

UNITED STATES
 SECURITIES AND EXCHANGE COMMISSION
 WASHINGTON, D.C. 20549

FORM S-8

REGISTRATION STATEMENT
 UNDER
 THE SECURITIES ACT OF 1933

TEGAL CORPORATION
 (Exact name of registrant as specified in its charter)

<S>	<C>	<C>	
DELAWARE	2201 S. McDowell Boulevard	68-0370244	
(State or other jurisdiction of incorporation or organization)	Petaluma, CA 94955	(I.R.S. Employer Identification Number)	
	(Zip Code)		

THE SIXTH AMENDED AND RESTATED 1998 EQUITY PARTICIPATION PLAN THE FOURTH AMENDED AND RESTATED OPTION PLAN FOR OUTSIDE DIRECTORS THE SECOND AMENDED AND RESTATED EMPLOYEE QUALIFIED STOCK PURCHASE PLAN

(Full title of the plan)

MICHAEL L. PARODI
 Chairman, President and Chief Executive Officer
 TEGAL CORPORATION
 2201 S. McDowell Boulevard
 Petaluma, CA 94955
 (707) 763-5600
 (Name, address and telephone number, including area code, of agent for service)

Copies to:
 Christopher L. Kaufman, Esq.
 Latham & Watkins LLP
 135 Commonwealth Drive
 Menlo Park, CA 94025
 (650) 328-4600

CALCULATION OF REGISTRATION FEE

<TABLE>
 <CAPTION>

Title of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(2)
Common Stock, \$0.01 par value, and the associated preferred stock purchase rights(1) issuable under:	3,600,000	\$1.39	\$5,004,000	\$634.01
The Sixth Amended and Restated 1998 Equity Participation Plan of Tegal Corporation (3)	1,000,000	\$1.39	\$1,390,000	\$176.11

The Fourth Amended and Restated Option Plan for Outside Directors(4)

	500,000	\$1.39	\$695,000	\$ 88.06
The Second Amended and Restated Employee Qualified Stock Purchase Plan (5)				

Total	5,100,000	--	\$7,089,000	\$898.18
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</TABLE>

- (1) Attached to and trading with each share of common stock is a preferred stock purchase right. Each right entitles the holder, under the circumstances set forth in the Rights Agreement dated as of June 11, 1996, between the registrant and Chasemellon Shareholder Services, L.L.C., as amended, to purchase 1/100th of a share of Series A Junior Participating Preferred Stock. Value attributable to such preferred stock purchase rights, if any, is reflected in the market price of the common stock. The preferred stock purchase rights will be issued for no additional consideration. Accordingly, no additional registration fee is required.
- (2) Estimated solely for the purpose of calculating the registration fee and computed pursuant to Rule 457(c) under the Securities Act based upon the average (\$1.39) of the high (\$1.42) and low (\$1.35) prices for the Company's common stock quoted on the Nasdaq SmallCap Market on September 17, 2004.
- (3) The Sixth Amended and Restated 1998 Equity Participation Plan of Tegal Corporation authorizes the issuance of 10,000,000 shares of the Company's common stock, 6,400,000 of which were previously registered on Form S-8 (File Nos. 333-66781, 333-88373, 333-51294 and 333-110650) filed with the Commission on November 4, 1998, October 4, 1999, December 5, 2000, and November 21, 2003, respectively.
- (4) The Fourth Amended and Restated Option Plan for Outside Directors authorizes the issuance of 1,600,000 shares of the Company's common stock, 600,000 of which were previously registered on Form S-8 (File Nos. 333-00462 and 333-110650) filed with the Commission on January 19, 1996 and November 21, 2003, respectively.
- (5) The Second Amended and Restated Employee Qualified Stock Purchase Plan authorizes the issuance of 1,000,000 shares of the Company's common stock, 500,000 of which were previously registered on Form S-8 (File Nos. 333-00462 and 333-88373) filed with the Commission on January 19, 1996 and October 4, 1999, respectively.

