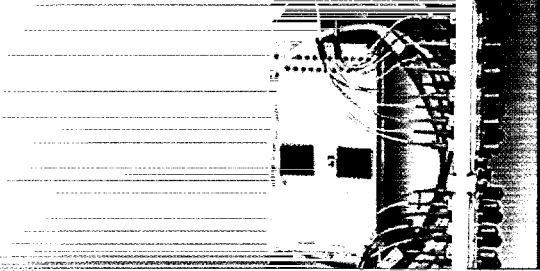
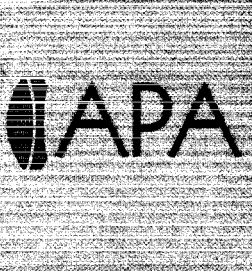


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annual report

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APA Optics, Inc. develops and markets wavelength division multiplexing/demultiplexing (DWDM) devices for optical communications and networking systems and gallium nitride (GaN) based ultraviolet radiation detection devices for commercial and industrial sales. The company also performs research activities in GaN based Heterojunction Field-effect Transistors (HFETs) with a goal of participating in the power amplifier market for base transmitter/receiver stations for cell phone communications. APA Cables & Networks, Inc., a wholly owned subsidiary of APA Optics, Inc. provides cable termination and management solutions for controlled and outside plant environments to telecommunications service providers, CATV operators, and original equipment manufacturers requiring copper and fiber optic connectivity.

## 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 2004	High	Low
Quarter ended June 30, 2003	\$2.70	\$1.23
Quarter ended September 30, 2003	3.04	2.07
Quarter ended December 31, 2003	2.99	2.00
Quarter ended March 31, 2004	3.27	2.19
Fiscal 2003	High	Low
Quarter ended June 30, 2002	\$2.83	\$1.75
Quarter ended September 30, 2002	2.50	1.44
Quarter ended December 31, 2002	1.87	1.27
Quarter ended March 31, 2003	1.30	1.78

There were approximately 351 holders of record of our common stock as of March 31, 2004.

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.

## Selected Financial Data

	2004	2003	2002	2001	2000
<b>Statements of Operations Data:</b>					
Revenues	\$ 11,909,465	\$ 436,157	\$ 595,955	\$ 885,740	\$ 420,809
Net loss applicable to common shareholder	(6,535,147)	(5,009,434)	(4,738,199)	(3,261,446)	(3,796,296)
Net loss per share, basic and diluted	(0.55)	(0.42)	(0.40)	(0.29)	(0.43)
Weighted average number of shares, basic and diluted	11,872,331	11,873,914	11,896,976	11,180,165	8,744,125
<b>Balance Sheet Data:</b>					
Total assets	\$25,844,991	\$31,844,526	\$36,396,410	\$41,914,451	\$ 9,610,391
Long-term obligations, including current portion	1,811,759	2,173,682	2,461,363	2,836,831	3,049,258
Shareholders' equity	22,363,061	28,918,943	33,504,917	38,280,299	6,306,049

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

## A LETTER TO SHAREHOLDERS:

To Our Shareholders, Employees and Customers:

Increased revenues and decreased costs were the main focus of our operations during fiscal 2004. The most significant changes made to achieve these goals have been the acquisition of Americable, Inc. along with the prior acquisition of the assets of Computer Systems Products, Inc. (CSP) during the later part of fiscal year 2003, and the discontinuation of our optics manufacturing operations. We integrated the acquired assets into a wholly-owned subsidiary, APA Cables & Networks, Inc. (APACN) and reduced their overhead through consolidation into a single facility with shared administration with APA Optics. The acquisitions have also resulted in substantially increased manufacturing activity in the Aberdeen facility. Additionally, we have been integrating our fiber optic components (DWDM and other optical components) with APACN's product line, and are utilizing the APACN sales team to market these components. This has resulted in substantial reductions in fiber optic operations costs within APA Optics during fiscal year 2004 as compared to the previous years. Among other key activities, the optics manufacturing operations were ceased during the start of the fourth quarter due to declining revenues caused by off-shore competition both in fiber optics and optics products.

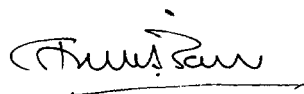
In addition to providing substantial revenues with existing lines, APACN is establishing its role in the Fiber-to-the-Premise (FTTP) market with the introduction of a line of fiber-to-the-home products, including a complete family of outside plant cabinets ranging in size from 144 to 576 ports supporting patch, splice and optical component configurations. Due to its' extensive knowledge in fiber management, APACN has been able to enter into design partnerships with companies that have a large industry presence but limited fiber knowledge within their organization. This has resulted in APACN being able to bring a superior product to market at an accelerated rate. Much of the deployment of FTTP solutions has been in the independent telephone market and the company has successfully sold into a broad range of sites, with many of the sites in early stage deployment with ongoing activity planned throughout 2005. These sites include Surewest Communications in northern California, Guadeloupe in Texas, Foothills Telephone in North Carolina, Paul Bunyan Telephone in northern Minnesota and Dickey Rural in North Dakota. APACN is tracking more than 40 additional FTTP deployment projects scheduled for installation over the next 18 months and is pursuing business with industry giants, such as SBC and Bell South, through a private label relationship.

While the acquisition, consolidation and new product activities at APACN have resulted in a substantial increase in revenues and reduced costs, our challenges for fiscal year 2005 and beyond are to attain profitability and further increase revenues. Profitability will be strongly dependent upon our ability to realize significant additional revenues from our Gallium Nitride-related (GaN) activities. We must generate revenues and profits from our GaN products that have been introduced or are nearing market introduction, namely the Personal UV Monitor (PUVM) and UV Meter. We incurred significant delays in ramping-up manufacturing and marketing of the PUVM due to several performance and manufacturing problems during fiscal 2004. Reliable manufacturing of a machined component caused much of the delay, but since the problem resulted in a possible customer perception of poor quality, we accepted the delay to resolve the issue. We are now shipping the product to customers in small volumes and are working with the off-shore manufacturer to achieve quality, high volume production. We delayed the introduction

of the UV meter to focus on the PUVMs as well as to reconfigure it for specific applications that appear to be very attractive markets, in particular for UV radiation printing and curing systems. We anticipate completion of the design and prototype build of the reconfigured UV meter by the end of the first quarter of fiscal year 2005.

