

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the fiscal year ended March 31, 2003.

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

COMMISSION FILE NUMBER 0-16106

APA OPTICS, INC.  
(Exact Name of Registrant as Specified in its Charter)

MINNESOTA 41-1347235  
(State or other jurisdiction of incorporation (I.R.S. Employer  
or organization) Identification No.)

2950 N.E. 84TH LANE  
BLAINE, MINNESOTA 55449  
(763) 784-4995  
(Address, including ZIP code and telephone number, including area code, of  
registrant's principal executive office)

Securities registered pursuant to Section 12(b) of the Act:  
NONE

Securities registered pursuant to Section 12(g) of the Act:

COMMON STOCK, PAR VALUE \$.01 PER SHARE  
(TITLE OF CLASS)

SERIES B PREFERRED SHARE PURCHASE RIGHTS  
(TITLE OF CLASS)

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months and (2) has been subject to the filing requirements for the past 90 days.  YES  NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.  YES  NO

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act).

The aggregate market value of the voting and non-voting equity held by non-affiliates of the registrant, as of the last business day of the registrant's most recently completed second fiscal quarter [computed by reference to the price at which the common equity was last sold] [or the average bid or asked price of such common equity] was approximately \$18,811,345.

The number of shares of common stock outstanding as of June 12, 2003 was 11,872,331.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of our proxy statement for the annual shareholders meeting to be held in August 2003 are incorporated by reference into Part III.

PART I

ITEM 1. BUSINESS.

GENERAL DEVELOPMENT OF BUSINESS.

Since the founding of APA Optics, Inc. ("APA") in 1979, we have focused on leading edge research in gallium nitride (GaN), sophisticated optoelectronics and optical systems, with the primary goal of developing advanced products for subsequent fabrication and marketing. Based on this research we developed multiple products including fiber optic components for metro and access communications networks, a range of GaN based devices, and precision optical products. We believe that gallium nitride based devices have significant potential markets and we developed specific expertise and/or patent positions relevant to them. We have long been a designer and manufacturer of precision optical components and have substantial expertise in this area.

In addition to manufacturing and marketing products, we are actively

seeking to license certain portions of our intellectual property portfolio related to GaN to other companies. While we have had discussions with multiple companies, we have not entered into any license arrangements as of the date of this report. We consider the market for products anticipated to be produced under such licenses to be just now emerging, including applications for GaN based transistors for cell phone base stations.

Almost all telecommunications service providers and network equipment suppliers are experiencing severely reduced demand, which in turn as reduced demand for their fiber optic components. In this depressed market we have focused on identifying applications which are most likely to see growth, in particular, on applications and systems integrators who are addressing key bandwidth bottlenecks in the communications networks. The networks which are still underdeveloped are the metro and access networks. The metro and access networks place value on lower cost components, ease of installation, and remote configurability.

In this era of excess component manufacturing capacity, APA has chosen to avoid costly product development and capital expansion activity. Instead, APA is teaming with highly qualified cost efficient partners with limited market presence.

In the past year we worked on diversifying our optical fiber product offering to include new products for access and metro systems. We developed a line of arrayed waveguide grating (AWG) WDM products based on planar lightwave circuits. The new products are directed towards lower channel local WDM systems and FTTH access systems. APA is attracted to the access network construction due to the observed growth in FTTH and other broadband deployments.

Intense competition from Asian manufacturers has also impacted our optics manufacturing business due mainly to lower labor rates. Relatively high manual labor requirements, resulting in relatively higher manufacturing costs, may force us to limit or eliminate our optical manufacturing business activity.

In March 2003, our wholly owned subsidiary, APA Cables and Networks, Inc. ("APACN"), purchased assets from Computer System Products, Inc. ("CSP"). Founded in 1982, CSP's first product was a power distribution cable for use in computer rooms. Data products followed as a natural add-on to these types of projects and CSP became an early pioneer as a manufacturer and distributor in the data communications market. Core competencies in copper and fiber optics led the company into the telecommunications industry and opportunities continued to drive further product offerings. CSP grew organically from its inception through 2000 at a compound annual rate of 37%, operating profitably for the first 17 out of 20 years in business. At its peak, sales volume reached over \$ 42 million and the company employed almost 250 people.

During the industry downturn, CSP reorganized to reduce its operating costs by almost 70 percent by substantial head-count reduction, the sale of its distribution and power cable business (which accounted for approximately 50% of CSP's historic sales), consolidations of its manufacturing facilities and restructuring of its

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unsecured liabilities. APACN acquired the assets and some liabilities of this remaining business. APACN is a full-line manufacturer of standard and custom copper and fiber optic cable assemblies for service providers and original equipment manufacturers ("OEM"). This acquisition diversifies our product offerings, expands our opportunities for cross-selling our other products to former CSP customers and enables us to offer a more complete technology solution to all our customers.

We intend to deploy the assets in the same line of business. This acquisition diversifies our product offerings, expands our opportunities for cross-selling our other products to former CSP customers and enables us to offer a more complete technology solution to all our customers.

Since eliminating our R&D contracts in 2000 to focus on production of our proprietary products our revenues have decreased and our losses have increased. We anticipate that there will be opportunities to bid on R&D contracts in the GaN based transistor area in the coming fiscal year. When these opportunities coincide with our development plan we shall pursue these contracts. In order to successfully capture these contracts we anticipate partnering with other industrial and academic institutions that have skills and resources complementary to our own. In this way our core competencies and intellectual property can be leveraged with the most efficient use of our internal resources.

#### DESCRIPTION OF BUSINESS.

##### Proprietary Products

We currently offer the products described below.

- Fiber Optic Components. APA Optics provides passive optical components

for FTTP networking based on the Passive Optical Network (PON) architecture. The product line includes planar lightwave circuit (wavelength independent) optical splitters for PON FTTP networks, and fiber optic enclosures for locating passive splitters in the field.

APA has increased its WDM offerings to include thin film filter (TFF) WDM components for use in low channel count access and metro WDM systems for data, voice and CATV. The TFF components can also be deployed in field enclosures. APA also introduced an arrayed waveguide grating (AWG) module for cost effective, high channel count applications. In early FY 2004, we had our first AWG sale to a previous bulk grating customer. These products were introduced at 2003 Optical Fiber Conference.

The bulk grating modules have been put on hold. The price competition for these products is intense. In addition, it has been difficult for domestic manufacturing to compete with low cost off shore labor. We hold three patents in this field, the earliest of which was issued in September 1995. In addition we have two pending patents and numerous international filings covering key markets in Europe and Asia.

APA has increased the diversity of its fiber optics product set. We now offer planar lightwave circuit optical splitters for fiber to the home networks; thin film filter WDM components for use in CATV, telecommunication, and free space optics systems; and arrayed waveguide WDM components for higher channel count systems with advanced functions. APA identifies and qualifies low cost international suppliers of fiber optic components and adds value by characterizing performance, adding advanced features, and user friendly enclosures. The technical marketing and design skills at APA bring customized solutions to end users at competitive prices. Additionally, the MMF bulk grating WDM module supports high capacity data transmission through embedded multi mode fiber.

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- - Precision Optical Products. We manufacture and sell precision optical products to third parties; however, we expect a significant portion of our capacity to be used supplying components for our DWDM components in the future. Custom optical products include:

- Optical Lens Systems. We design and build multi-element lens systems and components, including mounting structures, for precision quality optical needs in many applications, including laser-based systems, imaging systems, inspection systems, display systems, display optics, focusing optics for ultraviolet fire alarms, alignment verification optics for dual magnetic recording heads, and multi-magnification optics systems for optical comparators.

- Optical Thin Film Coatings. We custom design, develop, and fabricate optical thin film coatings for optical components of lasers, laser systems, optical instruments, and optical devices. Our antireflective coatings are deposited onto Company-fabricated lens components. We also use our thin film coating facility to design, develop and fabricate coatings for lens components supplied by customers.

- Optical Windows and Flats. We manufacture standard, off-the-shelf, high quality, optical windows and reference flats.

- - Ultraviolet (UV) Detectors. We currently manufacture and sell a range of UV detectors. The UV detectors are high response compound semiconductor devices based on gallium nitride (GaN) and aluminum gallium nitride (AlGaIn). They are compact and rugged compared to competing technologies and have applications in spectrometry, UV curing processes, UV lamp monitors, solar radiation measurement, laser measurement and calibration, biomedical instrumentation, and flame detection and monitoring. We have been awarded seven patents in the area of compound semiconductor devices and have two patents pending. While we currently manufacture and sell UV detectors as components, our focus in this area is on value-added products built around the detectors. We introduced two such products in fiscal 2003 and will continue to actively market these:

- SunUV(R) Personal UV Monitor. The SunUV(R) Personal UV Monitor (formerly, SunUVWatch(R)) is a personal ultraviolet radiation (UV) monitor that also incorporates a time/day/date function. It detects UV radiation that is hazardous to human health. It keeps track of the total UV exposure of the user and estimates a maximum exposure time according to government guidelines based on skin type and widely-accepted research on UV exposure limits. Through fiscal 2003 we

continued to complete development of this product and introduced it at several trade shows for retailers in the golf and outdoors products markets. We believe that there are significant international markets for this type of product in addition to the US market. We expect to commit significant resources to the rollout of these products and, based on consumer response, may commit significant resources to expand our product offering in this area.

- TrUVMeter(TM). This product is targeted at industrial and ----- scientific users interested in measuring UV wavelengths with no sensitivity to visible or infrared (IR) light. The product consists of a detector on a cable that is connected to a computer, and software that allows the computer to operate like a meter and data-logging instrument. Example target markets are manufacturers of UV lamps, users of UV-cured inks and paints, and manufacturers of UV-based sterilization systems.

Our research and development efforts are currently focused on the products described below.

- - Compound Semiconductor Electronic Devices. We have been a pioneer in ----- the research of transistors based on GaN/AlGaN heterojunctions and are maintaining a R&D capability in this technology while assessing commercialization opportunities. There are significant markets emerging for these devices with the rapid growth of cellular phone use, the associated infrastructure, military remote sensing and communication, and in other high power/frequency/temperature applications. Two of our seven awarded patents in this technology are fundamental to the transistor structure. We continue to develop our intellectual property

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portfolio, filing a provisional patent application in November of 2002. Significant resources would be required should we choose to internally develop a full product line in this area. Our approach to developing products in this area will be to fully utilize our internal capabilities while seeking partners with complementary capability. We are currently in extended discussions with several industrial concerns negotiating licensing and outsourcing agreements. Outsourcing of processes that require extensive capital investment and development should allow us to concentrate on further developing products and intellectual property with more value added potential. Our ability to capture contracts and develop industrial partners will depend critically on our ability to grow epitaxial material on larger diameter substrates. While initial uniformity measurements have been encouraging, we cannot guarantee that we will be successful in these efforts.