I.

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The information called for in Part I of Form S-8 is not being filed with or included in this Form S-8 (by incorporation by reference or otherwise) in accordance with the rules and regulations of the Securities and Exchange Commission (the "Commission").

II.

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

In this registration statement, Tegal Corporation is sometimes referred to as "we," "us" or "our."

Pursuant to General Instruction E of Form S-8, this registration statement is filed solely to register an additional 5,100,000 shares of our common stock reserved for issuance under our Sixth Amended and Restated 1998 Equity Participation Plan, our Fourth Amended and Restated Option Plan for Outside Directors and our Second Amended and Restated Employee Qualified Stock Purchase Plan, which increases were approved by our board of directors on July 23, 2004, and approved by our stockholders on September 21, 2004.

Pursuant to General Instruction E, the following documents which we have filed with the Commission are hereby incorporated by reference in this registration statement:

- o Registration statements on Form S-8 (File Nos. 333-00462, 333-66781, 333-88373, 333-51294, 333-110650), filed with the Commission on January 19, 1996, November 4, 1998, October 4, 1999, December 5, 2000, and November 21, 2003, respectively, and our latest prospectus filed pursuant to Rule 424(b) under the Securities Act of 1933, as amended.

- o Our Annual Report on Form 10-K for the fiscal year ended March 31, 2004.
- o Our Quarterly Report on Form 10-Q for the three months ended June 30, 2004.
- o Our Definitive Proxy Statement filed with the Commission on July 29, 2004.
- o The description of the common stock contained in our Registration Statement on Form 8-A (File No. 01-26824), which was declared effective by the Commission on October 18, 1995, including any subsequently filed amendments and reports updating this description.
- o All documents filed with the Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of this registration statement and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Item 4. Description of Securities.

Not applicable.

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Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

We are a Delaware corporation. Subsection (b)(7) of Section 102 of the Delaware General Corporation Law (the "DGCL"), enables a corporation in its original certificate of incorporation or an amendment thereto to eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for breach of the director's fiduciary duty, except (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 which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the DGCL (providing for liability of directors for unlawful payment of dividends or unlawful stock purchases or redemptions) or (iv) for any transaction from which the director derived an improper personal benefit.

Subsection (a) of Section 145 of the DGCL empowers a corporation to indemnify any present or former director, officer, employee or agent of the corporation, or any individual serving at the corporation's request as a director, officer, employee or agent of another organization, who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding provided that such director, officer, employee or agent acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, provided further that such director, officer, employee or agent had no reasonable cause to believe his conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any present or former director, officer, employee or agent who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit provided that such director, officer, employee or agent acted in good faith and in a manner reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification may be made in respect to any claim, issue or matter as to which such director, officer, employee or agent shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which

such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all of the circumstances of the case, such director or officer is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director, officer, employee or agent has been successful in the defense of any action, suit or proceeding referred to in subsections (a) and (b) or in the defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith; that indemnification and advancement of expenses provided for, by, or granted pursuant to, Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and empowers the corporation to purchase and maintain insurance on behalf of a present or former director, officer, employee or agent of the corporation, or any individual serving at the corporation's request as a director, officer or employee of another organization, against any liability asserted against him or incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify him against such liabilities under Section 145.

Our Certificate of Incorporation provides that to the fullest extent permitted by the Delaware General Corporation Law ("DGCL"), a director of Tegal shall not be liable to Tegal or its stockholders for monetary damages for breach of fiduciary duty as a director.

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Item 7. Exemption from Registration Channels.

Not applicable.

Item 8. Exhibits.