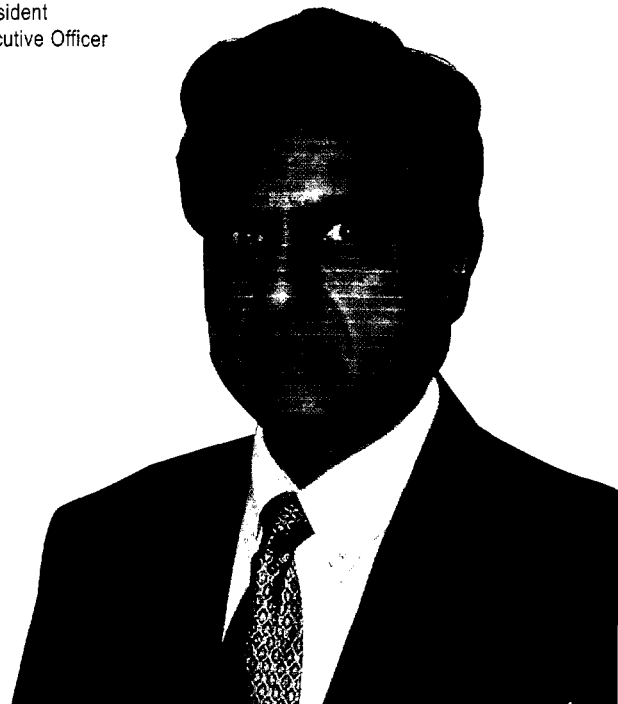
The purchase of our new multiwafer Metal Organic Chemical Vapor Deposition System (MOCVD) will help us expedite meeting the objective of realizing efficient power amplifiers based on our advanced transistors. (APA's original machines make one wafer at a time. The new machine handles as many as six 2-inch diameter wafers or three 3-inch wafers.) Having transferred a state-of-the-art device structure to the multiwafer platform in fiscal year 2004, the new MOCVD system provides a proven pilot production platform for transistor wafers. Working with industrial partners, transistors fabricated from demonstration material grown on the system show performance rivaling the best ever reported. This foundation gives us a significant advantage in demonstrating power amplifiers. In the near term for fiscal year 2005 the multi-wafer system will be very helpful in generating revenues by providing epitaxial layer growth foundry services. We are pursuing epitaxial foundry work for customers working in commercial and research applications. These customers offer opportunities for us to service markets beyond our primary objective of building high performance amplifiers. This increases the utilization of the new system without large increases in project scope and support.

We appreciate your continued support during the past year and going forward as we pursue our objectives of increased revenues and profitability through aggressive marketing of our products and services, and implementing cost-effective manufacturing.



Dr. Anil K. Jain

Chairman, President  
and Chief Executive Officer



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# APA Cables & Networks

## Successfully Enters the Fiber to the Premise Market

The days of talking about the emergence of FTTP are over as FTTP is already here. FTTP presents a mindset shift in the telecommunications industry. Before FTTP, the termination blueprint started at a Central Office, usually far from the end customer. But with FTTP, the architecture requires that the termination migrate closer to the customer, sometimes within a few feet! This requires more ruggedized materials and an emphasis on outside plant requirements.

APA Cables & Networks (APACN) has positioned itself for this shift by becoming the first manufacturer of 900 micron cable assemblies to be tested at Teicordia Laboratories to determine conformance to GR-326 standards. As confirmed by Teicordia's test results, APACN's GR-326 tested termination assumes optical performance stability throughout the lifetime of the termination, even in extreme environments of -40 to +85 C.

In addition, APACN fiber distribution panels and frames have been designed to seamlessly integrate with optical components to combat the three issues facing deployment into the FTTP network: optimization of space, performance and price. The result is that while many Local Exchange Carriers expect full deployment of their FTTP programs in the upcoming years, APACN has already successfully worked with a number of telecommunications service providers who are currently deploying FTTP solutions. These groups include but aren't limited to:

**Foothills Rural Telephone Cooperative**—Located in Staffordsville, KY, offering advanced telecommunications services to the surrounding community.

**Paul Bunyan Telephone Cooperative**—Serves over 3,300 square miles of Northern Minnesota with local telephone service, Paul Bunyan Long Distance, Internet services through Paul Bunyan Net, wireless telephone service, and all digital television services through Paul Bunyan Television.

**Surewest Communications**—Located in Sacramento, California, Surewest Communications is one of the largest FTTP installations in the country.

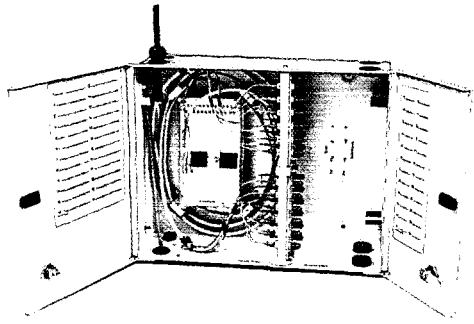
## A Note on our History

APACN completed the purchase of certain assets of Americable, Inc. in June 2003. Teamed with the existing operation which was created with the acquisition of Computer Systems Products (CSP) in March of 2003, Americable's fiber and copper termination services and family of fiber distribution frames and panels complemented the APACN product line and expanded its market reach. Today, APACN offers a broad range of telecommunications equipment and products developed from over 20 years of product expertise acquired in the CSP and Americable acquisitions. Its broad range of product offerings include the design and manufacture of standard and custom connectivity products such as fiber distribution systems, optical components, and fiber and copper cable assemblies that are utilized nation-wide and are sold into two unique market segments:

*Broadband service provider and commercial data networks, to which the company provides APACN custom fiber distribution systems, associated cable assemblies and optical components; and*

*Original equipment manufacturers, to which the company primarily provides fiber optic and copper cable assemblies produced to customer design specifications.*





## A Few Details on the Product Line

APACN designs and manufactures a complete line of passive fiber optic connectivity solutions centered upon its Fiber Distribution System. This product line supports a wide range of panel configurations, densities, connectors and adapter options and is offered alongside an assortment of optical components. The company also offers a range of standard and custom fiber optic and copper cable assemblies.