#### Value-Added Products

APA identifies and qualifies low cost international suppliers of fiber optic components and adds value to their products by characterizing performance, adding advanced features, and user friendly enclosures. This process has the following advantages: rapid product introduction, reduced development cost, and reduced production costs. The technical marketing and design skills at APA bring customized solutions to end users through this partnering process. Activities involved in the partner selection process include technical product evaluation, ability to obtain Telcordia qualification, and on-site auditing of supplier facilities. We have applied this process toward the following products:

- - Passive Optical Splitters (wavelength independent). A new component ----- for APA, the passive optical splitter, has application in optical access networking, including Fiber-to-the-Premise, and Fiber-to-the-Home. Newly adopted standards for optical access networking have been adopted by an increasing number of networking equipment companies and telecommunications service providers. Network upgrades, pushing fiber closer to the end-user are being implemented successfully by independent telephone companies in rural settings and also in green field (new) housing developments. APA is also marketing optical fiber closures, for packaging optical splitters in the outside network environment. The products are offered together as a value-added, turnkey solution, making passive splitters ready for deployment into the outside network. Both new products are being sourced through offshore manufacturing partners, and contracts have been put in place to supply APA with these products.
- - Thin Film Filter WDM Components and AWG DWDM Components. APA has also ----- identified several low channel count thin film filter product lines. These products are used in CATV systems and metro telecom systems. APACN is already supplying cable products to many of the target CATV and metro telecom systems operators. Again using the value added model, we plan to provide customized products to systems operators at a competitive price.

APA has also introduced a line of arrayed waveguide grating WDM modules. AWG products are manufactured using cost effective silicon semiconductor processing techniques. During the second half of fiscal 2003, we identified a technically strong partner. A committed relationship was formalized early in fiscal 2003. The first products will be a 40 channel, 100 GHz channel spacing module followed by a 50 channel 50GHz module. APA has joined the international multi source agreement for thermally stabilized AWG modules that included NEL, Hitachi, Alcatel, NEC, JDSU and others. The finalized versions of 40 channel AWG modules will be released in 2004. AWG technology is especially attractive because multiple functions can be integrated into a single chip. These advanced functions are attractive for systems with remote configuration abilities and may be the topic of future joint development.

#### Marketing and Distribution

We market our DWDM and UV detector products through a variety of channels including advertising in relevant professional magazines, showcasing them in trade shows, direct mailing, personal visits, and by use of manufacturer's representatives and distributors domestically and in various countries (including Japan, Germany,

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Italy and France). Some of the fiber optic components will also be sold through APACN. Our DWDM products are sold through APA due to the more involved technical exchanges and longer sales incubation period. Potential leads are readily shared between the two organizations. We do not currently maintain a large internal sales force. We have one sales person dedicated to the SunUV(R) Personal UV Monitor and we also maintain product information on our website. Industrial acceptance of GaN based transistor products and our ability to license our intellectual property will critically depend on proven device reliability in addition to well documented initial performance. As such, we have focused our development efforts toward characterization and reliability investigation.

#### Sources of Raw Materials

Several purchased materials and components are used in the manufacturing of our products. Most of these are readily available from multiple suppliers. Some critical optical components are purchased from a single or a limited number of suppliers. We are working with other optical manufacturers to develop additional sources of these components as well as pursuing internal development of this capability for some of these components. The loss of access to some components would have a material adverse effect on our ability to deliver products on a timely basis and on our financial performance.

#### Patents and Intellectual Property

As of March 31, 2003, we had 12 patents issued in the United States and six patents applied for inside and outside the United States. We believe our success heavily depends upon technology we develop internally. We have made significant progress toward improving the active, strategic management of our intellectual property portfolio. The markets for our products are characterized by rapid change and continual innovation that could render our technology and patents obsolete before their statutory protection expires. Several of the companies we compete with have greater research and development resources than we do and could develop technologies and products that are similar or even superior to ours without infringing on our intellectual property.

#### Environmental Compliance

Because we handle a number of chemicals in our operations, we must comply with federal, state and local laws and regulations regarding the handling and disposal of such chemicals. To date the cost of such compliance has not been material.

#### Major Customers

In prior years, we provided research and development services under contracts with various governmental agencies. Currently, we have no material contracts with any such agencies. Two major customers accounted for 21% and 15% of the Company's sales for the year ended March 31, 2003. During fiscal year 2002, revenues from three customers represented 28%, 23% and 14% of our total revenues each. In fiscal 2001, we had three customers whose sales represented 19%, 16% and 15% of total revenues each. While significant as a percentage of revenues, the revenues in dollars were not significant and the loss of any one of these customers would not have a material adverse effect on the Company.

#### Backlog

We had no backlog of orders at March 31, 2003 or 2002 and approximately \$545,000 at March 31, 2001. APACN had a backlog of \$389,000 as of March 31, 2003.

#### Competition

The optoelectronics and compound semiconductor electronic device markets are evolving rapidly and, therefore, the competitive landscape changes continually. The opportunities presented by these markets have

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fostered a highly competitive environment. This competition has resulted in price reductions and lower profit margins for the companies serving this market. Many of the companies engaged in these businesses are well financed and have significantly greater research, development, production, and marketing resources than we do. Some of these companies have long operating histories, well-established distribution channels, broad product offerings and extensive customer bases. Our ability to compete with these companies will depend largely on the performance of our devices, our ability to innovate and develop solutions for our customers, our intellectual property, our ability to convince customers to adopt our technology early in their design cycle, and our ability to control costs

Competitors for our DWDM products include Lightwave Microsystems, Inc., NetTest, LightChip, Inc., Wavesplitter Technologies, Inc., Gould, Avanex, and JDS Uniphase Corporation. Competitors for our GaN products include SVT (GaN UV detectors), and various UV detector makers using silicon or other semiconductor materials that do not perform comparably to GaN but are lower-priced. We are not aware of any companies currently marketing a personal UV monitor with a combination of features, style and packaging equivalent to ours, although there are other manufacturers of this type of product in the US, Japan and Korea, and we have found several intellectual property for this general type of product. Newport, Melles Griot and Oriel offer scientific UV meters, some offering GaN detectors as an option. A number of firms offer lower-performance, lower-cost UV meters for industrial applications. Competitors for GaN/AlGaIn transistors, which are currently in the R&D phase at APA Optics, would include Cree, Inc., Nitronex Corporation, and RFMD Corporation, and some Japanese and European firms.

#### Research and Development

During the fiscal years ended March 31, 2003, 2002, and 2001, we spent approximately \$1,212,000, \$1,114,000, and \$1,176,000, respectively, on research and development, all of which was related to the DWDM, compound semiconductor electronic devices, UV detector and related products. We had no research activities sponsored by customers in fiscal years 2003, 2002 and 2001. We operate in highly competitive and rapidly evolving markets and plan to commit significant resources for research and development for the foreseeable future. We could locate research and development facilities in locations other than our current facilities in Minnesota and South Dakota based on several factors, including accessibility to qualified personnel and facility costs.

#### Employees

As of March 31, 2003, we had 44 full-time employees (including executive officers). Our future performance is dependent on our ability to attract, train, and retain highly qualified personnel. We have no employment agreements with our employees. The loss of one or more key employees could negatively impact the Company.

#### FACTORS THAT MAY AFFECT FUTURE RESULTS

The statements contained in this report on Form 10-K that are not purely historical are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including, without limitations, statements regarding the Company's expectations, hopes, beliefs, anticipations, commitments, intentions and strategies regarding the future. Forward-looking statements include, but are not limited to, statements contained in "Item 1. Business" and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations." Actual results could differ from those projected in any forward-looking statements for the reasons, among others, detailed below. We believe that many of the risks detailed here are part of doing business in the industry in which we compete and will likely be present in all periods reported. The fact that certain risks are characteristic to the industry does not lessen the significance of the risk. The forward-looking statements are made as of the date of this Form 10-K and we assume no obligation to update the forward-looking statements or to update the reasons why actual results could differ from those projected in the forward-looking statements.

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Unless we generate significant revenue growth, our expenses and negative cash flow will significantly harm our financial position.

We have not been profitable since fiscal 1990. As of March 31, 2003, we had an accumulated deficit of \$23.2 million. We may incur operating losses for the foreseeable future, and these losses may be substantial. Further, we may continue to incur negative operating cash flow in the future. We have funded our

operations primarily through the sale of equity securities and borrowings. We have significant fixed expenses and we expect to continue to incur significant and increasing manufacturing, sales and marketing, product development and administrative expenses. As a result, we will need to generate significantly higher revenues while containing costs and operating expenses if we are to achieve profitability.

Declining average selling prices for our fiber optic products will require us to reduce production costs to effectively compete and market these products.

Since the time we first introduced our fiber optic components to the marketplace we have seen the average selling price of fiber optic components decline. We expect this trend to continue. To achieve profitability in this environment we must continually decrease our costs of production. In order to reduce our production costs, we will continue to pursue one or more of the following:

- Seek lower cost suppliers of raw materials or components.
- Work to further automate our assembly process.
- Develop value-added components based on integrated optics.
- Seek offshore sources for assembly services.

We will also seek to form strategic alliances with companies that can supply these services. Decreases in average selling prices also require that we increase unit sales to maintain or increase our revenue. There can be no guarantee that we will achieve these objectives. Our inability to decrease production costs or increase our unit sales could seriously harm our business, financial condition and results of operations.

Demand for our products is subject to significant fluctuation. Market conditions in the telecommunications market in particular may harm our financial condition.

Demand for our products is dependent on several factors, including capital expenditures in the communications industry. Capital expenditures can be cyclical in nature and result in protracted periods of reduced demand for component parts. Similarly, periods of slow economic expansion or recession can result in periods of reduced demand for our products. The current economic slowdown has been more profound in the telecommunications market resulting in a significant reduction in capital expenditures for products such as our DWDMs and our fiber optic components. It is impossible to predict how long the slowdown will last. Such periods of reduced demand will harm our business, financial condition and results of operations. Changes to the regulatory requirements of the telecommunications industry could also affect market conditions, which could also reduce demand for our fiber optic components.

We may be required to rapidly increase our manufacturing capacity to deliver our products to our customers in a timely manner.

Manufacturing of our products is a complex and precision process. We have limited experience in rapidly increasing our manufacturing capacity or in manufacturing products at high volumes. If demand for our products increases, we will be required to hire, train and manage additional manufacturing personnel and improve our production processes in order to increase our production capacity. There are numerous risks associated with rapidly increasing capacity, including:

- Difficulties in achieving adequate yields from new manufacturing lines,
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- Difficulty maintaining the precision manufacturing processes required by our products while increasing capacity,
  - The inability to timely procure and install the necessary equipment, and
  - Lack of availability of qualified manufacturing personnel.

If we apply our capital resources to expanding our manufacturing capacity in anticipation of increased customer orders, we run the risk that the projected increase in orders will not be realized. If anticipated levels of customer orders are not received, we will not be able to generate positive gross margins and profitability.

Our dependence on outside manufacturers may result in product delivery delays.

