As filed with the Securities and Exchange Commission on August 3, 2001 $$\operatorname{Registration}\xspace$ No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

PDF SOLUTIONS, INC. (Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 25-1701361 (I.R.S. Employer Identification Number)

333 West San Carlos Street, Suite 700 San Jose, California (Address of Principal Executive Offices)

95110 (Zip Code)

1996 STOCK OPTION PLAN
1997 STOCK PLAN
2001 STOCK PLAN
2001 EMPLOYEE STOCK PURCHASE PLAN

(Full Title of the Plans)

JOHN K. KIBARIAN

President and Chief Executive Officer
PDF Solutions, Inc.

333 West San Carlos Street, Suite 700
San Jose, California 95110

(Name and Address of Agent for Service)

 $\qquad \qquad (408) \ 280-7900 \\ (\text{Telephone Number, Including Area Code, of Agent for Service})$

Copies to:

Peter Cohn, Esq.
Orrick, Herrington & Sutcliffe LLP
1020 Marsh Road
Menlo Park, California 94025
(650) 614-7400

CALCULATION OF REGISTRATION FEE

	Proposed	Proposed		
	Maximum	Maximum		
	Offering	Aggregate	Amount of	
Amount To Be	Price	Offering	Registration	
Registered (1)	Per Share(2)	Price	Fee	
.,		\$ 324	\$ 1	
1,188,425	\$ 9.23	\$10,969,163	\$ 2,742.29	
3,000,000	\$14.32	\$42,960,000	\$10,740	
300,000	\$14.32	\$ 4,290,000	\$ 1,072.50	
4,493,985			\$14,555.79	
	5,560 1,188,425 3,000,000 300,000	Maximum Offering Amount To Be Price Registered (1) Per Share(2) 5,560 \$ 0.06 1,188,425 \$ 9.23 3,000,000 \$14.32	Amount To Be Registered (1) % 0.06 \$ 324 1,188,425 \$ 9.23 \$10,969,163 3,000,000 \$14.32 \$42,960,000 300,000 \$14.32 \$4,290,000	

- (1) This Registration Statement shall also cover any additional shares of Common Stock which become issuable under any of the Plans by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration which results in an increase in the number of the Registrant's outstanding shares of Common Stock.
- (2) The Proposed Maximum Offering Price Per Share represents a weighted average of the following estimates calculated in accordance with Rule 457(h) under the Securities Act of 1933, as amended (the "Securities Act"). With respect to 5,560 shares subject to outstanding options to purchase Common Stock under the 1996 Stock Option Plan described above, the Proposed Maximum Offering Price Per Share is equal to the weighted average exercise price of \$0.06 per share pursuant to Rule 457(h) under the Securities Act. With respect to 1,188,425 shares subject to outstanding options to purchase Common Stock under the 1997 Stock Plan described above, the Proposed Maximum Offering Price Per Share is equal to the weighted average exercise price of \$9.23 per share pursuant to Rule 457(h) under the Securities Act. With respect to 3,300,000 shares of Common Stock available for future grant under the 2001 Stock Plan and the 2001 Employee Stock Purchase Plan, the estimated Proposed Maximum Offering Price Per Share was calculated pursuant to Rules 457(c) and 457(h) under the Securities Act on the basis of \$14.32 per share, the average of the high and low price of the Common Stock on the Nasdag National Market on July 27, 2001.

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PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

ITEM 1. PLAN INFORMATION *

ITEM 2. REGISTRANT INFORMATION AND EMPLOYEE PLAN ANNUAL INFORMATION *

* Information required by Part I to be contained in the Section 10(a) prospectus is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"), and the Note to Part I of Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

PDF Solutions, Inc. (the "Registrant") hereby incorporates by reference into this Registration Statement the following documents previously filed with the Securities and Exchange Commission (the "Commission"):