•Fiber Distribution Systems. APACN Fiber Distribution Systems are high density, easy access fiber distribution panels and cable management systems that are designed to reduce installation time, guarantee bend radius protection and improve traceability. The product-line fully supports a wide range of panel configurations, densities, connectors, and adapters that can be utilized on a stand-alone basis or integrated into the panel system. The unique interchangeable building block design delivers feature-rich solutions that are able to meet the needs of a broad range of network deployments.

•Optical components. APACN packages optical components for signal coupling, splitting, termination, multiplexing, de-multiplexing and attenuation to seamlessly integrate with the APACN Fiber Distribution System. This value-added packaging allows the customer to source from a single supplier and reduces space requirements. The products are built and tested to meet GR-326 and GR-1209 standards for trouble-free performance in extreme outside plant (OSP) environments.

•Cable Assemblies. APACN manufactures high quality fiber and copper assemblies with an industry-standard or customer-specified configuration. Assemblies built include but are not limited to: single mode fiber, multimode fiber, multi-fiber, CATV node assembly, DS1 Telco, DS 3 (734/735) coax, Category 5e and 6, SCSI, Token Ring, and V.35.

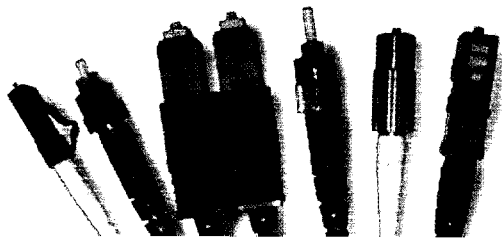
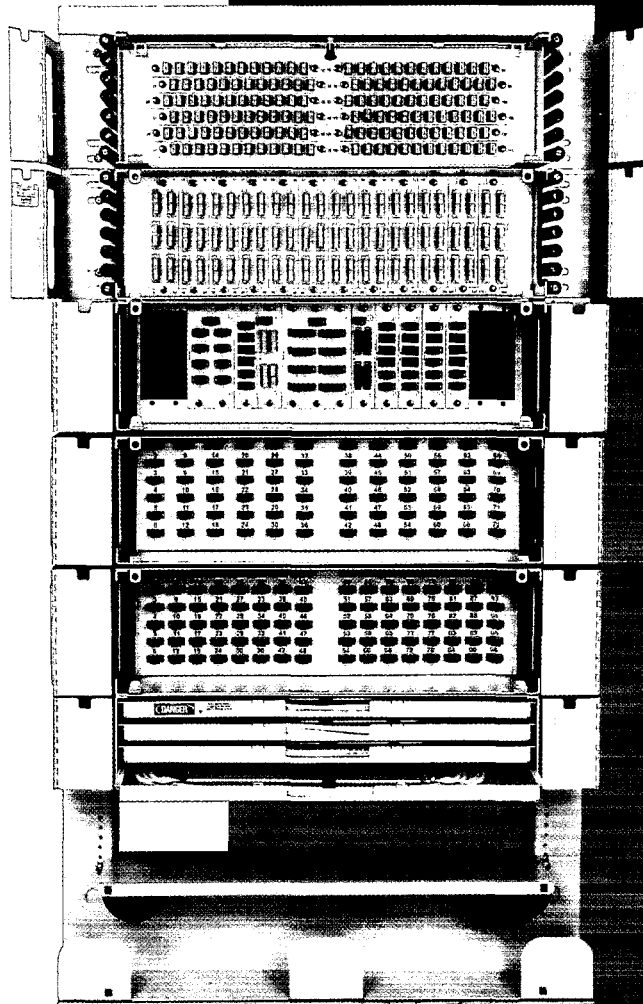
In a marketplace where price points can be crucial to securing business, APACN has created an expanded fiber patch cord line within its cable assembly business to meet any performance or cost need:

Platinum – High-end, made-to-order cable, ideal when only the ultimate level of performance will do, such as harsh outside plant applications

Gold – Provides the reliability and reputation of both Corning connectors and Corning fiber

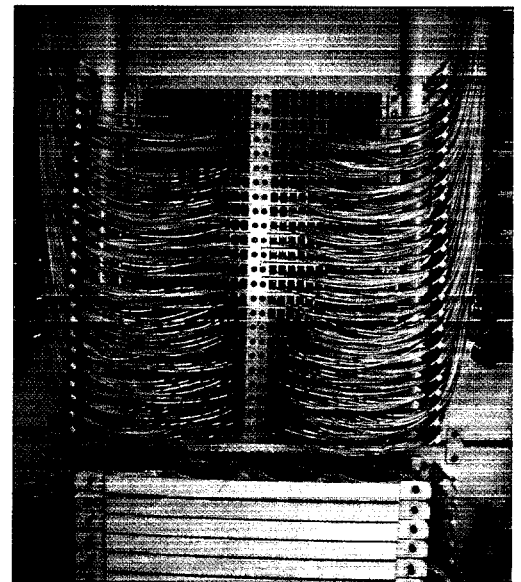
Silver Custom – Used when a hybrid cable is desired in a relatively standard network environment