We purchase components that are incorporated into our products from outside vendors. In the case of the SunUV(R) Personal UV Monitor, we supply components to an outside assembler who delivers the completed product. If these vendors fail to supply us with components or completed assemblies on a timely basis, or if the quality of the supplied components or completed assemblies is not acceptable, we could experience significant delays in shipping our products. Any significant interruption in the supply or support of any components or completed assemblies could seriously harm our sales and our relationships with our

customers.

Our products may have defects that are not detected before delivery to our customers.

Some of our products are designed to be deployed in large and complex optical networks and must be compatible with other components of the system, both current and future. In addition, our products may not operate as expected over long periods of time. Our customers may discover errors or defects in our products only after they have been fully deployed. In the case of the SunUV(R) Personal UV Monitor, a consumer product, customers could encounter a latent defect not detected in the quality inspection. If we are unable to fix errors or other problems, we could lose customers, lose revenues, suffer damage to our brand and reputation, and lose our ability to attract new customers or achieve market acceptance. Each of these factors would negatively impact cash flow and would seriously harm our business, financial condition and results of operations.

We must introduce new products and product enhancements to increase revenue.

The successful operation of our business depends on our ability to anticipate market needs and develop and introduce new products and product enhancements that respond to technological changes or evolving industry standards on a timely and cost-effective basis. Our products are complex, and new products may take longer to develop than originally anticipated. These products may contain defects or have unacceptable manufacturing yields when first introduced or as new versions are released. Our products could quickly become obsolete as new technologies are introduced or as other firms introduce lower cost alternatives. We must continue to develop leading-edge products and introduce them to the commercial market quickly in order to be successful. Our failure to produce technologically competitive products in a cost-effective manner and on a timely basis will seriously harm our business, financial condition and results of operations.

Our markets are characterized by rapid technological changes and evolving standards.

The markets we serve are characterized by rapid technological change, frequent new product introductions, changes in customer requirements and evolving industry standards. In developing our products, we have made, and will continue to make, assumptions with respect to which standards will be adopted within our industry. If the standards that are actually adopted are different from those that we have chosen to support, our products may not achieve significant market acceptance.

Our products may infringe on the intellectual property rights of others

Our products are sophisticated and rely on complicated manufacturing processes. We have received multiple patents on aspects of our design and manufacturing processes and we have applied for several more.

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Third parties may still assert claims that our products or processes infringe upon their intellectual property. Defending our interests against these claims, even if they lack merit, may be time consuming, result in expensive litigation and divert management attention from operational matters. If such a claim were successful, we could be prevented from manufacturing or selling our current products, be forced to redesign our products, or be forced to license the relevant intellectual property at a significant cost. Any of these actions could harm our business, financial condition or results of operations.

Acquisitions or investments could have an adverse affect on our business

In March 2003, we completed the acquisition of the assets of CSP as part of our strategy to expand our product offerings, develop internal sources of components and materials, and acquire new technologies. We intend to continue reviewing acquisition and investment prospects. There are inherent risks associated with making acquisitions and investments including but not limited to:

- Challenges associated with integrating the operations, personnel, etc., of an acquired company;
- Potentially dilutive issuances of equity securities;
- Reduced cash balances and or increased debt and debt service costs;
- Large one-time write-offs of intangible assets;
- Risks associated with geographic or business markets different than those we are familiar with; and
- Diversion of management attention from current responsibilities.

#### EXECUTIVE OFFICERS

The following is a list of our executive officers, their ages, positions and offices as of March 31, 2003.



NAME	AGE	POSITION
Dr. Anil K. Jain	57	Chief Executive Officer and President
Kenneth A. Olsen	59	Vice President and Secretary
David R. Peters	48	Chief Financial Officer

DR. ANIL K. JAIN has been a Director, Chief Executive Officer and President since March 1979. He also served as Chief Financial Officer until August 2000. From 1973 until October 15, 1983, when Dr. Jain commenced full time employment with the Company, he was employed at the Systems and Research Center at Honeywell Inc. as a Senior Research Fellow, coordinating optics-related development.

KENNETH A. OLSEN has been a Director since 1980, Secretary since 1983, and Vice President since 1992. Prior to joining the Company, he was with 3M Corp., St. Paul, Minnesota.

DAVID R. PETERS has been Chief Financial Officer since joining the Company in January 2003. Prior to joining the Company he was President and Senior Vice President of CSP and related companies, Plymouth, Minnesota, from May 1988 to December 2002. Prior to CSP, Mr. Peters was an auditor with Ernst & Young, LLP and McGladrey & Pullen, LLP.

ITEM 2. PROPERTIES.

We have corporate offices, manufacturing facilities, and laboratories located in an industrial building at 2950 N.E. 84th Lane, Blaine, Minnesota. We currently lease 23,500 square feet of space under a sublease from Jain-Olsen Properties, a partnership consisting of Anil K. Jain and Kenneth A. Olsen, officers and directors of the Company. See Note K of Notes to Financial Statements included under Item 8 hereof. We own land directly west of the Blaine facility that may be used for future expansion.

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We also own a 24,000 square foot production facility in Aberdeen, South Dakota, which is used for assembly of our DWDM components and UV detectors. The land upon which this facility is located was granted to us as part of a financing package from the city of Aberdeen. See Note E of Notes to Financial Statements included under Item 8 in this Report for further information regarding the financing of this facility.

In connection with our acquisition of assets from CSP, we entered into a month-to-month lease for a portion of a building previously occupied by CSP at a monthly rent of \$16,667. We or the landlord can terminate this lease on thirty days advance notice. We believe that we can acquire substitute space suitable for our needs at comparable rent. We currently do not intend to remain in this facility beyond September 30, 2003.

ITEM 3. LEGAL PROCEEDINGS.

We are not currently involved in any material legal proceedings.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY-HOLDERS.

No matter was submitted to a vote of security holders during the fourth quarter of the fiscal year covered by this Report.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS.

Our common stock is traded on The Nasdaq National Market under the symbol "APAT." The following table sets forth the quarterly high and low sales prices for our common stock for each quarter of the past two fiscal years as reported by Nasdaq.

FISCAL 2003	HIGH	LOW
Quarter ended June 30, 2002	\$ 2.02	\$1.80
Quarter ended September 30, 2002	1.65	1.15
Quarter ended December 31, 2002	1.62	1.33
Quarter ended March 31, 2003	1.33	1.27

FISCAL 2002	HIGH	LOW
Quarter ended June 30, 2001. . . . .	\$11.50	\$7.00
Quarter ended September 30, 2001 . . . . .	9.00	1.90
Quarter ended December 31, 2001. . . . .	3.44	2.00
Quarter ended March 31, 2002 . . . . .	4.83	2.40

There were approximately 356 holders of record of our common stock as of March 31, 2003.

We have never paid cash dividends on our common stock. The loan agreement relating to certain bonds issued by the South Dakota Economic Development Finance Authority restricts our ability to pay dividends.

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ITEM 6. SELECTED FINANCIAL DATA.

	2003	2002	2001	2000	1999
Statements of Operations Data:					
Revenues . . . . .	\$ 436,157	\$ 595,955	\$ 885,740	\$ 420,809	\$ 722,030
Net loss . . . . .	(5,009,434)	(4,738,199)	(3,261,446)	(3,796,296)	(2,513,798)
Net loss per share, basic and diluted	(.42)	(.40)	(.29)	(.43)	(.30)
Weighted average number of shares, basic and diluted . . . . .	11,873,914	11,896,976	11,180,165	8,744,125	8,512,274
Balance Sheet Data:					
Total assets . . . . .	\$31,833,696	\$36,396,410	\$41,914,451	\$ 9,610,391	\$ 6,804,976
Long-term obligations, including current portion. . . . .	2,173,682	2,461,363	2,836,831	3,049,258	3,214,712
Shareholders' equity . . . . .	28,918,943	33,504,917	38,280,299	6,306,049	3,389,295

The above selected financial data should be read in conjunction with the financial statements and related notes included under Item 8 of this Report and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing in Item 7 of this Report.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

GENERAL

We are engaged in designing, manufacturing, and marketing of various optoelectronic products, ultraviolet (UV) detectors and related products and optical components. For several years, we also received significant revenues from research and development services projects sponsored by various government agencies. In fiscal 1998, we shifted our emphasis from research and development to product development, with the intent to eventually manufacture and market our own proprietary products. Accordingly, revenues from research and development contracts decreased significantly in fiscal 2000 and we received no revenues from this source in fiscal years 2001, 2002 or 2003

For the last several years our goal has been to manufacture and market products/components based on our technology developments. We have focused on DWDM components for fiber optic communications and GaN based ultraviolet (UV) detectors (both components and integrated detector/electronic/display packages) because we believe that these two product areas have significant potential markets and because we have expertise and/or patent positions related to them.

APPLICATION OF CRITICAL ACCOUNTING POLICIES

We have reviewed our use of estimates in applying our accounting policies and determined that significant changes in our various estimates would not have a material impact on the presentation of our financial condition, changes in financial condition or results of operations. Accordingly, we do not consider any of our estimates to be "critical estimates" as defined in the rules of the Securities and Exchange Commission. See Note A of Notes to Financial Statements under Item 8 of our Report on Form 10-K for descriptions of the use of estimates in our accounting policies. Our management and the audit committee of our board of directors have discussed our use of estimates and have approved our disclosure relating to it in this report.

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In Note A of the Notes to the Financial Statements, the effect of recent promulgations of the Financial Accounting Standards Board (FASB) on the Company

are described. Management believes the adoption of Statements of Financial Accounting Standards (SFAS) Nos. 144, 145, 146 and 148, and Interpretation 45 (FIN 46) will not have a material effect on our financial position or results of operations.

#### CONTRACTUAL OBLIGATIONS

<TABLE>  
<CAPTION>

Our contractual obligations and commitments are summarized in the table below (in 000's):

	Total	Less than 1 Year	1-3 years	4-5 years	After 5 years
<S>	<C>	<C>	<C>	<C>	<C>
Long-term debt	\$2,173	\$ 1,847	\$ 150	\$ 36	\$ 140
Operating leases	300	162	138	-	-
Total Contractual Cash Obligations	\$2,473	\$ 2,009	\$ 288	\$ 36	\$ 140

</TABLE>

#### RESULTS OF OPERATIONS

We recognized operating revenues of \$436,157, \$595,955, and \$885,740 for the fiscal years ended March 31, 2003, 2002, and 2001, respectively. The decrease of \$159,798 or 27% from fiscal 2002 to 2003 was primarily the result of lower sales of DWDM components. The decrease of \$289,785 from 2001 to 2002 was also due to decreasing DWDM component sales. A reduction in capital spending in the telecommunications industry in addition to the United States recession significantly reduced demand for these components. APA Optics had no backlog of orders at the end of fiscal 2003 or 2002. Our backlog of DWDM component orders was approximately \$545,000 as of March 31, 2001. There were no contract fees in fiscal 2003, 2002 or 2001. APACN, our wholly owned subsidiary, had a backlog of \$389,329 at March 31, 2003. We expect to ship these orders in the first quarter. APACN's backlog consists of contracts acquired from CSP in March 2003.

