative dividends at the annual rate of \$0.21 per share (the "Series A Preferential Dividend"), payable in cash during each fiscal year of this Corporation and in preference to any declaration or payment (payable other than in Common Stock) on the Common Stock (but not without the Series B Preferred also receiving their respective Preferential Dividend, as adjusted in Article V.A.5. below), or, if greater, an amount equal to the dividend paid on a share of Common Stock (but at all times subordinate and subsequent to payment of the dividends provided for the Series E Preferred and Series F Preferred in Article V.A.3. and Article V.A.4. below).

2. Series B Preferred-Limited Right to Dividends. Each holder of outstanding shares of Series B Preferred shall be entitled to receive, when and if declared by the Board of Directors and out of any funds legally available therefor, non-cumulative dividends at the annual rate of \$0.246 per share (the "Series B Preferential Dividend"), payable in cash during each fiscal year of this Corporation and in preference to any declaration or payment (payable other than in Common Stock) on the Common Stock (but not without the Series A Preferred also receiving their respective Preferential Dividend, as adjusted in Article V.A.5. below), or, if greater, an amount equal to the dividend paid on a share of Common Stock (but at all times subordinate and subsequent to payment of the dividends provided for the Series E Preferred and Series F Preferred in Article V.A.3. and Article V.A.4. below).

3. Series E Preferred-Limited Right to Dividends. Each holder of outstanding shares of Series E Preferred shall be entitled to receive, when and if declared by the Board of Directors and out of any funds legally available therefor, non-cumulative dividends at the annual rate of \$0.828 per share (the "Series E Preferential Dividend"), payable in cash during each fiscal year of this Corporation and in preference to any declaration or payment (payable other than in Common Stock) on the Common Stock, and in preference to any declaration or payment on the Series A Preferred or Series B Preferred of this Corporation, or, if greater, an amount equal to the dividend paid on a share of Common Stock, Series A Preferred or Series B Preferred, as the case may be (but at all times subordinate and subsequent to payment of the dividends provided for the Series F Preferred in Article V.A.4. below).

4. Series F Preferred-Limited Right to Dividends. Each holder of outstanding shares of Series F Preferred shall be entitled to receive, when and if declared by the Board of Directors and out of any funds legally available therefor, non-cumulative dividends (the "Series F Preferential Dividend"), payable in cash during each fiscal year of this Corporation and in preference to any declaration or payment (payable other than in Common Stock on the Common Stock) on the Common Stock, and in preference to any declaration or payment on the Series A Preferred, Series B Preferred or Series E Preferred in an amount equal to the highest dividend amount paid on a share of Common Stock, Series A Preferred, Series B Preferred or Series E Preferred.

5. Partial Payment. If the Board of Directors shall declare a dividend on the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred and the amount available for payment thereof is insufficient to permit the payment of the full preferential amounts required to be paid to the holders of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred, then the amount available for such dividend payments shall be distributed ratably first among the holders of the outstanding shares of Series F Preferred until each holder of outstanding Series F Preferred shall have been paid its Series F Preferential Dividend in accordance with Article V.A. hereof, and then ratably among the holders of the outstanding shares of Series E Preferred until each holder of outstanding

Series E Preferred shall have been paid its Series E Preferential Dividend in accordance with Article V.A. hereof, and then ratably among the holders of the outstanding shares of Series A Preferred and the holders of the outstanding shares of Series B Preferred according to (i) the respective dividend preference amounts to which all such holders of outstanding Series A Preferred and Series B Preferred would otherwise be entitled, and (ii) the number of outstanding shares of each such series until each holder of outstanding shares of Series A Preferred has received its Series A Preferential Dividend and each holder of outstanding shares of Series B Preferred has received its Series B Preferential Dividend, as applicable, in full. For example, assume that: (1) there are 300 shares of Series A Preferred outstanding, and the Series A Preferential Dividend is \$.10 per share; and (2) there are 300 shares of Series B Preferred issued and outstanding, and the Series B Preferential Dividend is \$.20 per share; and (3) there is not enough money available for payment in full of the preferential dividends to the holders of the outstanding Series A Preferred and Series B Preferred after payment in full of all preferential to all the holders of the outstanding Series F Preferred and Series E Preferred. In such event, the Series A Preferred Stockholders would collectively be entitled to one-third (1/3) of the dividend to be paid; and the Series B Preferred Stockholders would collectively be entitled to two-thirds (2/3) of the dividend to be paid. After each series of Existing Series receives its preferential dividend in full in any one fiscal year, each series of Existing Series shall participate ratably.

6. Definition of Dividends. Dividends shall be deemed to include payments by the Corporation, including, without limitation, any distribution of assets, evidences of indebtedness, warrants, rights, options and other securities, and excluding only the distribution of Common Stock to the holders of Common Stock and the distribution of stock of a subsidiary in a spin-off where the net asset value, the net income, and the revenues, of the subsidiary spun-off is less than fifty percent (50%) of the net asset value, the net income, and the revenues, as the case may be, of the Corporation before the spin-off; provided, however, that the shares of the spun-off company are distributed to the holders of the Series A Preferred, the Series B Preferred, the Series E Preferred, and the Series F Preferred, as if such holders had converted their respective shares of Existing Series into Common Stock on the day of distribution.

B. Preference on Liquidation.

1. Preference Price. In the event of any liquidation, dissolution or winding up of this Corporation, whether voluntary or involuntary, the holders of the outstanding shares of Existing Series shall be entitled to be paid out of the assets of this Corporation available for distribution to its shareholders, whether from capital, surplus or earnings, before any payment is made in respect of the outstanding shares of Common Stock or any other equity security of this Corporation of a lesser priority than the Existing Series, an amount equal to (i) \$2.3055 per share in the case of the Series A Preferred plus any declared but unpaid dividends on each such share; (ii) \$4.1001 per share in the case of the Series B Preferred together with an amount equal to six percent (6%) of such \$4.1001, compounded annually, for each full year (or fraction thereof) (based on a 365-day year) after August 9, 1991, plus any declared and unpaid dividends thereon; (iii) \$10.35 per share in the case of the Series E Preferred together with an amount equal to eight percent (8%) of such \$10.35, compounded annually, for each full year (or fraction thereof) (based on a 365-day year) after the first two years following the original respective issuance dates of each such Series E Preferred (including the original respective issuance dates of each share of Series C Preferred or Series D Preferred converted into shares of Series E Preferred of the California predecessor to the corporation hereunder) plus any declared and unpaid dividends thereon and (iv) \$12.75 per share in the case of the Series F Preferred, plus any declared but unpaid dividends thereon (each such liquidation price, individually, a "Preference Price" and, collectively, the "Preference Prices"). After distribution of the respective Preference Prices to the holders of the outstanding shares of Existing Series, the holders of the outstanding shares of Common Stock shall be entitled to an amount per share equal to the Preference Price paid to the holders of the outstanding shares of Series A Preferred. Thereafter, any remaining assets of this Corporation shall be distributed pro rata among the holders

of the outstanding shares of Common Stock, Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred based on the number of shares of Common Stock into which the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred are convertible pursuant to Article VI.D. as of the date of distribution.