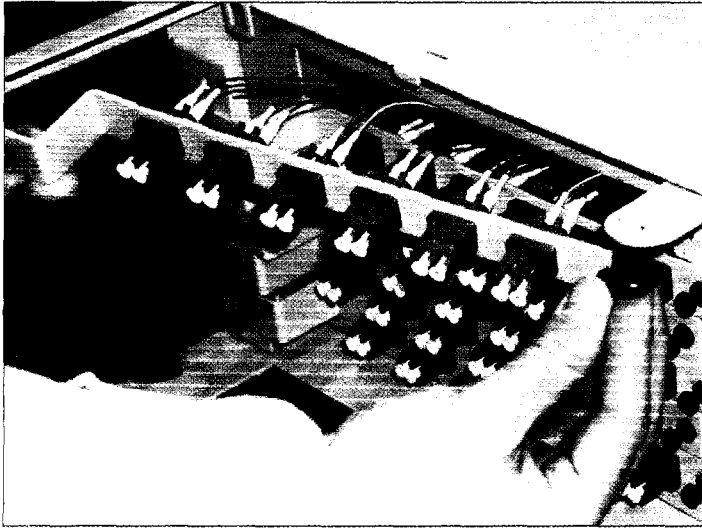
Silver Standard – Optimal off-the-shelf solution for the most cost sensitive projects



# Highlights of the Past Year

- APACN relocated its headquarters reducing floor space by over 50% and allowed for the streamlining of the company IT systems. In addition, APACN was able to optimize time and cost efficiencies by sharing administrative overhead resources with APA Optics.
- To satisfy customer demands for quick-turn quality product, APACN has built a relationship with the APA Optics' manufacturing team in Aberdeen, South Dakota. Under the direction of the APACN engineering and manufacturing operations, the Aberdeen facility produces both fiber and copper assemblies and provides a core-team for specialty copper termination. The availability of the Aberdeen facility and its quality work force allows APACN to respond to strong customer demand while accessing the very competitive local labor pool.
- As the out-sourcing model continues to permeate the manufacturing world, APACN established itself as a low-volume, high-mix subcontract manufacturing option for large scale electro-mechanical manufacturing operations, resulting in substantial growth in sales in this segment during the last six months of the year.
- Introduced to the broadband service provider market, the industry's highest density fiber distribution panels with integrated slack management. Product line has beaten the competition in head-to-head comparisons in some of the country's most demanding independent telephone and cable TV operations.
- Re-established the ISO 9001 certification for APACN that had previously been earned independently by CSP and Americable.



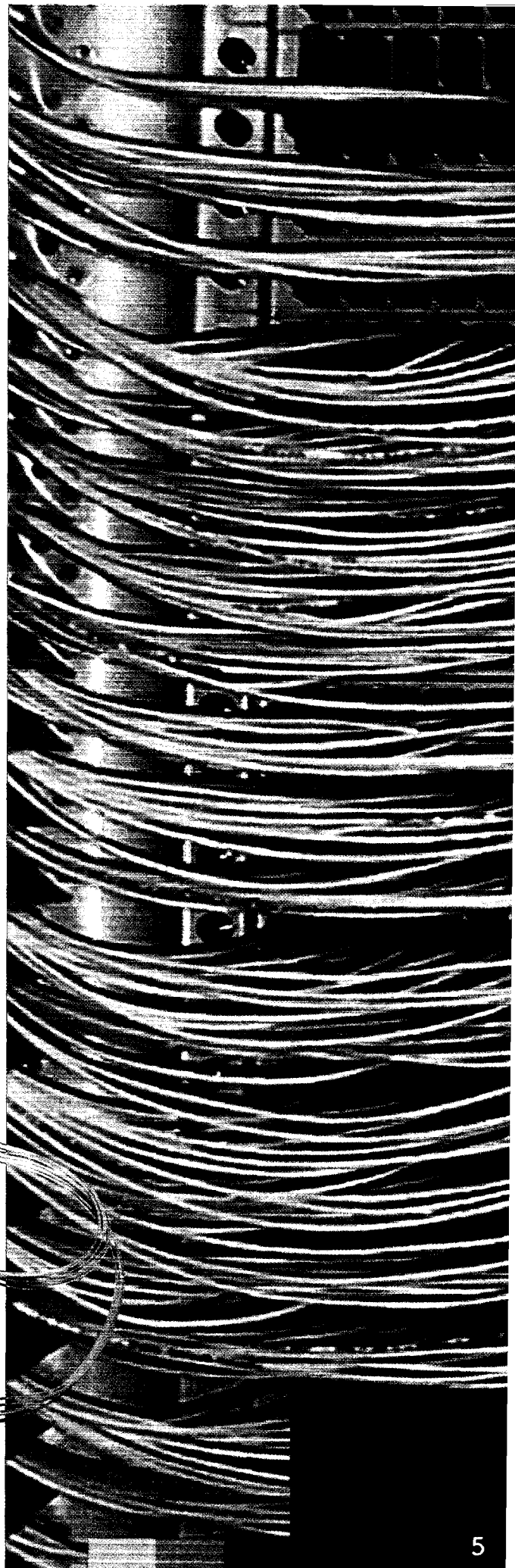
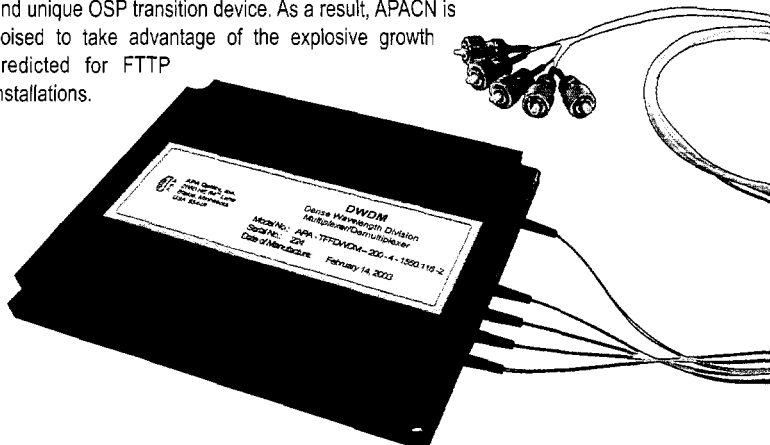


## Moving Forward

APACN plans to aggressively add to its line of fiber distribution equipment and accelerate the time to market through a combination of in-house development and strategic partnerships. In the months ahead, APACN plans to introduce a complete line of modular fiber distribution and fiber management solutions that will uniquely respond to the scalability requirements of an FTTP environment. Recognizing that FTTP networks may experience low "take-rates" upon installation but require the need to "light" additional homes as service is requested, the APACN product line provides a "grow-as-you-go" deployment methodology.