As discussed in the General Development of the Business above, capital expenditures in the telecom industry are down significantly. Because of this, we expect revenues for at least the next few quarters to be consistent with fiscal year 2003.

Costs of sales were \$2,802,597, \$3,545,519, and \$2,663,192 for fiscal 2003, 2002 and 2001 respectively. The decrease of \$742,922 or 21% in the cost of sales from fiscal 2002 to 2003 was primarily due to the decrease in sales volume. The increase of \$882,327 or 33% in the cost of sales from fiscal 2001 to 2002 was largely the result of inventory obsolescence costs, increased depreciation related to capital equipment purchases and costs associated with implementing a quality assurance program. Gross margin for product sales was negative in all three fiscal years, reflecting continued increased personnel and manufacturing costs and relatively low sales. The negative gross margins are influenced by low unit production and sales levels relative to the capital equipment and personnel committed to production. We expect to continue to experience negative gross margins until there is a significant increase in sales and production levels. Cost of contract fees was eliminated as no contract research was performed in fiscal 2003, 2002 or 2001.

Research and development expenses were \$1,212,219, \$1,114,051, and \$1,175,564 for fiscal years 2003, 2002 and 2001 respectively. The increase of \$98,168 or 9% from fiscal 2002 to 2003 is due primarily to an increase in personnel and equipment costs for development of GaN based transistor products. We plan to expand our research and development and expect to incur increased expenses related to these activities in the future. The decrease of \$61,513 or 5% from fiscal 2001 to 2002 reflects a shift in personnel to manufacturing products from product development.

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Selling, general and administrative expenses were \$1,750,807, \$1,733,846, and \$1,866,766 for fiscal years 2003, 2002 and 2001, respectively. The decrease of \$132,920 or 7% from fiscal 2001 to 2002 and \$18,458 or 1% from fiscal 2002 to 2003 reflects our efforts to reduce expenses in response to the slow economy, including a reduction in staff in the third quarter of fiscal 2002. Our selling, general and administrative expenses could increase significantly with the planned rollout of our SunUV(R) Personal UV Monitor and our TRUVMETER(TM) in fiscal 2004.

We realized \$436,925, \$1,193,525, and \$2,002,713 in interest income in fiscal years 2003, 2002 and 2001, respectively. The decrease in interest income of \$809,188 or 40% from fiscal 2001 to 2002 and \$756,600 or 63% from fiscal 2002 to 2003 reflects the steep decline in short-term interest rates over the fiscal year and declining cash investments. We consumed a total of \$5.2 million and

\$9.3 million in cash in fiscal 2002 and 2003, respectively, to fund operations, purchase equipment, retire debt and acquire CSP. We expect interest income to decline again in fiscal 2004 because short-term interest rates will likely remain low and we will consume cash in operations.

Our net losses for fiscal 2003, 2002 and 2001 were \$ 5,009,434, \$4,738,199 and \$2,953,392, respectively.

#### LIQUIDITY AND CAPITAL RESOURCES

As of March 31, 2003, our principal source of liquidity was our cash, cash equivalents and short-term investments, which totaled \$22,235,686 compared to \$31,606,403 at March 31, 2002.

We used \$4,659,154 to fund operating activities during fiscal 2003 compared to \$3,753,553 in fiscal 2002, and \$2,230,867 in fiscal 2001. In all three years the largest use of cash in operating activities was the funding of the net losses. The net loss for fiscal 2003 expanded to \$4,974,015 from \$4,738,199 in fiscal 2002. The primary factors contributing to the increased loss from fiscal 2002 to 2003 were the decline in sales, the increase in research and development costs and the decline in interest income. The significant factors contributing to the increased loss from fiscal 2001 to 2002 were declining sales, lower interest income and higher inventory obsolescence.

In fiscal 2003 we used \$4,271,605 in investing activities, including \$3,828,000 used to purchase the assets of CSP. In fiscal 2002 we generated \$15,759,000 through the sale of short-term investments, and we invested \$1,050,274 in property and equipment and \$113,698 in patents, for a net increase in cash from investment activities of \$14,595,028. The majority of the proceeds from the sale of short-term securities are classified as cash and cash equivalents on the balance sheet as of March 31, 2002. We used \$16,995,645 in investing activities in fiscal 2001, \$15,759,000 of which was invested in short-term investments.

In fiscal 2003, we used \$439,958 in financing activities primarily to pay down long-term debt of \$437,467. We used \$460,564 in financing activities in fiscal 2002. Primary uses of cash included the repurchase of common stock for \$92,638 and the scheduled retirement of debt in the amount of \$375,478. In fiscal 2001 financing activities provided net cash of \$34,510,098. Sales of our common stock provided \$39,842,684, retirement of preferred stock used \$5,033,054 and the scheduled retirement of debt and additions to bond reserve funds used an additional \$299,532.

In connection with the construction of the manufacturing facility in Aberdeen, we took advantage of certain economic incentive programs offered by the State of South Dakota and the City of Aberdeen. At March 31, 2003, the total principal outstanding under bonds issued by the State of South Dakota was \$1,560,000. Interest on the bonds ranges from 5% to 6.75%, and the bonds are due in various installments between 2004 and 2016. These bonds require compliance with certain financial covenants. We were out of compliance with some of these covenants during part of fiscal 2001 and all of fiscal 2002 and 2003. For further information regarding these bonds, see Note E of Notes to Financial Statements included under Item 8 of this Report. Our capital requirements are dependent upon several factors including market acceptance of our products, the timing and

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extent of new product introductions and delivery, and the costs of marketing and supporting our products on a worldwide basis. See "Item 1. Business." Although we believe that our current cash, cash equivalents, and short-term investments will be sufficient to fund our operations for more than the next 12 months, we cannot assure you that we will not seek additional funds through public or private equity or debt financing or from other sources within this time frame, or that additional funding, if needed, will be available on terms acceptable to us, or at all. We may also consider the acquisition of, or evaluate investments in, products and businesses complementary to our business. Any acquisition or investment may require additional capital.

#### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio. We invest in short-term securities of high credit issuers with maturities ranging from overnight up to 24 months. The average maturity of the portfolio does not exceed 12 months. The portfolio includes only marketable securities with active secondary or resale markets to ensure liquidity. We have no investments denominated in foreign country currencies and, therefore, our investments are not subject to foreign exchange risk. See "Cash and Equivalents" and "Short-term Investments" under Note 1. of the Audited Financial Statements.

#### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

Quarterly Results of Operations. The following tables present our unaudited quarterly operating results for the eight quarters ended March 31, 2003:

<TABLE>  
<CAPTION>

		Quarter Ended			
		June 30, 2001	September 30, 2001	December 31, 2001	March 31, 2002
		----	----	----	----
Statement of Operations Data					
<S>	<C>		<C>	<C>	<C>
Net revenue . . . . .	\$	434,335	\$ 87,574	\$ 49,089	\$ 24,957
Gross profit (loss) . . . . .		(508,518)	(869,742)	(977,252)	(594,052)
Net loss . . . . .		(654,062)	(1,364,499)	(1,422,002)	(1,306,636)
Net loss per share . . . . .	\$	(0.05)	\$ (0.11)	\$ (0.12)	\$ (0.11)

		Quarter Ended			
		June 30, 2002	September 30, 2002	December 31, 2002	March 31, 2003
		----	----	----	----
Statement of Operations Data					
Net revenue . . . . .	\$	72,451	\$ 38,900	\$ 40,674	\$ 284,132
Gross profit (loss) . . . . .		(681,269)	(680,044)	(513,379)	(491,746)
Net loss . . . . .		(1,252,994)	(1,318,737)	(1,151,494)	(1,286,209)
Net loss per share . . . . .	\$	(0.11)	\$ (0.11)	\$ (0.10)	\$ (0.11)

<FN>

See Item 14(a)(1) for financial statements filed with this Report.

</TABLE>

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

On March 8, 2002, we terminated Ernst & Young LLP (E&Y) as auditor. The replacement of E&Y was recommended by our Audit Committee and adopted by our Board of Directors.

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E&Y's reports on our financial statements for the previous two fiscal years ended March 31, 2000 and March 31, 2001, did not contain any adverse opinion or disclaimer of opinion and were not qualified as to uncertainty, audit scope or accounting principles. During our two most recent fiscal years ended March 31, 2001 and the interim period through March 2, 2002, (i) there were no disagreements between us and E&Y on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure which, if not resolved to the satisfaction of E&Y, would have caused E&Y to make reference to the subject matter of the disagreement in connection with its reports and (ii) there were no "reportable events," as defined in Item 304(a)(1)(v) of Regulation S-K of the Securities and Exchange Commission (SEC). The decision to replace E&Y was not the result of any disagreement between us and E&Y on any matter of accounting principle or practice, financial statement disclosure or audit procedure.

Concurrently, on March 8, 2002, our Audit Committee recommended, and our Board of Directors approved, the appointment of Grant Thornton LLP (Grant) as our new independent accountant and auditor. Grant audited our financial statements to be included in the Form 10-K for the fiscal year ending March 31, 2003 and we intend to have Grant continue to serve as our independent accounting and audit firm for the fiscal year ending March 31, 2004. We did not consult with Grant on any matters related to accounting principles or practice, financial statement disclosures or audit procedures prior to selecting and appointing Grant as our auditor.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT.

Information regarding executive officers is included in Part I of this Report and is incorporated in this Item 10 by reference.

Information regarding directors and the information required by Items 11, and 13, below, is incorporated in this Report by reference to the proxy statement for our annual meeting of shareholders (anticipated to be held in

ITEM 11. EXECUTIVE COMPENSATION.

Information required by Item 11 is incorporated in this Report by reference to the proxy statement for our annual meeting of shareholders (anticipated to be held in August 2003).

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT.

Certain information required by Item 12 is incorporated in this Report by reference to the proxy statement for annual meeting of shareholders.

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<TABLE>  
<CAPTION>

	(a)	(b)	(c)
Plan category	Number of securities to be issued upon exercise of options, warrants or rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities
<S>	<C>	<C>	<C>
Equity compensation plans approved by security holders	408,375	\$4.27	1,065,888
Equity compensation plans not approved by security holders	590,822	\$13.52	Not applicable*
Total	999,197	\$9.91	1,065,888

<FN>

\* These securities are comprised solely of warrants that were not issued pursuant to any formal plan with an authorized number of securities available for issuance.

</TABLE>

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.

Information required by Item 13 is incorporated in this Report by reference to the proxy statement for our annual meeting of shareholders (anticipated to be held in August 2003).

ITEM 14. CONTROLS AND PROCEDURES.

- a. Evaluation of disclosure controls and procedures. The Company's chief executive officer and chief financial officer have concluded that the Company's disclosure controls and procedures (as defined in Exchange Act Rule 13a-14(c)) are sufficiently effective to ensure that the information required to be disclosed by the Company in the reports it files under the Exchange Act is gathered, analyzed and disclosed with adequate timeliness, accuracy and completeness, based on an evaluation of such controls and procedures conducted within 90 days prior to the date hereof.
- b. Changes in internal controls. There have been no significant changes in the Company's internal controls or in other factors that could significantly affect these controls subsequent to the date of the evaluation referred to above.