2. Partial Payment. If, upon any liquidation, dissolution or winding up of this Corporation, whether voluntary or involuntary, the assets of this Corporation available for distribution to its shareholders shall be insufficient to pay the full Preference Prices required to be paid to the holders of the outstanding shares of Existing Series, then all of the assets of this Corporation legally available for distribution to the holders of equity securities shall be distributed first ratably among the holders of the outstanding shares of Series F Preferred until payment in full first of the Series F Preferred Preference Price and then ratably among the holders of the outstanding shares of Series E Preferred until payment in full of the Series E Preferred Preference Price, and thereafter any remaining assets of this Corporation legally available for distribution to the holders of equity securities shall be distributed ratably among the holders of the outstanding shares of Series A Preferred and the holders of the outstanding shares of Series B Preferred based upon their respective Preference Prices, and the number of outstanding shares of each such series, until payment in full of each of their respective Preference Prices. For example, assume that after payment in full of the Series F Preferred Preference Price to the holders of the outstanding shares of Series F Preferred and payment in full of the Series E Preferred Preference Price to the holders of the outstanding shares of Series E Preferred: (1) there are 300 shares of Series A Preferred outstanding, and the liquidation preference amount is \$1.00 per share; and (2) there are 300 shares of Series B Preferred outstanding, and the liquidation preference amount is \$2.00 per share; and (3) there is not enough money available to pay the Preference Prices in full to the holders of the outstanding shares of Series A Preferred and the Series B Preferred. In such event, the holders of the outstanding shares of Series A Preferred would collectively be entitled to one-third (1/3) of the liquidation proceeds to be paid; and the holders of the outstanding shares of Series B Preferred would collectively be entitled to two-thirds (2/3) of the liquidation proceeds to be paid. Within each series, if liquidation preferences below the full Preference Prices are to be paid, the holders of the outstanding shares of Series A Preferred shall be paid the same liquidation preference amount per share of Series A Preferred; and the holders of the outstanding shares of Series B Preferred shall be paid the same liquidation preference amount per share of Series B Preferred.

3. Certain Transactions. The sale, transfer or other conveyance of all or substantially all of the assets of this Corporation, or the sale, transfer or other conveyance of a majority of the outstanding voting securities of this Corporation (on a fully diluted basis) in any transaction or related series of transactions whether by merger or consolidation or otherwise, shall not be deemed to be a liquidation, dissolution or winding up of the Corporation, as those terms are used in this Article V.B., unless so elected to be treated as such by a majority of the Corporation's Board of Directors.

Notwithstanding the foregoing, the sale, transfer or other conveyance of all or substantially all of the assets of this Corporation, or the sale, transfer or other conveyance of a majority of the outstanding voting securities of this Corporation (on a fully diluted basis) in any transaction or related series of transactions whether by merger or consolidation or otherwise, shall also be deemed to be a liquidation, dissolution or winding up of the Corporation, as those terms are used in this Article V.B. if (A) the proceeds therefrom are sufficient to distribute \$10.35 in cash per share to each shareholder of this Corporation (on a fully diluted and as converted basis and as adjusted for stock splits, combinations and the like) and (B) a majority in interest of each class of this Corporation's Existing Series and Common Stock consents in writing to such liquidation, dissolution, or winding up treatment and agrees that all such proceeds shall be distributed equally among all stockholders according to the number of shares of this Corporation held by each such stockholder (on an as fully converted basis).

4. Liquidation Adjustment. Notwithstanding anything to the contrary in this Article V.B., each Preference Price shall be adjusted downwards upon the receipt by the holder of Existing Series of any stock dividends or distributions comprised solely of stock of any of this Corporation's subsidiaries (other than distributions of this Corporation's capital stock), by the "cash value" of any such stock dividends or distributions made on the respective series of Existing Series since the issuance of such series. The "cash value" shall be determined by this Corporation's Board of Directors in its sole discretion, or, if the distribution is a stock dividend (other than this Corporation's capital stock) whereby within 180 days after such distribution and prior to a "liquidating" event such company's stock is publicly traded, then the initial public offering price of such company's stock shall be the "cash value" whether or not the distributed stock is itself publicly traded.

C. Voting.

1. Number of Directors. The authorized number of Directors of this Corporation shall be seven (7), which number shall not be increased or decreased without the consent of the holders of a majority of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred, Series F Preferred, and Common Stock, each voting as a separate class.

2. Series A Preferred. So long as at least 328,759 shares of Series A Preferred are outstanding (subject to adjustment for stock dividends, stock splits and any recapitalization), the holders of the outstanding shares of Series A Preferred, voting as a single class, shall be entitled to elect one (1) director to the Board of Directors.

3. Series B Preferred. The outstanding shares of Series B Preferred shall not be entitled to vote as a separate class for a director.

4. Series E Preferred. So long as at least 333,333 shares of Series E Preferred are outstanding, the holders of the outstanding shares of Series E Preferred, voting as a single class, shall be entitled to elect one (1) director to the Board of Directors.

5. Series F Preferred. The outstanding shares of Series F Preferred shall be entitled to vote as a separate class for a director on the first business day before the one year anniversary date of the Filing Date, if by such date the Corporation has failed to close an underwritten public offering in which the aggregate proceeds to this Corporation are at least \$20 Million (before the payment of underwriting discounts and commissions and the expenses of the offering).

6. Common Stock. The holders of the outstanding shares of Common Stock, voting together as a separate class, shall be entitled to elect the remaining members of the Board of Directors not elected by the holders of the outstanding shares of Series A Preferred, Series E Preferred, and Series F Preferred.

7. Other Voting Rights. Except where class voting is required by statute or herein, and except with respect to the election of directors pursuant to Article V.C.1., IV.C.2. and IV.C.4., or as provided in Article V.F., the holders of the outstanding shares of Series A Preferred, the holders of the outstanding shares of Series B Preferred, the holders of the outstanding shares of Series E Preferred and the holders of the outstanding shares of Series F Preferred, shall be entitled to vote equally with the holders of the outstanding shares of Common Stock at any annual or special meeting of shareholders of this Corporation, or may act by written consent in the same manner as the holders of the outstanding shares of Common Stock, upon the following basis: each holder of outstanding shares of Series A Preferred, each holder of outstanding

shares of Series B Preferred, each holder of outstanding shares of Series E Preferred and each holder of outstanding shares of Series F Preferred, shall be entitled to cast that number of votes equal to the whole number of shares of Common Stock into which such holder's shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred are convertible immediately after the close of business on the record date fixed for such meeting or, if no such record date is established, the date such vote is taken or the effective date of such written consent.

D. Conversion. The holders of the outstanding shares of Existing Series shall have the conversion rights set forth below (the "Conversion Rights").

1. Right to Convert. Each share of Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such shares, at the office of this Corporation or any transfer agent for the shares of Series A Preferred, Series B Preferred, Series E Preferred, Series F Preferred or Common Stock into that number of shares of Common Stock which is equal to the quotient obtained by dividing (A) \$2.3055 for each share of Series A Preferred, \$4.1001 for each share of Series B Preferred, \$10.35 for each share of Series E Preferred, and \$12.75 for each share of Series F Preferred by (B) the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, and Series F Conversion Price (as such terms are hereinafter defined), respectively, immediately prior to the time of such conversion. The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series A Preferred shall be \$2.3055 (as adjusted from time to time as herein provided, the "Series A Conversion Price"). The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series B Preferred shall be \$4.1001 (as adjusted from time to time as herein provided, the "Series B Conversion Price"). The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series E Preferred shall be \$10.35 (as adjusted from time to time as herein provided, the "Series E Conversion Price"). The price at which shares of Common Stock shall be deliverable upon conversion of shares of Series F Preferred shall be \$12.75 (as adjusted from time to time as herein provided, the "Series F Conversion Price"), subject, in the case of the Series F Preferred only, to Article V.D.2.