APACN fiber connectivity expertise has been recognized by the market, and as a result is being invited to work in partnership with other experts in the field. The Network Components division at Marconi Communications Inc., a global equipment provider, has chosen APACN with whom to co-develop a line of cabinets designed for FTTP deployment. Engineered around APACN's Fiber Distribution System, each cabinet utilizes field-tested designs to maximize bend radius protection, connector access, ease-of-cable routing and physical protection. Working with Marconi allows APACN to reduce its development costs and quicken the time to market while giving the product more market visibility and faster customer acceptance.

Key to successful sales into the FTTP market will be providing integrated optical components. APACN is working with the leaders in the optical component market, including WDM and splitter technology from APA Optics, to integrate the required passive optical components with APACN's proprietary OSP termination process and unique OSP transition device. As a result, APACN is poised to take advantage of the explosive growth predicted for FTTP installations.





# SunUV Personal UV Monitor—

## Rollout Continues

APA Optics continued to roll out the SunUV Personal UV Monitor (PUVM), introducing the product into some well-known retail outlets and catalogs while working through production startup challenges.

Channels now include retailers such as the Walking Company and catalogs from REI, Red Envelope and SkyMall. A number of other well known US-based retailers and catalogs have indicated serious interest. There is significant international interest also, with distributors from Australia, New Zealand and Europe expressing strong enthusiasm to carry the line.

The product line was successfully exhibited at the Outdoors Retailers Expo, PGA Merchandise Show and the International Housewares Show, a major trade event in Chicago attended by many of the retail and catalog channels for products for the home.

Internet sales and QVC television sales are also planned to play a role in promoting and selling the SunUV monitor. Marketing tie-ins with makers of sunscreen products will be pursued to help carry the message of sun protection to the public.

Promotion also continued for the SunUV monitor.

NBC's Chicago affiliate featured the product for its 2.5 million viewers as part of coverage of the Housewares Show. It is scheduled to be featured on the Weather Channel in July in a "Day at the Beach" segment.

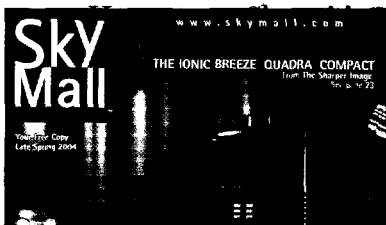
Production ramp-up caused a delay in meeting our goals for the product as the China-based manufacturer sorted through a number of functional and cosmetic quality concerns. Considerable progress has been made resolving these, and we are continuing to address the issues necessary to move into high volume manufacturing. PUVMs are being manufactured, inspected and shipped to customers in small volumes and we are working with our off-shore manufacturers to achieve large volume manufacturing with minimal inspection.

Our target market for the SunUV monitor is people working or playing outdoors who are interested in monitoring exposure to harmful UV radiation. Four styles of SunUV monitor are offered, two metal "clip-on" models, a plastic wrist version and a plastic leather-backed clip-on. Attractive packages for outdoor and more general retailers have been designed. (See inset photos). These display the product fully, explain how it works and differentiate it from a standard watch. A User's Guide is included with each monitor, providing buyers with educational background information on UV radiation in addition to instructions on using the product.

With significant design and production issues resolved as we enter the new fiscal year, we believe that fiscal 2005 will see a solid sales ramp-up of the personal UV monitor product line.

# What's the buzz?

At the International Home



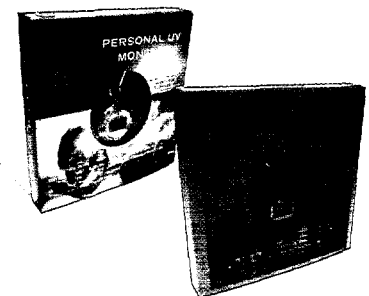
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from across the country peered into  
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After all, we could co-

big-screen TVs and our spas,  
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still only for so long. So like  
busy, embracing hobbies  
including scrapbooking,  
gardening.

BUZZ!





# Exciting Times For HFET Development Efforts...

Fiscal year 2004 has been an exciting time for the HFET development effort at APA Optics, Inc. Our plans were to demonstrate the feasibility of a high power GaN HFET for power amplifier cellular base station applications. Specifically, our goals were to:

- Grow high performance HFET structures on silicon carbide (SiC) substrates
- Process the HFET structure to build HFETs
- Characterize the on-wafer HFETs to demonstrate their performance for power amplifier applications

