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UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

SCHEDULE 13G

Under	The	Securities	Exchange	Act	of	1934
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(AMENDMENT NO. 1)\*

APA Optics Inc. \_\_\_\_\_\_ (Name of Issuer)

Common Stock

(Title of Class of Securities)

001853100

\_\_\_\_\_\_ (CUSIP Number)

December 31, 2003

(Date of Event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

> Rule 13d-1(b) \x\

\ \ Rule 13d-1(c)

\ \ Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

Page 1 of 7 Pages

13G

1	NAME OF REPORTING I S.S. OR I.R.S. IDEN					
_	13	-3958232				
2	CHECK THE APPROPRI	ATE BOX IF A MEMBER OF A GROUP*				
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_						
3	SEC USE ONLY					
4	CITIZENSHIP OR PLA	CE OF ORGANIZATION				
		Delaware				
-						
		5 SOLE VOTING POWER				
	NUMBER OF	492,500				
	SHARES BENEFICIALLY OWNED BY	6 SHARED VOTING POWER				
	EACH REPORTING	-				
	PERSON WITH	7 SOLE DISPOSITIVE POWER				
		492,500				
		8 SHARED DISPOSITIVE POWER				
<u>-</u> 9	AGGREGATE AMOUNT BE	 :NEFICIALLY OWNED BY EACH REPORTING	PERSON			
		492,500				
- 10	CHECK IF THE AGGRE	ATE AMOUNT IN ROW (9) EXCLUDES CER	TAIN SHARES*			
		-				
1:		PRESENTED BY AMOUNT IN ROW 9				
_		4.1%				
12	2 TYPE OF REPORTING I					
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	*SEE ]	NSTRUCTION BEFORE FILLING OUT!				
Cī	JSIP No. 001853100	13G	Page 3 of 7 Pages			
- 1		DFD SONI				
Τ	NAME OF REPORTING I S.S. OR I.R.S. IDEN	ERSON (TIFICATION NO OF ABOVE PERSON Robert E Kern Jr.				
		MODELC II METH UI.				

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP\*

3	SEC USE (	ONLY				
4	CITIZENSHIP OR	PLACE OF (	ORGANIZATIO	N		
		U.S.A.				
	_	5	SOLE VOTIN	IG POWER		
NUMBER ( SHARES I OWNED BY EACH	BENEFICIALLY	6	SHARED VOT	'ING POWER		
REPORTIN			492,500 -	· (See Schedule incorporate	e Item 4 ed by referenc	ee)
		7	SOLE DISPO	SITIVE POWER		
		8	SHARED DIS	POSITIVE POWER		
			492 <b>,</b> 500 -	(See Schedule	e Item 4 l by reference	)
9	AGGREGATE AMOUN	NT BENEFIC	IALLY OWNED	BY EACH REPOR	TING PERSON	
			492,500 -	- (See Schedule incorporated	e Item 4 d by reference	.)
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*					ES*
 11	PERCENT OF CLAS	SS REPRESEI	 NTED BY AMC 4.1%	DUNT IN ROW 9		
12	TYPE OF REPORT:	ING PERSON				
			IN 			
	*(	SEE INSTRU	CTION BEFOF	RE FILLING OUT!		
CUSIP No.	. 001853100			13G	Page 4 of	7 Pages
1	NAME OF REPORTS.S.S. OR I.R.S.	ING PERSON		ABOVE PERSON		
2 CHECK 1	THE APPROPRIATE	BOX IF A I	MEMBER OF P	A GROUP*	(e) (f)	
3	SEC USE ONLY				(1)	