2. Series F Preferred Conversion Adjustment. Notwithstanding anything set forth in Article V.D.1., the Series F Conversion Price shall be computed under the following circumstances as follows:

a. If the Company closes an underwritten public offering of its Common Stock in which the aggregate proceeds to the Corporation (before the payment of underwriting discounts and commissions and the expenses of the offering) is at least \$20 million on, or before March 3, 1994, the Series F Conversion Price shall equal 78% of the public offering price per share.

b. If the Company closes an underwritten public offering in which the aggregate proceeds to the Corporation (before the payment of underwriting discounts and commissions and the expenses of the offering) is at least \$20 million after March 3, 1994, but on, or before September 3, 1994, the Series F Conversion Price shall equal 65% of the public offering price per share.

c. If the Company fails to close an underwritten public offering in which the aggregate proceeds to the Corporation (before the payment of underwriting discounts and commissions and the expenses of the offering) is at least \$20 million on, or before September 3, 1994, the Series F Conversion Price shall equal \$10.35.

d. Notwithstanding anything to the contrary, set forth in Article V.D.1. and 2., the Series F Conversion Price shall in no event be greater than an amount that would cause the aggregate number of shares of Common Stock into which the Series F Preferred can be converted to be less than that number of shares of Common Stock which would equal 5.56% of the number of outstanding shares of Common Stock. For the purpose of the calculation described in this Article V.D.2.d., the number of shares of Common Stock outstanding shall include, in addition to the number of shares of Common Stock actually outstanding, (a) the number of shares of Common Stock into which the then outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred could be converted if fully converted on the day of the conversion, and (b) the number of shares of Common Stock which would be obtained through the exercise or conversion of rights, options, warrants and convertible securities outstanding on the day of the conversion.

3. Mechanics of Conversion. Each holder of outstanding shares of Series A Preferred, each holder of outstanding shares of Series B Preferred, each holder of outstanding shares of Series E Preferred, and each holder of outstanding shares of Series F Preferred, who desires to convert the same into shares of Common Stock shall surrender the certificate or certificates therefor, duly endorsed, at the office of this Corporation or of any transfer agent for the shares of Series A Preferred, Series B Preferred, Series E Preferred, Series F Preferred or Common Stock and shall give written notice to this Corporation at such office that such holder elects to convert the same and shall state therein the number of shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred being converted. Thereupon, this Corporation shall issue and deliver at such office to such holder a certificate or certificates for the number of shares of Common Stock to which such holder is entitled and shall promptly pay all declared but unpaid dividends on the shares being converted in cash or, if this Corporation so elects or is legally or financially unable to pay in cash, shares of Common Stock (valued at the Common Stock's fair market value at the time of surrender as determined in good faith by the Board of Directors). Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the certificate or certificates representing the shares to be converted, and the person entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock on such date.

4. Adjustment for Stock Splits and Combinations. If this Corporation at any time or from time to time after the date this Restated Certificate of Incorporation is filed with the Secretary of State of the State of Delaware (the "Filing Date") effects a division of the outstanding shares of Common Stock, then the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, shall be proportionately decreased and, conversely, if this Corporation at any time, or from time to time, after the Filing Date combines the outstanding shares of Common Stock, then the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, shall be proportionately increased. Any adjustment under this Article V.D.4. shall be effective on the close of business on the date such division or combination becomes effective.

5. Adjustment for Certain Dividends and Distributions. If this Corporation at any time or from time to time after the Filing Date pays or fixes a record date for the determination of holders of shares of Common Stock entitled to receive a dividend or other distribution in the form of shares of Common Stock, or rights or options for the purchase of, or securities convertible into, Common Stock, then in each such event the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, shall be decreased, as of the time of such payment or, in the event a record date is fixed, as of the close of business on such record date, by multiplying the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price by a fraction (i) the numerator of which shall be the total number of shares of Common Stock outstanding immediately prior

to the time of such payment or the close of business on such record date, as the case may be, and (ii) the denominator of which shall be (a) the total number of shares of Common Stock outstanding immediately prior to the time of such payment or the close of business on such record date, as the case may be, plus (b) the number of shares of Common Stock issuable in payment of such dividend or distribution or upon exercise of such option or right of conversion; provided, however, that if a record date is fixed and such dividend is not fully paid or such other distribution is not fully made on the date fixed therefor, then the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, shall not be decreased as of the close of business on such record date as hereinabove provided as to the portion not fully paid or distributed and thereafter the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, shall be decreased pursuant to this Article V.D.5. as of the date or dates of actual payment of such dividend or distribution.

6. Adjustments for Other Dividends and Distributions. If this Corporation at any time or from time to time after the Filing Date pays, or fixes a record date for the determination of holders of shares of Common Stock entitled to receive, a dividend or other distribution in the form of securities of this Corporation other than shares of Common Stock or rights or options for the purchase of, or securities convertible into, Common Stock, then in each such event provision shall be made so that the holders of outstanding shares of Series A Preferred, the holders of outstanding shares of Series B Preferred, the holders of outstanding shares of Series E Preferred, and the holders of outstanding shares of Series F Preferred, shall receive upon conversion thereof, in addition to the number of shares of Common Stock receivable thereupon, the amount of securities of this Corporation which they would have received had their respective shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred been converted into shares of Common Stock on the date one day before such event and had such holders thereafter, from the date of such event to and including the actual date of conversion of their shares, retained such securities, subject to all other adjustments called for during such period under this Article V.D. with respect to the rights of the holders of the outstanding shares of Series A Preferred, the holders of the outstanding shares of Series B Preferred, the holders of the outstanding shares of Series E Preferred, and the holders of outstanding shares of Series F Preferred.

7. Adjustment for Reclassification, Exchange and Substitution. If at any time or from time to time after the Filing Date the number of shares of Common Stock issuable upon conversion of the shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred, is changed into the same or a different number of shares of any other class or classes of stock or other securities, whether by recapitalization, reclassification or otherwise (other than a recapitalization, division or combination of shares or a stock dividend, or a reorganization, merger, consolidation or sale of assets provided for elsewhere in this Article V.D.), then in any such event each holder of outstanding shares of Series A Preferred, each holder of outstanding shares of Series B Preferred, each holder of outstanding shares of Series E Preferred, and each holder of outstanding shares of Series F Preferred, shall have the right thereafter to convert such shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred into the same kind and amount of stock and other securities receivable upon such recapitalization, reclassification or other change, as the maximum number of shares of Common Stock into which such shares of Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred, could have been converted immediately prior to such recapitalization, reclassification or change, all subject to further adjustment as provided herein.

8. Reorganizations, Mergers, Consolidations or Sales of Assets. If at any time or from time to time after the Filing Date there is a capital reorganization of the Common Stock (other than a recapitalization, division, combination, reclassification or exchange of shares provided for elsewhere in this Article V.D.) or a merger or consolidation of this Corporation into or with another corporation or a sale of all or substantially all of this Corporation's properties and assets to any other person, then, as a part of such

capital reorganization, merger, consolidation or sale, provision shall be made so that the holders of outstanding shares of Existing Series, shall thereafter receive upon conversion thereof the number of shares of stock or other securities or property of this Corporation, or of the successor corporation resulting from such merger or consolidation or sale, to which a holder of the number of shares of Common Stock into which their shares of Existing Series were convertible would have been entitled on such capital reorganization, merger, consolidation or sale. In any such case, appropriate adjustment shall be made in the application of the provisions of this Article V.D. with respect to the rights of the holders of the outstanding shares of Existing Series, after such capital reorganization, merger, consolidation, or sale. The provisions of this Article V.D. (including adjustment of the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price, and the number of shares into which the outstanding shares of Existing Series may be converted) shall be applicable after that event and be as nearly equivalent to such Conversion Prices and number of shares as may be practicable.