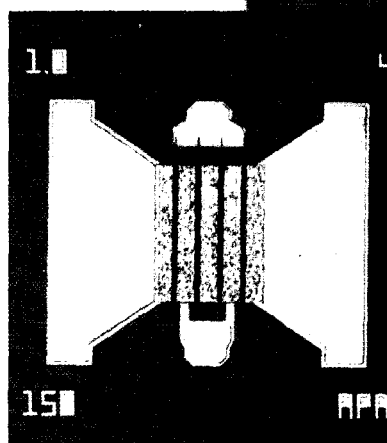
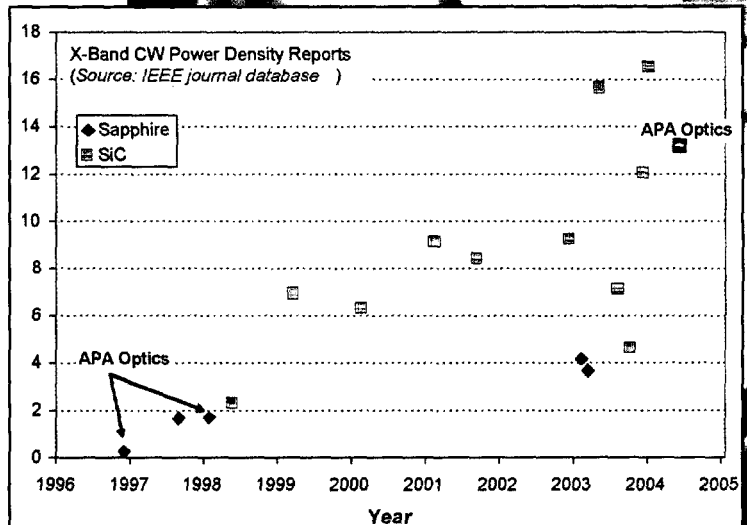
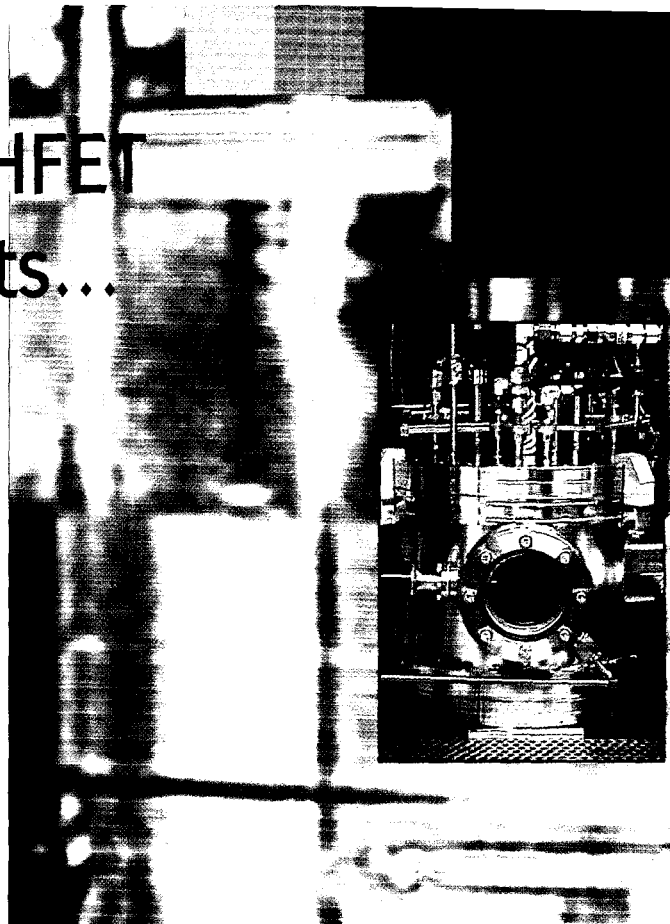
To strengthen our core competency and provide true manufacturing capability we acquired a commercial multi-wafer MOCVD system (D180 GaN). The successful technology transfer of our advanced epi structure to a multi-wafer growth platform yielded devices with state-of-the-art performance, as can be seen in the comparison chart below. Collaborating with an industry recognized wafer fabrication foundry to process our wafers, we have demonstrated 13.7 W/mm power density at 10 GHz. Not only did this show very high power capability of our design but it also established credible production capacity with the purchase of a D180 GaN MOCVD system. The purchase agreement for the new reactor was contingent upon successful demonstration of certain performance metrics. Once the system is on-line it will provide:

- Multi wafer 6x2" or 3x3" growth
- Uniform within wafer, wafer-to-wafer, and run-to-run results
- Demonstrated high performance transistor structures

In order to streamline the transition to the new machine, a senior staff scientist with several years experience on the D180 platform and a record of performing well on the DARPA Wide Band Gap Semiconductor Technology Initiative was hired. This significantly strengthens our core team.

Recognizing that extensive characterization capability will be required to optimize and maintain the new reactor, we are leasing space for the new reactor in an advanced characterization facility. This will speed up evaluation and optimization of our material by providing ready access to structural, electrical, and optical testing of the crystalline films. When the new MOCVD system is fully operational, it will be sufficient to handle the Company's internal MOCVD material growth requirements. Once installed we will initiate all our MOCVD growth using this machine while phasing out the growth occurring in the Blaine facility. This will also eliminate expense for significant leasehold improvements that would have been required to locate the machine in our Blaine facility.

Our focus for fiscal year 2005 will be to build demonstration power amplifiers from this material, proving device reliability, and sampling these devices to customers. The new reactor will also offer the potential for partnering through commercial, industrial and government contracts. We continue to grow our intellectual property portfolio. We have converted a provisional patent application to a full application in November 2003 and we are pursuing opportunities to license our technology.