4 CITIZENSHIP OR PLACE OF ORGANIZATION

	U.S.A.		
	5 SOLE VOTING POWER		
NUMBER OF	-		
SHARES BENEFICOUNED BY	TALLY6 SHARED VOTING POWER		
EACH REPORTING PERSON WITH	492,500 - (See Schedule Item 4 incorporated by reference)		
	7 SOLE DISPOSITIVE POWER		
	8 SHARED DISPOSITIVE POWER		
	492,500 - (See Schedule Item 4 incorporated by reference)		
9 AGGRE	CATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		
	492,500 - (See Schedule Item 4 incorporated by reference)		
10 CHECK	IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*		
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11 PERCEI	T OF CLASS REPRESENTED BY AMOUNT IN ROW 9		
	4.1%		
12 TYPE (	F REPORTING PERSON*		
	IN		
	*SEE INSTRUCTION BEFORE FILLING OUT!		
CUSIP NO. 0018	3100 SCHEDULE 13G Page 5 of 7 Pages		
ITEM 1 (a).	NAME OF ISSUER: APA Optics, Inc		
ITEM 1 (b).	ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES: 2950 N.E. 84th Lane Blaine, MN 55449		
ITEM 2 (c).	NAME OF PERSON FILING: Kern Capital Management, LLC ("KCM"), Robert E. Kern Jr.(R. Kern) and David G. Kern (D. Kern). R. Kern, D. Kern are Principals and controlling members of KCM.		
ITEM 2 (b).	ADDRESS OR PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE: The address of the principal business office of each reporting person is: 114 West 47th Street, Suite 1926, New York, NY 10036.		
ITEM 2 (c).	CITIZENSHIP: Reference is made to Item 4 of each of the cover page of this Schedule, which Items are incorporated by reference herein.		
ITEM 2 (d).	TITLE OF CLASS OF SECURITIES: Common Stock		
ITEM 2 (e).	CUSIP NUMBER: 001853100		
ITEM 3 (e)	THE PERSONS FILING THIS SCHEDULE, PURSUANT TO PARAGRAPH 240.13d-1(b) ARE A: (X) Investment Advisor registered under section 203 of the Investment Advisors Act of 1940.		

ITEM 4.

OWNERSHIP:

Reference is made to Items 5-9 and 11 of cover pages which Items are incorporated by reference herein.

R. Kern and D. Kern as controlling members of KCM may be deemed the beneficial owner of the securities of the company owned by KCM as of December 31, 2003 in that they might be deemed to share the power to direct the voting or disposition of the securities. Neither the filing of this Schedule nor any of its contents shall be deemed to constitute an admission that either R. Kern or D. Kern is, for any purpose, the beneficial owner of any such securities to which this Schedule relates, and such beneficial ownership is expressly denied.

CUSIP NO. 001853100

SCHEDULE 13G

Page 6 of 7 Pages

- ITEM 5. OWNERSHIP OF MORE THAN FIVE PERCENT OR LESS OF A CLASS:

  If this statement is being filed to report the fact that as of
  the date here of the reporting person has ceased to be the
  beneficial owner of more than five percent of the class of
  securities, check the following /X/.
- ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON:
  The shares reported are held in institutional accounts for the
  economic benefit of the beneficiaries of those accounts.
- ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY:

Not applicable.

- ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP: Not applicable.
- ITEM 9. NOTICE OF DISSOLUTION OF GROUP: Not applicable.
- ITEM 10. CERTIFICATION:

BY SIGNING BELOW I CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE SECURITIES REFERRED TO ABOVE WERE ACQUIRED AND ARE HELD IN THE ORDINARY COURSE OF BUSINESS AND WERE NOT ACQUIRED AND ARE NOT HELD FOR THE PURPOSE OF OR WITH THE EFFECT OF CHANGING OR INFLUENCING THE CONTROL OF THE ISSUER OF SUCH THE SECURITIES AND WERE NOT ACQUIRED AND ARE NOT HELD IN CONNECTION WITH OR AS A PARTICIPANT IN ANY TRANSACTION HAVING SUCH PURPOSES OR EFFECT.

## SIGNATURE:

AFTER REASONABLE INQUIRY AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, I CERTIFY THAT THE INFORMATION SET FORTH IN THIS STATEMENT IS TRUE, COMPLETE AND CORRECT.

David G. Kern

February 13, 2004	By:	/s/ John J. Crimmins	
DATED	ъу.	John J. Crimmins Senior Vice President Chief Financial & Operations Officer Kern Capital Management LLC	
	Bv:	/s/ Robert E. Kern Jr.	
	ъу.	Robert E. Kern Jr.	
		/s/ David G. Kern	

By:

\_\_\_\_\_

## EXHIBIT 1

## AGREEMENT AS TO JOINT FILING OF SCHEDULE 13G

This agreement is made pursuant to Rule 13d-1(f)(1) under the Securities and Exchange Act of 1934, as amended (the "Act"), by and among the parties listed below, each referred to herein as "Joint Filer". The Joint Filers agree that a statement of beneficial ownership as required by Section 13(d) of the Act and the Rules thereunder may be filed on each of their behalf on Schedule 13G and that said joint filing may thereafter be amended by further joint filings. The Joint Filers state that they each satisfy the requirements for making a joint filing under rule 13d-1.

February 13, 2004		/s/ John J. Crimmins  John J. Crimmins  Senior Vice President Chief Financial & Operations Officer Kern Capital Management LLC		
DATED	Ву:			
	Ву:	/s/ Robert E. Kern Jr.		
		Robert E. Kern Jr.		
	By:	/s/ David G. Kern		
	ъу.	David G. Kern		