The following additional exhibits are also attached for filing:

Exhibit

Number Description

- -----

- 4.1* The Sixth Amended and Restated 1998 Equity Participation Plan of Tegal Corporation.
- 4.2* The Fourth Amended and Restated Option Plan for Outside Directors of Tegal Corporation.
- 4.3* The Second Amended and Restated Employee Qualified Stock Purchase Plan of Tegal Corporation.
- 5.1 Opinion of Latham & Watkins LLP.
- 23.1 Consent of Latham & Watkins LLP (included in Exhibit 5.1).
- 23.2 Consent of PricewaterhouseCoopers LLP, former independent registered public accounting firm.
- 24.1 Power of Attorney (included in the signature page).

- -----
* Filed as an exhibit to the definitive proxy statement filed July 29, 2004 (File No. 000-26824) and incorporated herein by reference.

Item 9. Undertakings.

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or

decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

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(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Petaluma, State of California on this 24th day of September, 2004.

TEGAL CORPORATION

By: /s/ Michael L. Parodi

Michael L. Parodi
Chairman of the Board, President and
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael L. Parodi and Thomas R. Mika, and each or either of them, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated and on September 24, 2004.

Signature -----	Title -----
/s/ Michael L. Parodi ----- Michael L. Parodi	Chairman of the Board, President, & Chief Executive Officer (Principal Executive Officer)
/s/ Thomas R. Mika ----- Thomas R. Mika	Executive Vice President & Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ Edward A. Dohring ----- Edward A. Dohring	Director
/s/ Jeffrey M. Krauss ----- Jeffrey M. Krauss	Director
/s/ H. Duane Wadsworth ----- H. Duane Wadsworth	Director

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INDEX TO EXHIBITS

Exhibit Number -----	Description -----
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24.1	Power of Attorney (included in the signature page).

* Filed as an exhibit to the definitive proxy statement filed July 29, 2004 (File No. 000-26824) and incorporated herein by reference.

EXHIBIT 5.1

OPINION OF LATHAM & WATKINS LLP

Latham & Watkins LLP
505 Montgomery Street, Suite 1900
San Francisco, California 94111-2562

September 24, 2004

Tegal Corporation
2201 South McDowell Boulevard
Petaluma, CA 94955

Re: Tegal Corporation
5,100,000 shares of Common Stock, par value \$0.01 per share

Ladies and Gentlemen:

In connection with the registration by Tegal Corporation, a Delaware corporation (the "Company"), of 5,100,000 shares (the "Shares") of common stock, par value \$0.01 per share, of the Company under the Securities Act of 1933, as amended, on Form S-8 filed with the Securities and Exchange Commission on September 24, 2004 (the "Registration Statement"), to be issued under the Sixth Amended and Restated 1998 Equity Participation Plan of Tegal Corporation (the "1998 Plan"), the Fourth Amended and Restated Option Plan for Outside Directors (the "Director Plan") and the Second Amended and Restated Employee Qualified Stock Purchase Plan (the "Purchase Plan," and together with the 1998 Plan and the Director Plan, the "Plans"), you have requested our opinion set forth below.

In our capacity as your special counsel in connection with such registration, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares. For the purposes of this opinion, we have assumed such proceedings will be timely completed in the manner presently proposed. In addition, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter.

We are opining herein as to the effect on the subject transaction only of the General Corporation Law of the State of Delaware, and we express no opinion with respect to the applicability thereto, or the effect thereon, of any other laws.

Subject to the foregoing, it is our opinion that as of the date hereof the Shares have been duly authorized by all necessary corporate action of the Company, and, upon issuance, delivery and payment therefor in the manner contemplated by the Plans, will be validly issued, fully paid and nonassessable.

We consent to your filing this opinion as an exhibit to the Registration Statement.

Very truly yours,

/s/ Latham & Watkins LLP

EXHIBIT 23.2

CONSENT OF FORMER INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated June 25, 2004, relating to the consolidated financial statements and the financial statement schedule, which appears in Tegal Corporation's Annual Report on Form 10-K for the year ended March 31, 2004.

/s/ PricewaterhouseCoopers LLP

San Jose, California
September 24, 2004