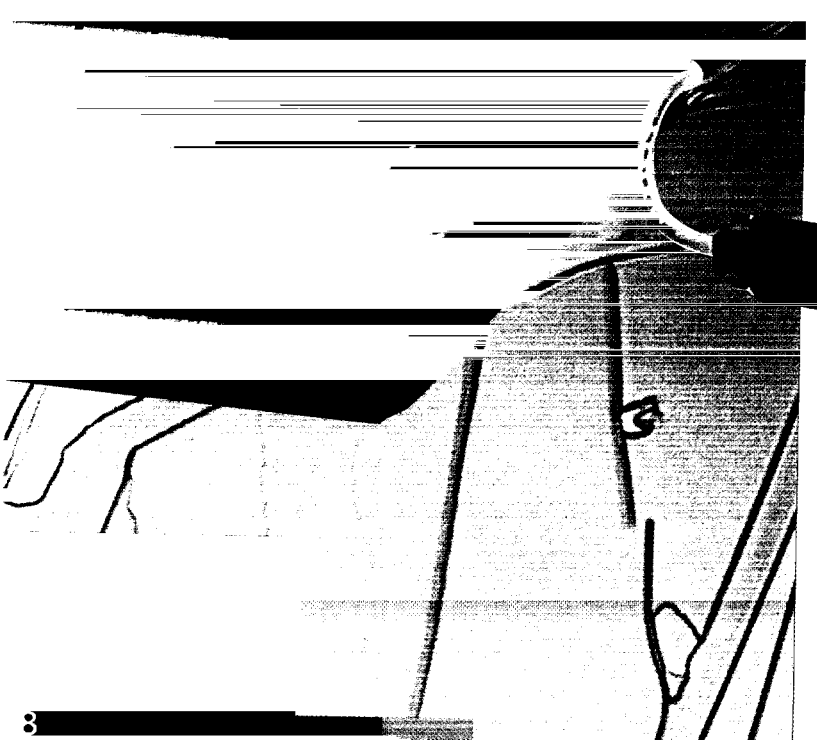
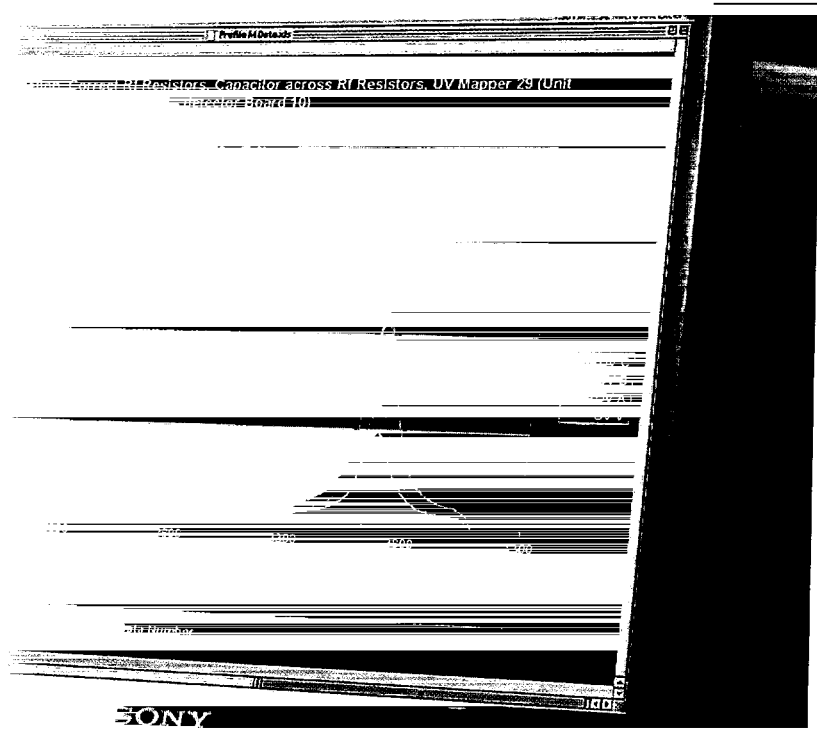
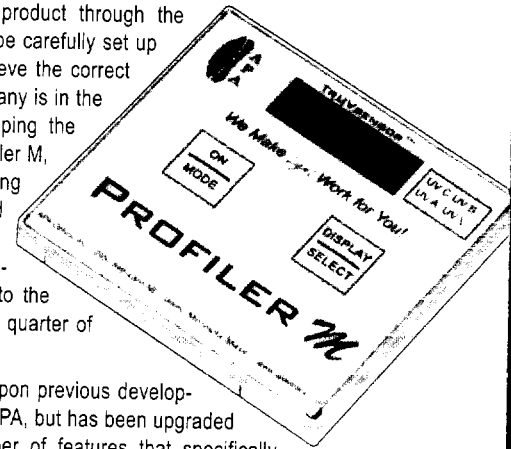
# Introducing the Profiler M...

## An Advanced Instrument to Measure UV Radiation in Industrial Applications.

Building on our core competency in UV measurements, APA Optics is developing an advanced instrument to provide industrial UV radiation measurements for a variety of applications such as UV printing and curing. UV-cured inks and coatings are widely used in a number of industries, and the curing lamps and conveyor belts that move the product through the curing chamber must be carefully set up and monitored to achieve the correct UV dosage. The company is in the final stages of developing the new meter, called Profiler M, and is now completing characterization and detailed testing. Our plans call for introducing the Profiler M to the market during the third quarter of fiscal 2005.

The Profiler M builds upon previous development of UV meters at APA, but has been upgraded to incorporate a number of features that specifically target it for the large curing and printing markets:

- Slim and compact—about the size of a thick computer floppy disk – the Profiler M is suitable for typical UV curing applications where the spacing between the UV lamp and the object under cure is very small.
- Four detectors measure each of the four UV bands, UV-A, -B, -C, and -V, that are commonly used for the various coatings and inks. This enables very precise measurements and tuning of the process. The initial UV meter model used a single broad-range detector. The detectors utilize APA's AlGaN technology and filter designs that are stable and insensitive to UV wavelengths outside of those being measured.
- On-board processor, memory and display enable the Profiler M to be used stand alone, with no computer interconnect necessary to measure and analyze data. The option to download later to a PC using our proprietary Windows-based software remains for more detailed analysis and charting.
- Spot or Scan measurements allow the user to do a more detailed initial set of measurements (scan) and then make ongoing spot checks to retain calibration.
- High Temperature operation to 80°C meets the operating conditions of many UV curing chambers. The instrument will sound an alarm if the temperature limit is exceeded.