9. Sale of Shares Below Conversion Price.

a. If at any time or from time to time after the Filing Date this Corporation issues or sells, or is deemed by the express provisions of this Article V.D.9. to have issued or sold, Additional Shares of Common Stock (as hereinafter defined), other than as a dividend or other distribution on any class of stock as provided in Article V.D.5. above or upon a division or combination of shares of Common Stock as provided in Article V.D.4. above, for an Effective Price (as hereinafter defined) less than the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, or the Series F Conversion Price, then in any such event the Series A Conversion Price (if the Effective Price is less than the Series A Conversion Price), or the Series B Conversion Price (if the Effective Price is less than the Series B Conversion Price), or both (if the Effective Price is less than both the Series A Conversion Price and the Series B Conversion Price), or the Series E Conversion Price (if the Effective Price is less than the Series E Conversion Price), or all three (if the Effective Price is less than the Series A Conversion Price, the Series B Conversion Price, and the Series E Conversion Price), or the Series F Conversion Price (if the Effective Price is less than the Series F Conversion Price), or all four (if the Effective Price is less than the Series A Conversion Price, the Series B Conversion Price, the Series E Conversion Price, and the Series F Conversion Price), as the case may be, shall be reduced, as of the close of business on the date of such issuance or sale, to an amount determined by multiplying the Series A Conversion Price, the Series B Conversion Price or both, the Series E Conversion Price, or all three Conversion Prices, or the Series F Conversion Price, or all four Conversion Prices, as the case may be, by a fraction (a) the numerator of which shall be (x) the number of shares of Common Stock outstanding at the close of business on the day immediately preceding the date of such issuance or sale, plus (y) the number of shares of Common Stock which the aggregate consideration received (or by the express provisions hereof deemed to have been received) by this Corporation for the total number of Additional Shares of Common Stock so issued or sold would purchase at such Series A Conversion Price or Series B Conversion Price or both, or Series E Conversion Price, or all three Conversion Prices, or the Series F Conversion Price, or all four Conversion Prices, as the case may be, and (b) the denominator of which shall be the number of shares of Common Stock outstanding at the close of business on the date of such issuance or sale after giving effect to such issuance or sale of Additional Shares of Common Stock. For the purpose of the calculation described in this Article V.D.9., the number of shares of Common Stock outstanding shall include, in addition to the number of shares of Common Stock actually outstanding, (a) the number of shares of Common Stock into which the then outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred could be converted if fully converted on the day immediately preceding the issuance or sale or deemed issuance or sale of Additional Shares of Common Stock; and (b) the number of shares of Common Stock which would be obtained through the exercise or conversion of rights, options and convertible securities outstanding on the day immediately preceding the issuance or sale

or deemed issuance or sale of Additional Shares of Common Stock, provided that such shares of Common Stock prior thereto have been deemed Additional Shares of Common Stock.

b. For the purpose of making any adjustment required under this Article V.D.9., the consideration received by this Corporation for any issuance or sale of securities shall (a) to the extent it consists of property other than cash, be the fair value of that property as determined in good faith by the Board of Directors; and (b) if Additional Shares of Common Stock, Convertible Securities (as hereinafter defined) or rights or options to purchase either Additional Shares of Common Stock or Convertible Securities are issued or sold together with other stock or securities or other assets of this Corporation for a consideration which covers both, be the portion of the consideration so received reasonably determined in good faith by a majority of the Board of Directors to be allocable to such Additional Shares of Common Stock, Convertible Securities or rights or options.

c. For the purpose of the adjustment required under this Article V.D.9., if this Corporation issues or sells any rights or options for the purchase of, or stock or other securities convertible into, Additional Shares of Common Stock (such convertible stock or securities being hereinafter referred to as "Convertible Securities") and if the Effective Price (as defined in Article V.D.9.e. below) of such Additional Shares of Common Stock is less than the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, or Series F Conversion Price, this Corporation shall be deemed to have issued at the time of the issuance of such rights or options or Convertible Securities the maximum number of Additional Shares of Common Stock issuable upon exercise or conversion thereof and to have received as consideration therefor an amount equal to (a) the total amount of the consideration, if any, received by this Corporation for the issuance of such rights or options or Convertible Securities plus (b) in the case of such rights or options, the minimum amount of consideration, if any, payable to this Corporation upon the exercise of such rights or options or, in the case of Convertible Securities, the minimum amount of consideration, if any, payable to this Corporation upon the conversion thereof. No further adjustment of either the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, or the Series F Conversion Price, shall be made as a result of the actual issuance of Additional Shares of Common Stock on the exercise of any such rights or options or the conversion of any such Convertible Securities. If any such rights or options or the conversion privilege represented by any such Convertible Securities shall expire or otherwise terminate without having been exercised, the Series A Conversion Price or the Series B Conversion Price, or both, or the Series E Conversion Price, or all three Conversion Prices, or the Series F Conversion Price, or all four Conversion Prices, as applicable, shall thereafter be the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price and Series F Conversion Price, which would have been in effect had an adjustment been made on the basis that the only Additional Shares of Common Stock so issued were the Additional Shares of Common Stock, if any, actually issued or sold on the exercise of such rights or options or rights of conversion of such Convertible Securities, and were issued or sold for the consideration actually received by this Corporation upon such exercise plus (a) the consideration, if any, actually received for the granting of all such rights or options, whether or not exercised, (b) the consideration, if any, actually received by issuing or selling the Convertible Securities actually converted and (c) the consideration, if any, actually received on the conversion of such Convertible Securities. Furthermore, if any such rights or options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase in the consideration payable to the Corporation, upon the exercise, conversion or exchange thereof, the Conversion Price for the Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred, and any subsequent adjustments based thereon, shall upon any such increase or decrease becoming effective be recomputed to reflect such increase or decrease insofar as it affects such rights, options or the rights of conversion or exchange under such Convertible Securities.

d. For the purpose of the adjustment required under this Article V.D.9., if this Corporation issues or sells any rights or options for the purchase of Convertible Securities and if the Effective Price of the Additional Shares of Common Stock underlying such Convertible Securities is less than the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, or Series F Conversion Price, then in each such event this Corporation shall be deemed to have issued at the time of the issuance of such rights or options the maximum number of Additional Shares of Common Stock issuable upon conversion of the total amount of Convertible Securities covered by such rights or options and to have received as consideration for the issuance of such Additional Shares of Common Stock an amount equal to the amount of consideration, if any, received for the issuance of such rights or options plus (a) the minimum amount of consideration, if any, payable upon the exercise of such rights or options and (b) the minimum amount of consideration, if any, payable (other than by cancellation of liabilities or obligations evidenced by such Convertible Securities) upon the conversion of such Convertible Securities. No further adjustment of either the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, or Series F Conversion Price, shall be made as a result of the actual issuance of the Convertible Securities upon the exercise of such rights or options or upon the actual issuance of Additional Shares of Common Stock upon the conversion of such Convertible Securities. The provisions of Article V.D.9.c. for the adjustment of the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, and Series F Conversion Price, upon the expiration of rights or options or the rights of conversion of Convertible Securities shall apply mutatis mutandis upon the expiration of the rights, options and Convertible Securities referred to in this Article V.D.9.c.