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PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K.

(a) (1) The following financial statements are filed herewith under Item 8

Page

(i) Report of Independent Certified Public Accountants  
for the years ended March 31, 2003, 2002 and 2001 . . . F1

(ii)	Report of Independent Certified Public Accountants for the year ended March 31, 2001 . . . . .	F2
(iii)	Balance Sheets as of March 31, 2003 and 2002. . . . .	F3
(iv)	Statements of Operations for the years ended March 31, 2003, 2002 and 2001 . . . . .	F4
(v)	Statement of Shareholders' Equity for the years ended March 31, 2003, 2002 and 2001 . . . . .	F5
(vi)	Statements of Cash Flows for the years ended March 31, 2003, 2002 and 2001 . . . . .	F7
(vii)	Notes to the Financial Statements at March 31, 2003 . .	F8

(2) Financial Statement Schedules: None

(b) Reports filed on Form 8-K:

<TABLE>  
 <CAPTION>  
 In the last quarter of our fiscal year ended March 31, 2003, we filed the following reports on Form 8-K

Date of Report	Date of Filing	Event Reported	Financial Statements Filed
<S> February 14	<C> February 14	<C> Earnings Release for 3rd Quarter	<C> None
March 5	March 5	Execution of agreement to acquire assets from Computer System Products, Inc.	None
March 28	March 28	Closing of purchase of assets of CSP	None

</TABLE>

(c) Exhibits. See Exhibit Index.

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 SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.  
 APA Optics, Inc.

Date: June 27, 2003                      By /s/ Anil K. Jain  
 \_\_\_\_\_  
 Anil K. Jain  
 President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<TABLE>  
 <CAPTION>

SIGNATURE	TITLE	DATE
<S> /s/ Anil K. Jain _____	<C> President, Chief Executive Officer, and	<C> June 27, 2003
Anil K. Jain	Director (principal executive officer)	
/s/ Kenneth A. Olsen _____	Secretary, Vice President, and Director	June 27, 2003
Kenneth A. Olsen		
/s/ David R. Peters	Chief Financial Officer (principal	June 27, 2003

-----		
David R. Peters	financial and accounting officer)	
/s/ John G. Reddan	Director	June 27, 2003
-----		
John G. Reddan		
/s/ Ronald G. Roth	Director	June 27, 2003
-----		
Ronald G. Roth		
/s/ Stephen A. Zuckerman MD	Director	June 27, 2003
-----		
Stephen Zuckerman		
</TABLE>		

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CERTIFICATION

I, Anil K. Jain, certify that:

1. I have reviewed this annual report on Form 10-K of APA Optics, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly represent in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. APA Optics, Inc.'s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for APA Optics, Inc. and we have:
  - a) Designed such disclosure controls and procedures to ensure that material information relating to APA Optics, Inc., including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) Evaluated the effectiveness of the our disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
  - c) Presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. APA Optics, Inc.'s other certifying officers and I have disclosed, based on our most recent evaluation, to our auditors and the audit committee of our board of directors:
  - a) There are no known deficiencies in the design or operation of internal controls which could adversely affect APA Optics, Inc.'s ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) There has been no known fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. APA Optics, Inc.'s other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

June 27, 2003

Signature: /s/ Anil K. Jain

Print Name: Anil K. Jain

Print Title: Chief Executive Officer



CERTIFICATION

I, David R. Peters, certify that:

1. I have reviewed this annual report on Form 10-K of APA Optics, Inc.;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly represent in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. APA Optics, Inc.'s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for APA Optics, Inc. and we have:
  - a) Designed such disclosure controls and procedures to ensure that material information relating to APA Optics, Inc., including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) Evaluated the effectiveness of the our disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
  - c) Presented in this quarterly report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. APA Optics, Inc.'s other certifying officers and I have disclosed, based on our most recent evaluation, to our auditors and the audit committee of our board of directors:
  - a) There are no known deficiencies in the design or operation of internal controls which could adversely affect APA Optics, Inc.'s ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) There has been no known fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. APA Optics, Inc.'s other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

June 27, 2003

Signature: /s/ David R. Peters

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Print Name: David R. Peters

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Print Title: Chief Financial Officer

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REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

-----

Board of Directors and Shareholders  
APA Optics, Inc.

We have audited the accompanying consolidated balance sheets of APA Optics, Inc. (the Company) as of March 31, 2003 and 2002, and the related consolidated statements of operations, shareholders' equity, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether

the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe our audits provide a reasonable basis for our opinion.

In our opinion the financial statements referred to above present fairly, in all material respects, the consolidated financial position of APA Optics, Inc. as of March 31, 2003 and 2002, and the consolidated results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note A to the consolidated financial statements, the Company adopted Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets," ("SFAS") on April 1, 2002.

/s/ Grant Thornton LLP

Minneapolis, Minnesota  
May 5, 2003

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Report of Independent Auditors

The Board of Directors and Shareholders  
APA Optics, Inc.

We have audited the accompanying balance sheet of APA Optics, Inc. as of March 31, 2001, and the related statements of operations, shareholders' equity, and cash flows for each of the two years in the period ended March 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of APA Optics, Inc. as of March 31, 2001, and the results of its operations and its cash flows for each of the two years in the period ended March 31, 2001, in conformity with accounting principles generally accepted in the United States.

/s/ Ernst & Young LLP

Minneapolis, Minnesota  
May 11, 2001

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<TABLE>  
<CAPTION>

APA OPTICS, INC.

CONSOLIDATED BALANCE SHEETS

MARCH 31,

ASSETS	2003	2002
<S>	<C>	<C>
CURRENT ASSETS		
Cash and cash equivalents	\$22,235,686	\$31,606,403
Accounts receivable, net of allowance for uncollectible at March 31, 2003 and 2002	468,576	20,613
Inventories, net	1,398,203	40,075
Prepaid expenses	134,045	103,588

Bond reserve fund	75,000	70,000
	-----	-----
Total current assets	24,311,510	31,840,679
PROPERTY, PLANT AND EQUIPMENT, net	3,989,344	3,748,004
OTHER ASSETS		
Bond reserve funds	340,629	349,129
Bond placement costs, net of accumulated amortization of \$300,000 and \$252,000 at March 31, 2003 and 2002	20,013	68,013
Patents, net of accumulated amortization of \$516,657 and \$347,998 at March 31, 2003 and 2002	85,362	169,890
Goodwill	2,500,296	-
Other	586,542	220,695
	-----	-----
	3,532,842	807,727
	-----	-----
	\$31,833,696	\$36,396,410
	=====	=====

</TABLE>

The accompanying notes are an integral part of these financial statements.

<TABLE>

<CAPTION>

	2003	2002
	-----	-----
LIABILITIES AND SHAREHOLDERS' EQUITY		
<S>	<C>	<C>
CURRENT LIABILITIES		
Current maturities of long-term debt	\$ 1,846,922	\$ 1,996,345
Accounts payable	454,804	127,926
Accrued expenses	286,267	302,204
	-----	-----
Total current liabilities	2,587,993	2,426,475
LONG-TERM DEBT, net of current maturities	326,760	465,018
COMMITMENTS AND CONTINGENCIES	-	-
SHAREHOLDERS' EQUITY		
Undesignated shares, 4,999,500 authorized shares; no shares issued and outstanding	-	-
Preferred stock, \$.01 par value; 500 authorized shares; no shares issued and outstanding	-	-
Common stock, \$.01 par value; 50,000,000 authorized shares; 11,872,331 and 11,875,881 shares issued and outstanding at March 31, 2003 and 2002	118,723	118,759
Additional paid-in capital	52,001,681	51,578,185
Accumulated deficit	(23,201,461)	(18,192,027)
	-----	-----
	28,918,943	33,504,917
	-----	-----
	\$ 31,833,696	\$ 36,396,410
	=====	=====

</TABLE>

<TABLE>

<CAPTION>

APA OPTICS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

YEARS ENDED MARCH 31,

	2003	2002	2001
	-----	-----	-----
<S>	<C>	<C>	<C>
Revenues	\$ 436,157	\$ 595,955	\$ 885,740
Costs and expenses			
Cost of sales	2,802,597	3,545,519	2,663,192
Research and development	1,212,219	1,114,051	1,175,564
Selling, general and administrative	1,750,807	1,733,846	1,866,766
	-----	-----	-----

	5,765,623	6,393,416	5,705,522
Loss from operations	(5,329,466)	(5,797,461)	(4,819,782)
Interest income	436,925	1,193,525	2,002,713
Interest expense	(115,893)	(132,263)	(135,323)
	321,032	1,061,262	1,867,390
Loss before income taxes	(5,008,434)	(4,736,199)	(2,952,392)
Income taxes	1,000	2,000	1,000
Net loss	(5,009,434)	(4,738,199)	(2,953,392)
Preferred stock dividend	-	-	(33,054)
Excess of preferred stock redemption over carrying value	-	-	(275,000)
Net loss applicable to common shareholders	<u>\$ (5,009,434)</u>	<u>\$ (4,738,199)</u>	<u>\$ (3,261,446)</u>
Net loss per share			
Basic and diluted	<u>\$ (0.42)</u>	<u>\$ (0.40)</u>	<u>\$ (0.26)</u>
Net loss per share attributable to common shareholders			
Basic and diluted	<u>\$ (0.42)</u>	<u>\$ (0.40)</u>	<u>\$ (0.29)</u>
Weighted average shares outstanding			
Basic and diluted	<u>11,873,914</u>	<u>11,896,976</u>	<u>11,180,615</u>

</TABLE>

<TABLE>  
<CAPTION>

APA OPTICS, INC.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

YEARS ENDED MARCH 31,

shareholders'	Preferred stock		Common stock		Additional	Accumulated	Total
	SHARES	AMOUNT	SHARES	AMOUNT	paid-in capital	deficit	equity
-----							
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Balance at March 31, 2000	500	\$ 5	8,997,992	\$ 89,980	\$16,408,446	\$ (10,192,382)	\$
6,306,049							
Issuance of common stock	-	-	2,845,868	28,459	39,528,845	-	
39,557,304							
Warrants exercised	-	-	64,646	646	252,584	-	
253,230							
Redemption of preferred stock	(500)	(5)	-	-	(4,724,995)	(308,054)	
(5,033,054)							
Warrants issued in lieu of debt	-	-	-	-	51,172	-	
service payments							
51,172							
Options exercised	-	-	6,950	70	32,080	-	
32,150							
Options issued as compensation	-	-	-	-	66,840	-	
66,840							
Net loss	-	-	-	-	-	(2,953,392)	
(2,953,392)							
-----							
Balance at March 31, 2001	-	-	11,915,456	119,155	51,614,972	(13,453,828)	
38,280,299							
Options exercised	-	-	5,125	51	25,245	-	
25,296							
Common stock repurchased	-	-	(43,200)	(432)	(92,206)	-	
(92,638)							
Options issued as compensation	-	-	-	-	45,414	-	

45,414						
Other	-	-	(1,500)	(15)	(15,240)	-
(15,255)						
Net loss	-	-	-	-	-	(4,738,199)
(4,738,199)						
-----						
Balance at March 31, 2002	-	-	11,875,881	118,759	51,578,185	(18,192,027)
33,504,917						
Common stock repurchased	-	-	(3,550)	(36)	(5,955)	-
(5,991)						
Aberdeen land grant					67,760	
67,760						
Options issued as compensation	-	-	-	-	(9,309)	-
(9,309)						
Warrants issued	-	-	-	-	371,000	-
371,000						
Net loss	-	-	-	-	-	(5,009,434)
(5,009,434)						
-----						
Balance at March 31, 2003	-	\$ -	11,872,331	\$118,723	\$52,001,681	\$ (23,201,461)
\$28,918,943						

The accompanying notes are an integral part of these financial statements.