- (a) The Registrant's prospectus filed with the Commission pursuant to Rule 424(b) promulgated under the Securities Act filed with the SEC on July 27, 2001 (File No. 333-43192), in which there is set forth the audited financial statements for the Registrant's fiscal year ended December 31, 2000; and
- (b) All other reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act") since the end of the fiscal year covered by the Registrant document referred to in (a) above.
- (c) The Registrant's Registration Statement No. 000-31311 on Form 8-A12G, as amended, filed with the SEC on August 10, 2000, in which are described the terms, rights and provisions applicable to the Registrant's Common Stock.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, 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, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

As of the completion of this offering, Orrick, Herrington & Sutcliffe LLP and partners in that firm beneficially own an aggregate of 14,996 shares of the Registrant's Common Stock.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers, as well as other employees and individuals, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by any such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent of the Registrant. The Delaware General Corporation Law provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Article XII of the Registrant's Amended and Restated Certificate of Incorporation and Article VI of the Registrant's Bylaws provide for indemnification by the Registrant of its directors and officers to the fullest extent permitted by the Delaware General Corporation Law.

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Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, or (iv) for any transaction from which the director derived an improper personal benefit. The Registrant's Amended and Restated Certificate of Incorporation provides for such limitation of liability.

The Registrant has obtained directors' and officers' insurance providing indemnification for certain of the Registrant's directors, officers and employees for certain liabilities.

The Registrant has entered into indemnification agreements with each director and executive officer which provide indemnification under certain circumstances for acts and omissions which may not be covered by any directors' and officers' liability insurance.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

Exhibit. Number

Name

Instruments Defining the Rights of Stockholders. Reference is made to Registrant's Registration Statement No. 000-31311 on Form 8-A12G, together with any exhibits thereto, which are incorporated herein by reference pursuant to Item 3(c) to this Registration Statement.

- 5.1 Opinion of Orrick, Herrington & Sutcliffe LLP.
- 23.1 Independent Auditors' Consent
- 23.2 Consent of Orrick, Herrington & Sutcliffe LLP is included in Exhibit 5.1 to this Registration Statement.
- 24 Power of Attorney. (See page 4)
- 99.1 1996 Stock Option Plan and related agreements (incorporated by reference from Exhibit 10.8 to Registrant's Registration Statement No 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).
- 99.2 1997 Stock Plan and related agreements (incorporated by reference from Exhibit 10.9 to Registrant's Registration Statement No 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).
- 99.3 2001 Stock Plan and related agreements (incorporated by reference from Exhibit No. 10.10 to Registrant's Registration Statement No. 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).
- 99.4 2001 Employee Stock Purchase Plan (incorporated by reference from Exhibit No. 10.11 to Registrant's Registration Statement No. 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).

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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;
- (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 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% change in the 3 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 information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act, 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, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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 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 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 Securities Act and will be governed by the final adjudication of such issue.

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 Securities 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 San Jose, State of California, on the 3rd of August, 2001.

PDF SOLUTIONS, INC. (Registrant)

By: /s/ JOHN K. KIBARIAN

John K. Kibarian

President and Chief Executive Officer

By: /s/ P. STEVEN MELMAN

P. Steven Melman

President and Chief Executive Officer Principal Financial and Accounting Officer

POWER OF ATTORNEY

Each of the undersigned directors of PDF Solutions, Inc., a Delaware corporation (the "Company"), hereby constitutes and appoints John K. Kibarian and P. Steven Melman, and each of them, his true and lawful attorneys-in-fact, with full power of substitution, for him or her and in his or her name, place and stead, in his or her capacity as a director, to execute a Registration Statement or Registration Statements on Form S-8 under the Securities Act of 1933, as

amended, relating to 4,493,985 shares of Common Stock that are issuable under the PDF Solutions, Inc. 1996 Stock Option Plan, the 1997 Stock Plan, the 2001 Stock Plan, and the 2001 Employee Stock Purchase Plan (the "Plans") and any and all amendments (including post-effective amendments) to such Registration Statements, and to file such Registration Statements and any and all amendments thereto, with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto such attorneys-in-fact full power and authority to do and perform each and every act and thing necessary or desirable to be done in and about the premises, as fully to all intents and purposes, as he or she might or could do in person, and ratify and confirm all that such attorneys-in-fact or their substitutes may lawfully do or cause to be done by virtue hereof, and hereby consents to such registration of the Shares and the issuance thereof pursuant to the terms of the Plan. Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Title Signature _____ Chief Executive Officer, _____ President and Director John K. Kibarian Chief Financial Officer and Vice _____ President, Finance and Administration P. Steven Melman Vice President, Integration Practice and Director Kimon Michaels /s/ B. J. CASSIN Director B. J. Cassin Director _____ Donald L. Lucas Director Lucio L. Lanza