e. "Additional Shares of Common Stock" shall mean all shares of Common Stock issued after the Filing Date, other than (i) shares of Common Stock issued upon conversion of the shares of Series A Stock, shares of Common Stock issued upon conversion of the shares of Series B Preferred, shares of Common Stock issued upon conversion of the shares of Series E Preferred, and Shares of Common Stock issued upon conversion of the shares of Series F Preferred; (ii) shares of Common Stock issued to employees or directors of or consultants and advisers to this Corporation approved by the Board of Directors in an amount not to exceed 250,000 shares (collectively the "Incentive Shares"); (iii) shares of Common Stock issued upon the exercise of warrants, options or other rights issued by this Corporation on, or prior to August 31, 1993, to purchase this Corporation's Common Stock ("Existing Options"); (iv) all shares of Common Stock reissued as a result of Incentive Shares repurchased by this Corporation or reissued as a result of the repurchase of any shares which were previously excluded from the definition of "Additional Shares of Common Stock" under any prior Articles of Incorporation of this Corporation and all shares of Common Stock reissued as a result of the repurchase of shares issued upon the exercise of Existing Options and all shares of Common Stock issued under options and warrants issued by the Corporation after the Filing Date in place of any Existing Options which expire without being exercised; and (v) shares of Common Stock issued by way of dividend or other distribution on shares of Common Stock excluded from the definition of Additional Shares of Common Stock by the foregoing clauses (i), (ii), (iii), (iv) and this clause (v). The "Effective Price" of Additional Shares of Common Stock shall mean the quotient obtained by dividing (A) the total number of Additional Shares of Common Stock issued or sold, or deemed to have been issued or sold, under this Article V.D.9. into (B) the aggregate consideration received, or deemed to have been received for such Additional Shares of Common Stock. If, at any time or from time to time after the Filing Date, this Corporation effects a division or combination of the outstanding shares of Common Stock or pays a dividend in or makes any other distribution of Additional Shares of Common Stock, the aggregate number of shares of Common Stock specifically excluded from the definition of Additional Shares of Common Stock by clause (b) of this Article V.D.9.e. shall be increased or decreased appropriately to reflect such division, combination, dividend, or other distribution.

10. Certificate of Adjustment. On each adjustment of the Series A Conversion Price, Series B Conversion Price, Series E Conversion Price, or Series F Conversion Price, or the number of shares of Common Stock or other securities issuable upon conversion of the shares of Series A Preferred, Series B Preferred, Series E Preferred, or Series F Preferred, this Corporation shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred, a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based.

11. Notices of Record Date. In the event of (i) any taking by this 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 or other distribution or (ii) any capital reorganization of this Corporation, any reclassification or recapitalization of the capital stock of this Corporation, any merger or consolidation of this Corporation with or into any other corporation, or any transfer of all or substantially all of the assets of this Corporation, or any voluntary or involuntary dissolution, liquidation or winding up of the Corporation, the Corporation shall mail to each holder of outstanding shares of Existing Series at least twenty (20) days prior to the record date specified therein, a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend or distribution and a description of such dividend or distribution; (ii) the date on which any such reorganization, reclassification, transfer, consolidation, merger, dissolution, liquidation or winding up is expected to become effective; and (iii) the date, if any, that is to be fixed as to when the holders of record of shares of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such reorganization, reclassification, transfer, consolidation, merger, dissolution, liquidation or winding up.

12. Automatic Conversion.

a. Each outstanding share of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred, shall automatically be converted into shares of Common Stock based upon their respective Conversion Prices upon (i) the closing of an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offering and sale of shares of Common Stock for the account of the Corporation (other than a registration statement effected solely to implement an employee benefit plan, a transaction in which Rule 145 of the Securities and Exchange Commission is applicable or any other form or type of registration in which the shares of Common Stock issuable upon conversion of the shares of Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred cannot be included pursuant to the Securities and Exchange Commission rules or practices) resulting in aggregate proceeds to the Corporation (before the payment of underwriting discounts and commissions and the expense of the offering) in excess of \$10,000,000 (but in the case of the Series F Preferred the proceeds (before the payment of underwriting discounts and commissions and the expense of the offering) must equal or exceed \$20,000,000); or (ii) a merger or consolidation with or into another corporation or a sale of the shares of Common Stock or a sale of all or substantially all of the Corporation's properties and assets in which the aggregate gross cash proceeds received by the stockholders of the Corporation is at least \$10,000,000 in cash or marketable securities (but in the case of the Series F Preferred the aggregate gross cash proceeds must equal or exceed \$20,000,000). Regardless of the foregoing, the Series F Preferred shall automatically be converted into shares of Common Stock at its Conversion Price on the first anniversary date of the Filing Date.

b. Upon the occurrence of an event specified in Article V.D.12.a. above, the outstanding shares of Existing shall be converted into shares of Common Stock, whether or not the certificates representing such shares are surrendered to the Corporation or its transfer agent; provided, however, that the Corporation shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon

such conversion unless the certificates evidencing such shares are either delivered to the Corporation or its transfer agent as provided below or the holder notifies the Corporation or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Corporation indemnifying the Corporation from any loss incurred by it in connection with the issuance of such certificate. Upon the occurrence of such automatic conversion of the outstanding shares of Existing Series, the holders of the outstanding shares of Existing Series shall surrender the certificates representing such shares at the office of the Corporation or to any transfer agent for the shares of Series A Preferred, Series B Preferred, Series E Preferred, Series F Preferred or Common Stock. Thereupon there shall be issued and delivered to such holder, promptly at such office and in its name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the surrendered shares of Existing Series of such holder were convertible on the date on which such automatic conversion occurred, and the Corporation shall promptly, pay in cash all declared but unpaid dividends on the shares of Existing Series so converted.

13. Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the shares of Existing Series. In lieu of any fractional share to which the holder of such shares would otherwise be entitled, the Corporation shall pay cash equal to the product of (i) such fraction multiplied by (ii) the fair market value of one share of the Common Stock on the date of conversion. The fair market value shall be determined by the average trading price of the Common Stock over the past five (5) trading days, if such a price is available, otherwise it shall be as determined in good faith by the Board of Directors.

14. Reservation of Stock Issuable Upon Conversion. The 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 Existing Series, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of Existing Series. 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 Existing Series, the Corporation shall take such 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 purpose.

15. Notices. Any notice required by the provisions of this Article V.D. to be given to a holder of shares of Existing Series shall be deemed given upon the earlier of actual receipt or ninety-six (96) hours after the same has been deposited in first-class United States mail, certified or registered mail, return receipt requested, postage prepaid, addressed to the holder at the address of such holder appearing on the books of the Corporation.

16. No Dilution or Impairment. The Corporation shall not amend its Certificate of Incorporation or participate in any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action for the purpose of avoiding or seeking to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in carrying out all such action as may be reasonably necessary or appropriate in order to protect the conversion rights of the holders of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred, and Series F Preferred, against dilution (as contemplated herein) or other impairment.