<TABLE>  
<CAPTION>

APA OPTICS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

YEARS ENDED MARCH 31,

	2003	2002	2001
	-----	-----	-----
<S>	<C>	<C>	<C>
Cash flows from operating activities:			
Net loss	\$ (5,009,434)	\$ (4,738,199)	\$ (2,953,392)
Adjustments to reconcile net loss to net cash used in operating activities, net of acquisition:			
Depreciation and amortization	810,505	654,460	424,022
Deferred compensation expense	(9,309)	45,414	66,840
Changes in operating assets and liabilities, net of acquisition:			
Accounts receivable	(63,392)	350,246	(161,522)
Inventories	(130,889)	375,241	(138,791)
Prepaid expenses and other assets	(30,457)	(73,524)	(10,261)
Accounts payable and accrued expenses	(226,178)	(367,191)	542,237
Net cash used in operating activities	(4,659,154)	(3,753,553)	(2,230,867)
Cash flows from investing activities:			
Purchases of property and equipment	(359,474)	(1,050,274)	(1,128,453)
Purchases of short-term investments	-	-	(15,759,000)
Sale of short-term investments	-	15,759,000	-
Cash paid for business acquisition	(3,828,000)	-	-
Acquisition of patents	(84,131)	(113,698)	(108,192)
Cash paid for business acquisition	(3,828,000)	-	-
Net cash provided by (used in) investing activities	(4,271,605)	14,595,028	(16,995,645)
Cash flows from financing activities:			
Payments for redemption of preferred stock	-	-	(5,033,054)
Proceeds from sales of common stock	-	-	39,557,304
Repurchase of common stock	(5,991)	(92,638)	-
Proceeds from exercise of warrants and options	-	10,041	285,380
Payment of long-term debt	(437,467)	(375,468)	(161,255)
Bond reserve funds	3,500	(2,499)	(138,277)
Net cash provided by (used in) financing activities	(439,958)	(460,564)	34,510,098
Increase (decrease) in cash and cash equivalents	(9,370,717)	10,380,911	15,283,586
Cash and cash equivalents at beginning of year	31,606,403	21,225,492	5,941,906
Cash and cash equivalents at end of year	\$22,235,686	\$31,606,403	\$ 21,225,492
Supplemental cash flow information:			
Cash paid during the year for:			
Interest	\$ 115,893	\$ 132,263	\$ 135,323
Income taxes	1,000	2,000	1,000

Noncash investing and financing transactions:

Warrants issued in lieu of debt service payments	-	-	51,172
Contributed land	\$ 67,760	-	-
Issuance of warrants	371,000	-	-

</TABLE>

APA OPTICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

MARCH 31, 2003, 2002 AND 2001

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

-----

APA Optics, Inc. (the Company) manufactures and markets dense wavelength division multiplexer (DWDM) optical components, offers a range of gallium nitride-based devices, and manufacturers custom optics products.

The Company owns 100% of the stock of APA Cables and Networks, Inc. (APACN). APACN is a manufacturer of custom cable assemblies and supplier of premise cabling components and networking products to customers throughout the United States with a concentration in Minnesota.

Principles of Consolidation

-----

The consolidated financial statements include the accounts of APA Optics, Inc. and its wholly-owned subsidiary, APA Cables and Networks, Inc. ("APACN") All significant inter-company accounts and transactions have been eliminated in consolidation.

Revenue Recognition

-----

Revenue is recognized when the product has been shipped and accepted by the customer and collection is probable.

Cash and Cash Equivalents

-----

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. Investments classified as cash equivalents at March 31, 2003 and 2002 consist entirely of short-term money market accounts. Cash equivalents are stated at cost, which approximates fair value.

Accounts Receivable

-----

The Company grants credit to customers in the normal course of business, but generally does not require collateral or any other security to support amounts due. Management performs on-going credit evaluation of customers. The Company maintains allowances for potential credit losses when needed and, when realized, have been within management's expectation.

NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

Inventories

-----

Inventories are stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method for raw material, actual cost for direct labor, and average cost for factory overhead in work-in-process.

Property, Plant and Equipment

-----

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation and amortization are provided on the straight-line method over the following estimated useful lives of the assets:

Years  
-----

Equipment  
Leasehold improvements

3 - 10  
7 - 10

Bond Placement Costs

Bond placement costs relate to the issuance of bonds and are amortized over the life of the related bonds, or five to eight years.

Patents

Costs of obtaining and successfully defending patents are capitalized and amortized over three to five years.

Goodwill

Goodwill represents the excess of the purchase price over net assets acquired. In accordance with the adoption of Statement of Financial Accounting Standards (SFAS) No. 142, Goodwill and Intangible Assets, effective April 1, 2002, the Company reviewed the goodwill recorded during its acquisition (see Note B) and determined it to have an indefinite life. Accordingly, the Company did not record any amortization during fiscal 2003.

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NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

Stock-Based Compensation

The Company has various incentive and non-qualified stock option plans which are used as an incentive for directors, officers, and other employees, as described more fully in Note J. The Company uses the intrinsic value method to value stock options issued to employees, and the Company accounts for those plans under the recognition and measurement principles of APB Opinion No. 25, Accounting for Stock Issued to Employees, and related Interpretations. Under this method, compensation expense is recognized for the amount by which the market price of the common stock on the date of grant exceeds the exercise price of an option. The Company recognized compensation expense (income) of \$(9,309), \$45,414 and \$66,840 for the years ended March 31, 2003, 2002 and 2001. For those stock options granted where the exercise price was equal to the market value of the underlying common stock on the date of grant, no stock-based employee compensation cost is reflected in the net loss. Had the fair value method been applied, our compensation expense would have been different. The following table illustrates the effect on net loss and net loss per share if the Company had applied the fair value recognition provisions of SFAS No. 123, Accounting for Stock-Based Compensation, to stock-based employee compensation for the following fiscal years:

<TABLE>  
<CAPTION>

	March 31, 2003	March 31, 2002	March 31, 2001
Net loss to common shareholders - as reported	\$5,009,434	\$4,738,199	\$3,261,446
Less: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	153,266	273,516	339,852
Net loss - pro forma	\$5,162,700	\$5,011,715	\$3,601,298
Basic and diluted net loss per common share - as reported	\$ (.42)	\$ (.40)	\$ (.29)
Basic and diluted net loss per common share - pro forma	\$ (.43)	\$ (.42)	\$ (.32)

</TABLE>

The weighted average fair value of options granted in 2003, 2002 and 2001 was \$1.20, \$9.30, and \$11.30. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions used for grants in 2003, 2002 and 2001; zero dividend yield, risk-free interest rate of 3.2%, 4.5% and 6.0%; volatility of 77%, 132% and 93%, and a weighted-average expected term of the options of five years.

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NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

Fair Value of Financial Instruments  
-----

Due to their short-term nature, the carrying value of current financial assets and liabilities approximates their fair values. The fair value of long-term obligations, if recalculated based on current interest rates, would not significantly differ from the recorded amounts.

Net Loss Per Share  
-----

Basic net loss per share is computed by dividing net loss per common shareholder by the weighted average number of common shares outstanding. Diluted net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding and common share equivalents related to stock options and warrants, when dilutive.

Common stock options and warrants to purchase 999,197, 655,872 and 715,372 shares of common stock with a weighted average exercise price of \$6.50, \$10.15 and \$9.44 were outstanding during the years ended March 31, 2003, 2002 and 2001, but were excluded because they were antidilutive.

Use of Estimates  
-----

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, related revenues and expenses and disclosure about contingent assets and liabilities at the date of the financial statements. Actual results may differ from those estimates used by management.

Newly Adopted Accounting Standards  
-----

On April 1, 2002, the Company adopted SFAS No. 141, Business Combinations and SFAS No. 142, Goodwill and Intangible Assets. As a result of the adoption of SFAS No. 142, the Company will not amortize its goodwill. The Company reviewed goodwill for impairment in accordance with SFAS No. 142 and no impairment was identified. As of March 31, 2003, the Company has goodwill of \$2,500,296. The adoption of SFAS No. 141 and SFAS No. 142 did not have a material effect on the Company's consolidated financial statements or reporting of financial information.

In June 2002, the Financial Accounting Standards Board (FASB) issued SFAS No. 146, Accounting for Costs Associated with Exit or Disposal Activities. SFAS No. 146 addresses accounting and processing for costs associated with exit or disposal activities. SFAS No. 146 requires the recognition of a liability for a cost associated with an exit or disposal activity when the liability is incurred versus the date a company commits to an exit plan. In addition, SFAS No. 146 states the liability should be initially measured at fair value. The requirements of SFAS No. 146 are effective for exit or disposal activities that are initiated after December 31, 2002. The Company believes the adoption of SFAS No. 146 will not have a material effect on the consolidated financial position or results of operations.

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NOTE A - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - CONTINUED

In November 2002, the FASB issued FASB Interpretation No. 45 (FIN 45), Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others. FIN 45 addresses the disclosure requirements of a guarantor in its interim and annual financial statements about its obligations under certain guarantees that it has issued. FIN 45 also requires a guarantor to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. The disclosure requirements of FIN 45 are effective for the Company for the year ended March 31, 2003. The liability recognition requirements will be applicable prospectively to all guarantees



issued or modified after December 31, 2002. This pronouncement is not anticipated to have a material effect on the Company's consolidated financial position or results of operations.

In December 2002 the FASB issued SFAS No. 148, Accounting for Stock-Based Compensation-Transition and Disclosure. SFAS No. 148 amends the disclosure and certain transition provisions of SFAS No. 123, Accounting for Stock-Based Compensation. Its disclosure provisions, which apply to all entities with employee stock-based compensation, are effective for fiscal years ending after December 15, 2002. New interim period disclosures are also required in financial statements for interim periods beginning after December 15, 2002. Other than the additional disclosure requirements, this pronouncement is not anticipated to have a material effect on the Company's consolidated financial position or results of operations.