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Exhibit Number

EXHIBIT INDEX

Number	Name
4	Instruments Defining the Rights of Stockholders. Reference is made to Registrant's Registration Statement No. 000-31311 on Form 8-A12G, together with any exhibits thereto, which are incorporated herein by reference pursuant to Item 3(c) to this Registration Statement.
5.1	Opinion of Orrick, Herrington & Sutcliffe LLP.
23.1	Independent Auditors' Consent

23.2 Consent of Orrick, Herrington & Sutcliffe LLP is included in Exhibit 5.1 to this Registration Statement.

- 24 Power of Attorney. (See page 4)
- 99.1 1996 Stock Option Plan and related agreements (incorporated by reference from Exhibit 10.8 to Registrant's Registration Statement No 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).
- 99.2 1997 Stock Plan and related agreements (incorporated by reference from Exhibit 10.9 to Registrant's Registration Statement No 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).
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- 99.4 2001 Employee Stock Purchase Plan (incorporated by reference from Exhibit No. 10.11 to Registrant's Registration Statement No. 333-43192 on Form S-1, as amended, filed with the SEC on August 7, 2000).

EXHIBIT 5.1

OPINION AND CONSENT OF ORRICK, HERRINGTON & SUTCLIFFE LLP

August 2, 2001

PDF Solutions, Inc. 333 West San Carlos Street, Suite 700 San Jose, California 95110

Re: PDF Solutions, Inc.

Registration Statement on Form S-8

Ladies and Gentlemen:

At your request, we are rendering this opinion in connection with the proposed issuance pursuant to the PDF Solutions, Inc. 1996 Stock Option Plan, the PDF Solutions, Inc. 1997 Stock Plan, the PDF Solutions, Inc. 2001 Stock Plan, and the PDF Solutions, Inc. 2001 Employee Stock Purchase Plan (the "Plans"), of up to 4,493,985 shares of common stock, \$0.00015 par value ("Common Stock"), of PDF Solutions, Inc., a Delaware corporation (the "Company"). We have examined instruments, documents, and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the following: (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; and (c) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed. Based on such examination, we are of the opinion that the 4,493,985 shares of PDF Solutions, Inc. issuable under the Plans are duly authorized, and, when issued in accordance with the provisions of the Plans, will be legally issued, fully paid, and nonassessable. We hereby consent to the filing of this opinion as an exhibit to the above referenced Registration Statement on Form S-8 and to the use of our name wherever it appears in said Registration Statement. In giving such consent, we do not consider that we are "experts" within the meaning of such term as used in the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission issued thereunder with respect to any part of the Registration Statement, including this opinion, as an exhibit or otherwise.

Very truly yours,

/s/ Orrick, Herrington & Sutcliffe LLP

EXHIBIT 23.1

INDEPENDENT AUDITORS' CONSENT

The Board of Directors PDF Solutions, Inc.:

We consent to the incorporation by reference in this Registration Statement of PDF Solutions, Inc. on Form S-8, of our report dated January 19, 2001 (July 6, 2001 as to the third paragraph of Note 12), appearing in the Prospectus which is part of the Registration Statement No. 333-43192 of PDF Solutions, Inc. on Form S-1 and of our report dated January 19, 2001 relating to the consolidated financial statement schedule appearing elsewhere in Registration Statement No. 333-43192 of PDF Solutions, Inc. on Form S-1.

/s/ DELOITTE & TOUCHE LLP

San Jose, California July 31, 2001