E. Restrictions and Limitations.

1. Corporate Action. Except as otherwise required by law, (i) so long as at least 328,759 shares of Series A Preferred remain outstanding (adjusted for stock splits and combinations), the

Corporation shall not, without the vote or written consent of the holders of a majority of the shares of Series A Preferred, voting as a separate class, (ii) so long as at least 426,829 shares of Series B Preferred remain outstanding (adjusted for stock splits and combinations), the Corporation shall not, without the vote or written consent of the holders of a majority of the shares of Series B Preferred, voting as a separate class, (iii) so long as at least 333,333 shares of Series E Preferred remain outstanding (adjusted for stock splits and combinations), the Corporation shall not without the vote or written consent of the holders of a majority of the outstanding shares of Series E Preferred, voting as a separate class, and (iv) so long as at least 200,000 shares of Series F Preferred remain outstanding (adjusted for stock splits and combinations), the Corporation shall not without the vote or written consent of the holders of a majority of the outstanding shares of Series F Preferred, voting as a separate class

- a. increase the authorized number of shares of Existing Series,
- b. increase the authorized number of shares of Preferred Stock,
- c. create any new class or series of shares having preference over the Existing Series,
- d. merge, consolidate, or reorganize, where such merger, consolidation, or reorganization directly involves more than 50% of the Corporation's Common Stock or results in the change of a majority of the members of the Board of Directors; or
- e. sell all or substantially all of its assets or sell more than 50% of the Corporation's Common Stock in one transaction or series of related transactions.

2. Dividends. The Corporation shall not without the vote or written consent of the holders of a majority of the shares of Series E Preferred and Series F Preferred take any action which would result in a dividend to the holders of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred.

3. Amendment of Certificate of Incorporation. The Corporation shall not amend this Certificate of Incorporation without the vote or written consent of the holders of at least a majority of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred and Series F Preferred, as the case may be, each voting as a separate class, if such amendment would change or adversely affect any of that series of preferred's rights, preferences, privileges or limitations provided for herein for the benefit of the holders of the outstanding shares of Series A Preferred, Series B Preferred, Series E Preferred or Series F Preferred.

F. Replacement of Certificates. Upon receipt of evidence reasonably satisfactory to the Corporation of the loss, theft, destruction, or mutilation of a certificate representing any of the outstanding shares of Existing Series or Common Stock, and, in the case of loss, theft, or destruction, the execution of an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection therewith, the Corporation will issue a new certificate representing such shares of Existing Series or Common Stock in lieu of such lost, stolen, destroyed or mutilated certificate.

G. Status of Converted or Redeemed Shares. In case shares of Existing Series shall be converted pursuant to this Article V., the shares so converted or redeemed shall be canceled, retired and eliminated from the shares which the Corporation is authorized to issue.

H. Restated Certificate of Incorporation. Upon the conversion of all outstanding shares of the Existing Series, this Article V shall be of no further force or effect, and this Restated Certificate of Incorporation may be restated by a resolution of the Board of Directors (and without further action by the stockholders) to delete this Article V.

ARTICLE VI

The Corporation is to have perpetual existence.

ARTICLE VII

"Qualified Public Offering" as used in this Restated Certificate of Incorporation shall mean the Corporation's initial firm commitment underwritten public offering pursuant to an effective registration under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Corporation to the public at an aggregate offering price of not less than \$10,000,000. For the management of the business and for the conduct of the affairs of the Corporation, and in further definition, limitation and regulation of the powers of the Corporation, of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that, effective upon the closing of a Qualified Public Offering:

A. The management of the business and the conduct of the affairs of the Corporation shall be vested in its Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed exclusively by one or more resolutions adopted from time to time by the Board of Directors.

The Board of Directors shall be divided into three classes designated as Class I, Class II, and Class III, respectively. Directors shall be assigned to each class in accordance with a resolution or resolutions adopted by the Board of Directors. At the first annual meeting of stockholders following the date hereof, the term of office of the Class I directors shall expire and Class I directors shall be elected for a full term of three years. At the second annual meeting of stockholders following the date hereof, the term of office of the Class II directors shall expire and Class II directors shall be elected for a full term of three years. At the third annual meeting of stockholders following the date hereof, the term of office of the Class III directors shall expire and Class III directors shall be elected for a full term of three years. At each succeeding annual meeting of stockholders, directors shall be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting.

Notwithstanding the foregoing provisions of this Article, each director shall serve until his or her successor is duly elected and qualified or until his or her death, resignation, or removal. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal, or other causes shall be filled by either (i) the affirmative vote of the holders of a majority of the voting power of the then-outstanding shares of voting stock of the corporation entitled to vote generally in the election of directors (the "Voting Stock") voting together as a single class; or (ii) by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum of the Board of Directors. Newly created directorships resulting from any increase in the number of directors shall, unless the Board of Directors determines by resolution that any such newly created directorship shall be filled by the stockholders, be filled only by the affirmative vote of the directors then in office, even though less than a quorum of the Board of Directors. Any director elected in accordance with the preceding sentence shall hold office for the

remainder of the full term of the class of directors in which the new directorship was created or the vacancy occurred and until such director's successor shall have been elected and qualified.

B. In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, alter, amend, or repeal the Bylaws of the Corporation.

C. The directors of the Corporation need not be elected by written ballot unless a stockholder demands election by written ballot at the meeting and before voting begins, or unless the Bylaws so provide.

D. The affirmative vote of sixty-six and two-thirds percent (66-2/3%) of the voting power of the then outstanding shares of Voting Stock, voting together as a single class, shall be required for the adoption, amendment or repeal of the following sections of the Corporation's Bylaws by the stockholders of this Corporation: 2.2 (Annual Meeting) and 2.3 (Special Meeting).

E. No action shall be taken by the stockholders of the Corporation except at an annual or special meeting of the stockholders called in accordance with the Bylaws.

F. Advance notice of stockholder nomination for the election of directors and of business to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws of the Corporation.

G. Any director, or the entire Board of Directors, may be removed from office at any time (i) with cause by the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the Voting Stock, voting together as a single class; or (ii) without cause by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the Voting Stock.

ARTICLE VIII

Notwithstanding any other provisions of this Restated Certificate of Incorporation or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the Voting Stock required by law, this Restated Certificate of Incorporation or any Preferred Stock Designation, the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the Voting Stock, voting together as a single class, shall be required to alter, amend or repeal Article VII or this Article VIII.

ARTICLE IX

The Corporation reserves the right to amend, alter, change, or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute, except as provided in Article VIII of this Restated Certificate, and all rights conferred upon the stockholders herein are granted subject to this right.

ARTICLE X

A. To the fullest extent permitted by the Delaware General Corporation Law as the same exists or as may hereafter be amended, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach fiduciary duty as a director.

B. The Corporation may indemnify to the fullest extent permitted by law any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he, his testator or imestate is or was a director, officer or employee of the Corporation or any predecessor of the Corporation or serves or served at any other enterprise as a director, officer or employee at the request of the corporation or any predecessor to the Corporation.


C. Neither any amendment nor repeal of this Article X, nor the adoption of any provision of the Corporation's Certificate of Incorporation inconsistent with this Article X, shall eliminate or reduce the effect of this Article X, in respect of any matter occurring, or any action or proceeding accruing or arising or that, but for this Article X, would accrue or arise, prior to such amendment, repeal, or adoption of an inconsistent provision.

ARTICLE XI

Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws may provide. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside of 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.

The Restated Certificate of Incorporation has been duly adopted by the stockholder of the Corporation in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware, as amended.

IN WITNESS WHEREOF, the undersigned have executed this certificate on January 31, 1994.




Davidi Gilo
Chairman of the Board



Davidi Gilo, Secretary

The undersigned certify under penalty of perjury that they have read the foregoing Restated Certificate of Incorporation and know the contents thereof, and that the statements therein are true.

Executed at Santa Clara, California on January 31, 1994.



Davidi Gilo
Chairman of the Board



Davidi Gilo, Secretary

**AGREEMENT AND PLAN OF MERGER
OF DSP GROUP, INC.,
A DELAWARE CORPORATION,
AND
DSP GROUP, INC.,
A CALIFORNIA CORPORATION**

THIS AGREEMENT AND PLAN OF MERGER dated as of January 31, 1994 (the "Agreement") is between DSP Group, Inc., a Delaware corporation ("DSP Delaware") and DSP Group, Inc., a California corporation ("DSP California"). DSP Delaware and DSP California are sometimes referred to herein as the "Constituent Corporations."