In January 2003, the FASB issued FIN No. 46 (FIN 46), Consolidation of Variable Interest Entities. FIN 46 is an interpretation of Accounting Research Bulletin No. 51, Consolidated Financial Statements, and addresses consolidation of business enterprises of variable interest entities. FIN 46 applies immediately to variable interest entities created or obtained after January 31, 2003 and it applies in the first fiscal year or interim period beginning after June 15, 2003, to variable interest entities in which an enterprise holds a variable interest that it acquired before February 1, 2003. This pronouncement is not anticipated to have a material effect on the Company's consolidated financial position or results of operations

On July 30, 2002, President Bush signed into law the Sarbanes-Oxley Act of 2002 (the "Act"), which immediately impacts Securities and Exchange Commission registrants, public accounting firms, lawyers and securities analysts. This legislation is the most comprehensive since the passage of the Securities Act of 1933 and Securities Exchange Act of 1934. It has far reaching effects on the standards of integrity for corporate management, board of directors, and executive management. Additional disclosures, certifications and procedures will be required of the Company. The Company does not expect any material adverse effect as a result of the passage of this legislation; however, the full scope of the Act has not yet been determined.

NOTE B - ACQUISITION

On March 14, 2003, the Company acquired certain assets and assumed certain liabilities of Computer System Products, Inc. The acquisition was accounted for as a purchase and, accordingly, results of operations relating to the purchased assets have been included in the statement of operations from the date of acquisition. The impact on operations was not material. There are no contingent payments related to the acquisition. This acquisition diversifies the Company's product offerings, expands its opportunities for cross-selling other products to former CSP customers and enables it to offer a more complete technology solution to all its customers.

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NOTE B - ACQUISITION- CONTINUED

The purchase price, assets acquired and liabilities assumed are as follows:

-----	-----
Accounts receivable	\$ 384,571
-----	-----
Inventory	1,227,239
-----	-----
Property, plant and equipment	402,799
-----	-----
Assets purchased	2,014,609
-----	-----
Trade accounts payable	239,187
-----	-----
Capitalized leases	149,786
-----	-----
Vendor restructuring payable	263,818
-----	-----
Accrued expenses	34,114
-----	-----
Less: Liabilities assumed	686,905
-----	-----
Net Assets	1,327,704
-----	-----
Goodwill	2,500,296
-----	-----
Purchase price	\$3,828,000
-----	-----

## NOTE C - INVENTORIES

Inventories consist of the following at March 31:

	2003	2002
	-----	-----
Raw materials	\$702,233	\$21,448
Work-in-process	155,138	18,627
Finished goods	540,832	-
	-----	-----
	1,398,203	\$ 40,075
	=====	=====

## NOTE D - PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following at March 31:

	2003	2002
	-----	-----
Land	\$ 127,760	\$ 60,000
Buildings	1,679,424	1,679,424
Manufacturing equipment	5,251,458	4,690,130
Tools	461,408	423,748
Office equipment	543,407	477,694
Leasehold improvements	1,065,645	968,073
	-----	-----
	9,129,102	8,299,069
Less accumulated depreciation and amortization	5,139,758	4,551,065
	-----	-----
	3,989,344	\$3,748,004
	=====	=====

5

## NOTE E - LONG-TERM DEBT

The following is a summary of the outstanding debt at March 31:

<TABLE>  
<CAPTION>

	2003	2002
	-----	-----
	<C>	<C>
South Dakota Governor's Office of Economic Development and the Aberdeen Development Corporation Bond, 5% to 6.75% due in various installments through 2016	\$ 1,560,000	\$ 1,630,000
Low interest economic development loans, 0% to 3%, due in various installments through 2016	246,944	264,583
Forgivable economic development loans, 3%, due in various installments through 2003	216,951	566,780
Other	149,787	-
	-----	-----
	2,173,682	2,461,363
Less current maturities	1,846,922	1,996,345
	-----	-----
	\$ 326,760	\$ 465,018
	=====	=====

&lt;/TABLE&gt;

The forgivable loans are contingent upon employment levels at the facility meeting preset criteria. As partial consideration for any loans forgiven, the Company will grant warrants to purchase common stock of the Company based on the number of job credits earned by the Company in the preceding 12 months divided by the exercise price. The exercise price of the warrants was set at \$4.00 for year one of the debt and the yearly grant exercise price increases one dollar each year until the debt matures in fiscal 2003. No loans were forgiven and no new warrants were issued in fiscal year 2003. As of March 31, 2003, 36,511 warrants have been issued for loans forgiven totaling \$187,289.

At March 31, 2003 and 2002, the Company had on deposit with trustees \$415,629 and \$419,129 in reserve funds for current bond maturities, of

which \$75,000 and \$70,000 are held in escrow. These funds are included in bond reserve funds in the accompanying balance sheets. The loan agreement requires the Company to maintain compliance with certain covenants. The Company was out of compliance with certain of these covenants in fiscal 2003. All debt, except for the long-term portion of the low interest loans, the forgivable loans, and the capital lease obligations, to which the covenant violation does not apply, has been classified as current due to the Company's covenant violation.

As part of the Company's plan to construct their production facility, the city of Aberdeen, South Dakota gave the Company land, contingent upon the Company staying in the new building through June 23, 2002. The Company satisfied this requirement in fiscal 2003 and recorded the contributed land with an assessed value of \$67,760 on the books as of March 31, 2003.

All of the above debt is secured by land, buildings, and certain equipment of the Company.

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NOTE E - LONG-TERM DEBT - CONTINUED

Scheduled maturities of the Company's long-term debt are as follows:

Years ending March 31,	
2004	\$1,846,922
2005	61,258
2006	63,675
2007	25,439
2008	17,639
Thereafter	158,749
	-----
	\$2,173,682
	=====

NOTE F - EMPLOYEE BENEFIT PLAN

The Company maintains a contributory 401(k) profit sharing benefit plan covering all employees. During fiscal year 2001, the Company started matching 50% of employee contributions up to 6% of a participant's compensation. The Company's contributions under this plan were \$51,000, \$53,000, and \$34,000 for the years ended March 31, 2003, 2002 and 2001.

NOTE G - INCOME TAXES

As of March 31, 2002, the Company has net operating loss carryforwards for federal income tax purposes of approximately \$22,265,000 which expire in fiscal years 2004 through 2023.

Deferred income taxes resulting from differences in accounting for items between financial statements and increase tax returns, along with net operating loss carryforwards, have been fully reserved. Significant components of the Company's deferred taxes at March 31 are as follows:

Income tax expense consists entirely of state taxes in 2003, 2002 and 2001.

NOTE H - SHAREHOLDERS' EQUITY

The Board of Directors may, by resolution, establish from the undesignated shares different classes or series of shares and may fix the relative rights and preferences of shares in any class or series.

In fiscal year 2003, the Board of Directors authorized the repurchase of up to the greater of \$2,000,000 or 500,000 shares of common stock. As of March 31, 2003 and 2002, a total of 46,750 and 43,200 shares for \$98,629 and \$92,638 at an average price of \$2.11 and \$2.14 per share, respectively, had been repurchased.

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NOTE H - SHAREHOLDERS' EQUITY - CONTINUED

In fiscal year 2001, the Company redeemed all 500 shares of its preferred stock in exchange for a \$5,033,054 cash payment. Also, the Company sold

2,845,868 shares of its common stock in a registered offering, resulting in net proceeds of \$39,557,304. The proceeds were used to fund operations.

NOTE I - SHAREHOLDER RIGHTS PLAN

Pursuant to the Shareholder Rights Plan adopted by the Company in 2001, each share of common stock has attached to it a right, and each share of common stock issued in the future will have a right attached until the rights expire or are redeemed. Upon the occurrence of certain change in control events, each right entitles the holder to purchase one one-hundredth of a share of Series B Junior Preferred Participating Share, at an exercise price of \$80 per share, subject to adjustment. The rights expire on November 10, 2010 and may be redeemed by the Company at a price of \$.001 per right prior to the time they become exercisable.

NOTE J - STOCK OPTIONS AND WARRANTS

Stock Options  
-----

The Company has various incentive and non-qualified stock option plans which are used as an incentive for directors, officers, and other employees. Options are generally granted at fair market values determined on the date of grant and vesting normally occurs over a six-year period. The plans had 1,065,888 shares of common stock available for issue at March 31, 2003.

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NOTE J - STOCK OPTIONS AND WARRANTS - CONTINUED

Option transactions under these plans during the three years ended March 31, 2003 are summarized as follows:

	Number of shares -----	Weighted average exercise price -----
Outstanding at March 31, 2000	292,500	\$ 4.49
Granted	160,000	10.06
Canceled	(48,375)	4.12
Exercised	(6,950)	4.64
	-----	
Outstanding at March 31, 2001	397,175	6.81
Granted	90,000	10.33
Canceled	(112,500)	7.79
Exercised	(5,125)	4.94
	-----	
Outstanding at March 31, 2002	369,550	7.40
Granted	167,500	1.88
Canceled	(128,675)	8.16
	-----	
Outstanding at March 31, 2003	408,375	4.27
	=====	

The number of shares exercisable at March 31, 2003, 2002 and 2001 was 165,325, 108,674 and 191,898, respectively, at a weighted average exercise price of \$5.42, \$4.68 and \$5.77 per share, respectively.

The following table summarizes information concerning currently outstanding and exercisable stock options at March 31, 2003:

Range of exercise prices -----	OPTIONS OUTSTANDING -----			OPTIONS EXERCISABLE -----		
	Number outstanding -----	Weighted average remaining contractual life -----	Weighted Average exercise price -----	Number outstanding -----	Weighted Average exercise price -----	
1.48-\$2.00	137,500	4.50 years	\$ 1.86	3,700	\$ 1.98	
3.77-5.53	176,375	1.64 years	4.34	125,875	4.26	
5.73-7.22	35,000	3.06 years	6.71	19,875	6.70	
8.50-11.90	29,500	3.44 years	9.29	6,125	11.10	

14.00-17.15	30,000	2.32 years	15.58	9,750	15.58
	-----			-----	
	408,375	2.90 years	4.27	165,325	\$ 5.42
	=====			=====	

The Company's 2003, 2002 and 2001 pro forma net loss and net loss per share would have been \$(5,162,700), \$(5,011,715) and \$(3,601,298) or \$(0.43), \$(0.42) and \$(0.32) loss per share had the fair value method been used for valuing options granted during 2003, 2002 and 2001. These effects may not be representative of the future effects of applying the fair value method.

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NOTE J - STOCK OPTIONS AND WARRANTS - CONTINUED

Stock Warrants

- - - - -

The following is a table of the warrants to purchase shares of the Company's common stock:

	Warrants outstanding	Exercise price per share	Expiration date
	-----	-----	-----
Balance at March 31, 2000	204,858	\$ 3.75 - \$49.47	2000-2005
Issued	177,985	7.00 - 17.84	2005-2006
Exercised	(64,646)	3.75 - 5.00	2000-2004
Balance at March 31, 2001	318,197	4.00 - 17.84	2002 - 2006
Expired	(31,875)	4.00	2002
	-----		
Balance at March 31, 2002	286,322	4.79 - 17.84	2002 - 2006
Issued	350,000	3.00	2008
Expired	(45,500)	3.75 - 5.00	2002
	-----		
Balance at March 31, 2003	590,822	3.00 - 17.84	2003 - 2008
	=====		

All warrants are exercisable upon date of grant.