RECITALS

A. DSP Delaware is a corporation duly organized and existing under the laws of the State of Delaware and has an authorized capital of 31,666,667 shares, 20,000,000 of which are designated "Common Stock," \$0.001 par value, and 11,666,667 of which are designated "Preferred Stock," \$0.001 par value. As of the date hereof, 100 shares of Common Stock were issued and outstanding, all of which were held by DSP California. Of the authorized shares of Preferred Stock, 1,000,000 shares are designated as Series A Preferred Stock, 1,500,000 shares are designated as Series B Preferred Stock, 3,774,510 shares are designated as Series E Preferred Stock, and 392,157 shares are designated as Series F Preferred Stock.

B. DSP California is a corporation duly organized and existing under the laws of the State of California and has an authorized capital of 80,000,000 shares, 60,000,000 of which are designated "Common Stock," no par value, and 20,000,000 of which are designated "Preferred Stock," no par value. Of such authorized shares of Preferred Stock, 3,000,000 shares are designated "Series A Convertible Preferred Stock" ("Series A Stock"), 4,500,000 shares are designated "Series B Convertible Preferred Stock" ("Series B Stock"), 11,323,530 shares are designated "Series E Convertible Preferred Stock" ("Series E Stock"), and 1,176,470 shares are designated "Series F Convertible Preferred Stock" ("Series F Stock"). As of November 30, 1993, 7,552,748 shares of Common Stock, 2,592,490 shares of Series A Stock, 1,339,025 shares of Series B Stock, 5,230,189 shares of Series E Stock, and 1,176,470 shares of Series F Stock were issued and outstanding.

C. The Board of Directors of DSP California has determined that, for the purpose of effecting the reincorporation of DSP California in the State of Delaware, it is advisable and in the best interests of DSP California that DSP California merge with and into DSP Delaware upon the terms and conditions herein provided.

D. The respective Boards of Directors of DSP Delaware and DSP California have approved this Agreement and have directed that this Agreement be submitted to a vote of their respective sole stockholder and shareholders, and executed by the undersigned officers.

NOW, THEREFORE, in consideration of the mutual agreements and covenants set forth herein, DSP Delaware and DSP California hereby agree, subject to the terms and conditions hereinafter set forth, as follows:

I. MERGER

1.1 *Merger.* In accordance with the provisions of this Agreement, the Delaware General Corporation Law and the California General Corporation Law, DSP California shall be merged with and into DSP Delaware (the "Merger"), the separate existence of DSP California shall cease and DSP Delaware shall be, and is herein sometimes referred as, the "Surviving Corporation," and the name of the Surviving Corporation shall be DSP Group, Inc.

1.2 *Filing and Effectiveness.* The Merger shall become effective when the following actions shall have been completed:

(a) This Agreement and Merger shall have been adopted and approved by the stockholders of each Constituent Corporation in accordance with the requirements of the Delaware General Corporation Law and the California General Corporation Law;

(b) All of the conditions precedent to the consummation of the Merger specified in this Agreement shall have been satisfied or duly waived by the party entitled to satisfaction thereof; and

(c) An executed Certificate of Merger or an executed counterpart of this Agreement meeting the requirements of the Delaware General Corporation Law shall have been filed with the Secretary of State of the State of Delaware.

The date and time when the Merger shall become effective, as aforesaid, is herein called the "Effective Date of the Merger."

1.3 *Effect of the Merger.* Upon the Effective Date of the Merger, the separate existence of DSP California shall cease and DSP Delaware, as the Surviving Corporation (i) shall continue to possess all of its assets, rights, powers and property as constituted immediately prior to the Effective Date of the Merger, (ii) shall be subject to all actions previously taken by its and DSP California's Board of Directors, (iii) shall succeed, without other transfer, to all of the assets, rights, powers and property of DSP California in the manner more fully set forth in Section 259 of the Delaware General Corporation Law, (iv) shall continue to be subject to all of the debts, liabilities and obligations of DSP Delaware as constituted immediately prior to the Effective Date of the Merger, and (v) shall succeed, without other transfer, to all of the debts, liabilities and obligations of DSP California in the same manner as if DSP Delaware had itself incurred them, all as more fully provided under the applicable provisions of the Delaware General Corporation Law and the California Corporations Code.

II. CHARTER DOCUMENTS, DIRECTORS AND OFFICERS

2.1 *Restated Certificate of Incorporation.* The Restated Certificate of Incorporation of DSP Delaware as in effect immediately prior to the Effective Date of the Merger shall continue in full force and effect as the Restated Certificate of Incorporation of the Surviving Corporation until duly amended in accordance with the provisions thereof and applicable law.

2.2 *Bylaws.* The Bylaws of DSP Delaware as in effect immediately prior to the Effective Date of the Merger shall continue in full force and effect as the Bylaws of the Surviving Corporation until duly amended in accordance with the provisions thereof and applicable law.

2.3 Directors and Officers. The directors and officers of DSP California immediately prior to the Effective Date of the Merger shall be the directors and officers of the Surviving Corporation until their successors shall have been duly elected and qualified or until as otherwise provided by law, the Certificate of Incorporation of the Surviving Corporation or the Bylaws of the Surviving Corporation.

III. MANNER OF CONVERSION OF STOCK

3.1 DSP California Common Shares. Upon the Effective Date of the Merger, every three (3) shares of DSP California Common Stock issued and outstanding immediately prior thereto shall, by virtue of the Merger and without any action by the Constituent Corporations, the holder of such shares or any other person, be converted into and exchanged for one (1) fully paid and nonassessable share of Common Stock of the Surviving Corporation. No fractional shares shall be issued; in lieu of fractional shares, cash shall be distributed to each stockholder who would have otherwise been entitled to such fractional share and the amount of cash shall be pro rated based on a per share price that the Board of Directors determines is the fair market value of such share on the Effective Date of the Merger.

3.2 DSP California Preferred Shares.

(a) Upon the Effective Date of the Merger, every three (3) shares of Series A Stock, Series B Stock, Series E Stock and Series F Stock of DSP California issued and outstanding immediately prior to the Merger shall, by virtue of the Merger and without any action by the Constituent Corporations, the holder of such shares or any other person, be converted into and exchanged for one (1) fully paid and nonassessable share of Series A, Series B, Series E or Series F Preferred Stock, respectively, of the Surviving Corporation.

(b) Within each series of Preferred Stock, each stockholder's holdings of shares of that series of Preferred Stock of the Surviving Corporation shall be aggregated and the stockholder shall be issued a certificate representing the aggregate number of shares held, rounded down to the nearest whole number. No fractional shares shall be issued to stockholders; in lieu of any fractional shares, cash shall be distributed to each stockholder who would have been otherwise entitled to such fractional share, and the amount of cash shall be pro rated based on a per share price that the Board of Directors determines is the fair market value of such share on the Effective Date of the Merger.

(c) Each share of Preferred Stock of the Surviving Corporation shall have the rights, preferences and privileges as set forth in the Certificate of Incorporation of the Surviving Corporation, including conversion into such number of shares of DSP Delaware Common Stock as set forth in the Certificate of Incorporation of the Surviving Corporation.

3.3 DSP California Options, Stock Purchase Rights and Convertible Securities.

(a) Upon the Effective Date of the Merger, the Surviving Corporation shall assume the obligations of DSP California under the option plans and all other employee benefit plans of DSP California. Each outstanding and unexercised option, warrant, other right to purchase, or security convertible into, DSP California Common Stock or DSP California Preferred Stock (a "Right") shall become an option, warrant, right to purchase or a security convertible into the Surviving Corporation's Common Stock or Preferred Stock, respectively, on the basis of one (1) share of the Surviving Corporation's Common Stock for every three (3) shares of DSP California Common Stock and one (1) share of the Surviving Corporation's Preferred Stock for every three (3) shares of DSP California's Preferred Stock, as the case may be, issuable pursuant to any such Right, on the same terms and conditions, except that the exercise price shall be three (3) times the exercise price applicable to any such DSP

California Right at the Effective Date of the Merger. This Section 3.3(a) shall not apply to outstanding shares of DSP California Common Stock or Preferred Stock. Such Common Stock and Preferred Stock are subject to Sections 3.1 and 3.2, respectively, hereof.

(b) One share of the Surviving Corporation's Common Stock shall be reserved for issuance upon the exercise of options, warrants, stock purchase rights and convertible securities equal to every three (3) shares of DSP California Common Stock, and a number of shares of Preferred Stock of the Surviving Corporation's Preferred Stock shall be reserved for issuance upon exercise of options, warrants, stock purchase rights and convertible securities equal to the number of shares of DSP California Preferred Stock so reserved, as adjusted for the one-for-three reverse split, immediately prior to the Effective Date of the Merger.

3.4 DSP Delaware Common Stock. Upon the Effective Date of the Merger, each share of Common Stock of DSP Delaware issued and outstanding immediately prior thereto shall, by virtue of the Merger and without any action by DSP Delaware, the holder of such shares or any other person, be canceled and returned to the status of authorized but unissued shares.

3.5 Exchange of Certificates. After the Effective Date of the Merger, each holder of an outstanding certificate representing shares of DSP California Common Stock or Preferred Stock may be asked to surrender the same for cancellation to an exchange agent, whose name will be delivered to holders prior to any requested exchange (the "Exchange Agent"), and each such holder shall be entitled to receive in exchange therefor a certificate or certificates representing the number of shares of the Surviving Corporation's Common Stock or Preferred Stock, as the case may be, into which the surrendered shares were converted as herein provided. Until so surrendered, each outstanding certificate theretofore representing shares of DSP California Common Stock or Preferred Stock shall be deemed for all purposes to represent the number of shares of the Surviving Corporation's Common Stock or Preferred Stock, respectively, into which such shares of DSP California Common Stock or Preferred Stock, as the case may be, were converted in the Merger.

The registered owner on the books and records of the Surviving Corporation or the Exchange Agent of any such outstanding certificate shall, until such certificate shall have been surrendered for transfer or conversion or otherwise accounted for to the Surviving Corporation or the Exchange Agent, have and be entitled to exercise any voting and other rights with respect to and to receive dividends and other distributions upon the shares of Common Stock or Preferred Stock of the Surviving Corporation represented by such outstanding certificate as provided above.

Each certificate representing Common Stock or Preferred Stock of the Surviving Corporation so issued in the Merger shall bear the same legends, if any, with respect to the restrictions on transferability as the certificates of DSP California so converted and given in exchange therefore, unless otherwise determined by the Board of Directors of the Surviving Corporation in compliance with applicable laws, or other such additional legends as agreed upon by the holder and the Surviving Corporation.

If any certificate for shares of DSP Delaware stock is to be issued in a name other than that in which the certificate surrendered in exchange therefor is registered, it shall be a condition of issuance thereof that the certificate so surrendered shall be properly endorsed and otherwise in proper form for transfer, that such transfer otherwise be proper and comply with applicable securities laws and that the person requesting such transfer pay to the Exchange Agent any transfer or other taxes payable by reason of issuance of such new certificate in a name other than that of the registered holder of the certificate surrendered or establish to the satisfaction of DSP Delaware that such tax has been paid or is not payable.

IV. GENERAL

4.1 Covenants of DSP Delaware. DSP Delaware covenants and agrees that it will, on or before the Effective Date of the Merger:

(a) qualify to do business as a foreign corporation in the State of California and in connection therewith irrevocably appoint an agent for service of process as required under the provisions of Section 2105 of the California General Corporation Law;

(b) file any and all documents with the California Franchise Tax Board necessary for the assumption by DSP Delaware of all of the franchise tax liabilities of DSP California; and

(c) take such other actions as may be required by the California General Corporation Law.

4.2 Further Assurances. From time to time, as and when required by DSP Delaware or by its successors or assigns, there shall be executed and delivered on behalf of DSP California such deeds and other instruments, and there shall be taken or caused to be taken by it such further and other actions as shall be appropriate or necessary in order to vest or perfect in or conform of record or otherwise by DSP Delaware the title to and possession of all the property, interests, assets, rights, privileges, immunities, powers, franchises and authority of DSP California and otherwise to carry out the purposes of this Agreement, and the officers and directors of DSP Delaware are fully authorized in the name and on behalf of DSP California or otherwise to take any and all such action and to execute and deliver any and all such deeds and other instruments.

4.3 Abandonment. At any time before the Effective Date of the Merger, this Agreement may be terminated and the Merger may be abandoned for any reason whatsoever by the Board of Directors of either DSP California or of DSP Delaware, or of both, notwithstanding the approval of this Agreement by the shareholders of DSP California or by the sole stockholder of DSP Delaware, or by both.

4.4 Amendment. The Boards of Directors of the Constituent Corporations may amend this Agreement at any time prior to the filing of this Agreement (or certificate in lieu thereof) with the Secretary of State of the State of Delaware, provided that an amendment made subsequent to the adoption of this Agreement by the stockholders of either Constituent Corporation shall not: (a) alter or change the amount or kind of shares, securities, cash, property and/or rights to be received in exchange for or on conversion of all or any of the shares of any class or series thereof of such Constituent Corporation; (b) alter or change any term of the Certificate of Incorporation of the Surviving Corporation to be effected by the Merger; or (c) alter or change any of the terms and conditions of this Agreement if such alteration or change would adversely affect the holders of any class or series of capital stock of any Constituent Corporation.

4.5 Registered Office. The registered office of the Surviving Corporation in the State of Delaware is 1209 Orange Street, Wilmington, Delaware 19801, County of New Castle and The Corporation Trust Company is the registered agent of the Surviving Corporation at such address.

4.6 Agreement. Executed copies of this Agreement will be on file at the principal place of business of the Surviving Corporation at 2855 Kifer Road, Santa Clara, California 95051 and copies thereof will be furnished to any stockholder of either Constituent Corporation, upon request and without cost.

4.7 Governing Law. This Agreement shall in all respects be construed, interpreted and enforced in accordance with and governed by the laws of the State of Delaware and, so far as applicable, the merger provisions of the California General Corporation Law.

4.8 *Counterparts.* In order to facilitate the filing and recording of this Agreement, the same may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, this Agreement having first been approved by the resolutions of the Board of Directors of DSP Group, Inc., a Delaware corporation, and DSP Group, Inc., a California corporation, is hereby executed on behalf of each of such two corporations and attested by their respective officers thereunto duly authorized.

DSP GROUP, INC.,
a Delaware corporation

By: 

Davidi Gilo
Chairman of the Board

ATTEST: 

Davidi Gilo
Secretary

DSP GROUP, INC.,
a California corporation

By: 

Davidi Gilo
Chairman of the Board

ATTEST: 

Davidi Gilo
Secretary