In fiscal year 2003, warrants totaling 350,000 at a value of \$371,000 were issued in connection with the acquisition of the assets of Computer System Products, Inc. These warrants were valued by an independent firm and are exercisable at \$3.00.

In fiscal year 2001, warrants totaling 84,084 at a value of \$1,500,059 were issued in connection with the issuance of common stock as a cost of financing. These warrants were valued based upon the Company's stock price at the time of the transaction. An additional 7,310 warrants were issued in fiscal year 2001 related to the forgiveness of debt (see note E).

Additionally, in fiscal year 2001, 57,500 warrants were repriced at \$14.72 per share. In connection with the repricing, these individuals were issued 86,591 additional warrants also at \$14.72. The price of the warrants was based upon the value of the Company's stock price on the day of the transaction.

NOTE K - COMMITMENTS

The Company leases office and manufacturing facilities from a partnership whose two partners are major shareholders and officers of the Company. The lease agreement, classified as an operating lease, expires November 30, 2004 and provides for periodic increase of the rental rate based on increases in the consumer price index.

The Company leases certain equipment under capital lease arrangements with interest ranging from 0% to 10.62% and terms through July 2006. The equipment has a net book value of \$157,029 at March 31, 2003.

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NOTE K - COMMITMENTS - CONTINUED

The Company also leases warehouse space on month-to-month terms with 30 days written notice from either party needed to terminate the lease. The leases require payment of all operating expenses and real estate taxes over the life of the lease.

The following is a schedule of approximate minimum payments required under the capital and operating leases:

Year ending March 31 -----	Capital leases -----	Operating leases -----
2004	\$ 64,613	\$162,291
2005	51,668	108,280
2006	49,321	29,429
2007	7,963	294
	-----	-----
Total minimum lease payments	173,565	\$300,294
Less: Amounts representing interest	23,778	=====
	-----	
Present value of future minimum lease payments	149,787	
Less: Current portion	52,332	
	-----	
Capital lease obligations, net of current portion	\$97,455	=====

Rental expense was \$149,000, \$138,000 and \$135,000 for the years ended March 31, 2003, 2002 and 2001, of which \$139,000, \$138,000 and \$135,000 was paid to the partnership, respectively.

NOTE L - CONCENTRATIONS

Major Customers  
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Two major customers accounted for 21% and 15% of the Company's sales for the year ended March 31, 2003. Three major customers accounted for 28%, 23% and 14% of the Company's sales for the year ended March 31, 2002. Three different customers accounted for 19%, 16% and 15% of the Company's sales for the year ended March 31, 2001. These customers also accounted for approximately 6% and 52% of the outstanding trade receivable balance at March 31, 2003 and 2002.

Suppliers  
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Although the Company buys specific components from a limited number of suppliers, management believes that other suppliers could provide a similar component on comparable terms. A change in suppliers, however, could cause a delay in manufacturing and a possible loss of sales, which would affect short-term operating results adversely. There were no suppliers that provided more than 10% of the Company's total purchases in the years ended March 31, 2003, 2002 or 2001.

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NOTE M - SUBSEQUENT EVENT (UNAUDITED)

The Company announced that its subsidiary APACN completed an acquisition of assets from Americable, Inc. (Bloomington, MN) on June 27, 2003.

The assets will be integrated with assets acquired by APACN in March 2003 from Computer System Products, Inc. APACN manufactures standard and custom copper and fiber cable assemblies for service providers and original equipment manufacturers.

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<TABLE>  
<CAPTION>

EXHIBIT INDEX

NUMBER	DESCRIPTION	PAGE NUMBER OR INCORPORATED BY REFERENCE TO
-----		
<S>	<C>	<C>
3.1	Restated Articles of Incorporation, as amended to date	Exhibit 3.1 to Registrant's Report on Form 10-Q for the quarter ended September 30, 2000
3.2	Bylaws, as amended and restated to date	Exhibit 3.2 to Registrant's Report on Form 10-KSB for the fiscal year ended March 31, 1999
4.1(a)	State of South Dakota Board of Economic	Exhibit 4.1(a) to the Report on 10-

	Development \$300,000 Promissory Note, REDI Loan: 95-13-A	QSB for the quarter ended June 30, 1996 (the "June 1996 10-QSB")
4.1(b)	State of South Dakota Board of Economic Development Security Agreement REDI Loan No: 95-13-A dated May 28, 1996	Exhibit 4.1(b) to the June 1996 10-QSB
4.2(a)	700,000 Loan Agreement dated June 24, 1996 by and between Aberdeen Development Corporation and APA Optics, Inc.	Exhibit 4.2(a) to the June 1996 10-QSB
4.2(b)	300,000 Loan Agreement dated June 24, 1996 between Aberdeen Development Corporation and APA Optics, Inc.	Exhibit 4.2(b) to the June 1996 10-QSB
4.2(c)	250,000 Loan Agreement dated June 24, 1996 by and between Aberdeen Development Corporation and APA Optics, Inc.	Exhibit 4.2(c) to the June 1996 10-QSB
4.2(d)	300,000 Loan Agreement dated June 24, 1996 by and between Aberdeen Development Corporation and APA Optics, Inc.	Exhibit 4.2(d) to the June 1996 10-QSB
4.3(a)	Loan Agreement between South Dakota Economic Development Finance and APA Optics, Inc.	Exhibit 4.3(a) to the June 1996 10-QSB
4.3(b)	Mortgage and Security Agreement - One Hundred Day Redemption from APA Optics, Inc. to South Dakota Economic Development Finance Authority dated as of June 24, 1996	Exhibit 4.3(b) to the June 1996 10-QSB
4.4(a)	Subscription and Investment Representation Agreement of NE Venture, Inc.	Exhibit 4.4(a) to the June 1996 10-QSB
4.4(b)	Form of Common Stock Purchase Warrant for NE Venture, Inc.	Exhibit 4.4(b) to the June 1996 10-QSB
4.5(a)	Certificate of Designation for 2% Series A Convertible Preferred Stock	Exhibit 4.5(a) filed as a part of Registration Statement on Form S-3 (Commission File No. 333-33968)

NUMBER	DESCRIPTION	PAGE NUMBER OR INCORPORATED BY REFERENCE TO
4.5(b)	Form of common stock warrant issued in connection with 2% Series A Convertible Preferred Stock	Exhibit 4.5(b) filed as a part of Registration Statement on Form S-3 (Commission File No. 333-33968)
4.6	Common Stock Purchase Warrant issued to Ladenburg Thalmann & Co. Inc. to purchase 84,083 shares	Exhibit 4.6 to Registrant's Report on Form 10-K for fiscal year ended March 31, 2000 ("2000 10-K")
4.7	Share Rights Agreement dated October 23, 2000 by and between the Registrant and Wells Fargo Bank Minnesota NA as Rights Agent	Exhibit 1 to the Registration Statement on Form 8-A filed November 8, 2000
10.1(a)	Sublease Agreement between the Registrant and Jain-Olsen Properties and Sublease Agreement and Option Agreement between the Registrant and Jain-Olsen Properties	Exhibit 10.1 to the Registration Statement on Form S-18 filed with the Chicago Regional Office of the Securities and Exchange Commission on June 26, 1986
10.1(b)	Amendment and Extension of Sublease Agreement dated August 31, 1999	Exhibit 10.1(b) to 2000 10-K
*10.2(a)	Stock Option Plan for Nonemployee Directors	Exhibit 10.3a to Registrant's Report on Form 10-KSB for the fiscal year ended March 31, 1994 (the "1994 10-KSB")
*10.2(b)	Form of option agreement issued under the plan	Exhibit 10.3b to 1994 10-KSB
*10.3	1997 Stock Compensation Plan	Exhibit 10.3 to Registrant's Report on Form 10-KSB for the fiscal year ended March 31, 1997
*10.4	Insurance agreement by and between the Registrant and Anil K. Jain	Exhibit 10.5 to Registrant's Report on Form 10-K for the fiscal year ended March 31, 1990

*10.5	Form of Agreement regarding Repurchase of Stock upon Change in Control Event with Anil K. Jain and Kenneth A. Olsen	Exhibit 10.1 to Registrant's Report on Form 10-QSB for the quarter ended September 30, 1997 ("September 1997 10-QSB")
*10.6	Form of Agreement regarding Employment/Compensation upon Change in Control with Messrs. Jain and Olsen	Exhibit 10.2 to the September 1997 10-QSB
10.7	Form of Agreement regarding Indemnification of Directors and Officers with Messrs. Jain, Olsen, Ringstad, Roth, Von Wald and Zuckerman	Exhibit 10.7 to Registrant's Report on Form 10-K for the fiscal year ended March 31, 2002.
21	List of Subsidiaries	
23.1	Consent of Grant Thornton LLP	

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=====		
NUMBER	DESCRIPTION	PAGE NUMBER OR INCORPORATED BY REFERENCE TO
-----		
23.2	Consent of Ernst & Young LLP	
99.1	Certification of Chief Executive Officer	
99.2	Certification of Chief Financial Officer	

</TABLE>

\*Indicates management contract or compensation plan or arrangements required to be filed as an exhibit to this form.

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CONSENT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

We have issued our report dated May 5, 2003, accompanying the financial statements included in the Annual Report of APA Optics, Inc. on Form 10-K for the year ended March 31, 2003. We hereby consent to the incorporation by reference of said report in the Registration Statements of APA Optics, Inc. on Forms S-8 (File No. 333-74214, effective November 30, 2001; File No. 333-44500, effective August 25, 2000; File No. 333-44488, effective August 25, 2000; and File No. 333-44486, effective August 25, 2000).

/s/GRANT THORNTON LLP

Minneapolis, Minnesota  
June 27, 2003

Consent of Independent Auditors

We consent to the incorporation by reference in the Registration Statement (Form S-8 Nos. 333-44500, 333-44488, 333-44486, and 333-74214) of APA Optics, Inc. of our report dated May 11, 2001, with respect to the financial statements of APA Optics, Inc. for the year ended March 31, 2001 included in this Form 10-K.

/s/ Ernst & Young LLP

Minneapolis, Minnesota  
June 27, 2003

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO SECTION 906  
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of APA Optics, Inc. (the "Company") on Form 10-K for the period ending March 31, 2003, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Anil K. Jain, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Sec. 1350, as adopted pursuant to Sec. 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of operations of the Company.

Signature: /s/ Anil K. Jain

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Print Name: Anil K. Jain

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Print Title: Chief Executive Officer

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CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO SECTION 906  
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of APA Optics, Inc. (the "Company") on Form 10-K for the period ending March 31, 2003, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David R. Peters, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Sec. 1350, as adopted pursuant to Sec. 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of operations of the Company.

Signature: /s/ David R. Peters  
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Print Name: David R. Peters  
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Print Title: Chief Financial Officer  
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