# Name change...

## APA Optics, Inc. Proposes Changing Corporate Name to APA Enterprises, Inc.



APA Optics, Inc. will change its name to APA Enterprises, Inc., subject to approval by its shareholders during the Annual Meeting to be held on August 19, 2004. The company will also revamp its original red "lens" logo to reflect the different nature of its business today. The new name and logo are consistent with the significant changes in APA's assets and business activities over the last several years and will also potentially reflect future changes. Some of the key factors prompting this proposal to the shareholders are:

APA Cable & Networks (a wholly-owned subsidiary of APA Optics) purchased the assets of two companies, *Computer System Products* and *Americable*, during the fiscal years 2003 and 2004, respectively. Since its establishment and subsequent asset purchases, APACN has been responsible for most of the revenues of APA. The addition of the word "Enterprises" reflects the broader company activities.

APA ceased its optics manufacturing activities during the fiscal year 2004. This action is properly reflected by elimination of the word "Optics" from the Company's name and replacing the optical lens logo.

APA has been actively involved in forming strategic alliances and partnerships in United States and other countries over the last two years to be both competitive and expand its business activities in other countries. The Company will continue to seek acquisitions in the future, further justifying the new corporate name.

Once the change is approved by its shareholders, the company will have the following groups and subsidiaries:

- APA Cables & Networks, Inc. (wholly-owned subsidiary)
- APA Enterprises
  - Optronics Division (Gallium Nitride R&D and Products)
  - Aberdeen Products Division

## Management's Discussion and Analysis of Financial Condition and Results of Operations.

This MD&A is reprinted from APA's Form 10-K as filed with the Securities and Exchange Commission. References to "General Development of the Business," "Item 8 of this Report," "Item 1. Business," etc., refer to portions of the Form 10-K which is available on the SEC's web site at [www.sec.gov](http://www.sec.gov) or on APA's web site [www.apaoptics.com](http://www.apaoptics.com) under Investor Relations / Real Time Filings.

### General

APA is engaged in designing, manufacturing, and marketing of various optoelectronic products, ultraviolet (UV) detectors and related products and optical components. 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.

APACN, which is a wholly owned subsidiary of APA Optics, Inc., is engaged in the design, manufacture, distribution, and marketing of a variety of fiber optics and copper components to the data communication and telecommunication industries. APACN's primary manufactured products include standard and custom fiber optic cable assemblies, copper cable assemblies, value-added fiber optics frames, panels and modules. APACN acquired certain assets of CSP on March 14, 2003 and certain assets of Americable on June 27, 2003. Several items discussed under the "Results of Operations" show significant changes from the comparable periods in the preceding fiscal year as a result of the acquisitions of CSP and Americable.

### Application of Critical Accounting Policies

In preparing our consolidated financial statements, we make estimates, assumptions and judgments that can have a significant impact on our revenues, loss from operations and net loss, as well as on the value of certain assets and liabilities on our consolidated balance sheet. We believe that there are several accounting policies that are critical to an understanding of our historical and future performance, as these policies affect the reported amounts of revenues, expenses and significant estimates and judgments applied by management. While there are a number of accounting policies, methods and estimates affecting our consolidated financial statements, areas that are particularly significant include:

- Revenue recognition;
- Accounting for income taxes; and
- Valuation and evaluating impairment of long-lived assets and goodwill

#### Revenue Recognition

Revenue is recognized when the product has been shipped, acceptance by the customer is reasonably certain and collection is probable.

#### Accounting for Income Taxes

As part of the process of preparing our consolidated financial statements, we are required to estimate our income tax liability in each of the jurisdictions in which we do business. This process involves estimating our actual current tax expense together with assessing temporary differences resulting from differing treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities. We must then assess the likelihood that these deferred tax assets will be recovered from future taxable income and, to the extent we believe that recovery is not more likely than not or unknown, we must establish a valuation allowance.

Significant management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against our deferred tax assets. At March 31, 2004, we have recorded a full valuation allowance of \$11,075,084 against our deferred tax assets, due to uncertainties related to our ability to utilize our deferred tax assets, consisting principally of certain net operating losses carried forward. The valuation allowance is based on our estimates of taxable income by jurisdiction and the period over which our deferred tax assets will be recoverable. The Company had U.S. net operating loss (NOL) carry forwards of approximately \$27,899,000 which expire in fiscal years 2004 to 2024.

Realization of the NOL carry forwards and other deferred tax temporary differences are contingent on future taxable earnings. The deferred tax asset was reviewed for expected utilization using a "more likely than not" approach as required by SFAS No. 109, "Accounting for Income Taxes," by assessing the available positive and negative evidence surrounding its recoverability.

We will continue to assess and evaluate strategies that will enable the deferred tax asset, or portion thereof, to be utilized, and will reduce the valuation allowance appropriately at such time when it is determined that the "more likely than not" approach is satisfied.

#### Valuation and Evaluating Impairment of Long-Lived Assets and Goodwill

Goodwill represents the excess of the purchase price over the fair value of net assets acquired. Effective April 1, 2002, we adopted Statement of Financial Accounting Standards (SFAS) 142, Goodwill and Other Intangible Assets, which provides that goodwill should not be amortized but reviewed for impairment annually or whenever conditions exist that indicate an impairment could exist. The Company performed the annual impairment test in fiscal years 2004 and 2003 and concluded that no impairment had occurred.

The Company evaluates the recoverability of its long-lived assets in accordance with SFAS 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 requires recognition of impairment of long-lived assets in the event that events or circumstances indicate an impairment may have occurred and when the net book value of such assets exceeds the future undiscounted cash flows attributed to such assets. We assess the impairment of long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. No impairment of long-lived assets has occurred through the year ended March 31, 2004.

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 is described. Management believes the adoption of Interpretation 46 (FIN 46) will not have a material effect on our financial position or results of operations.

### Contractual Obligations

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
Long-term debt	\$ 1,812	\$ 1,638	\$ 94	\$ 40	\$ 40
Operating leases	670	359	311	-	-
Total Contractual Cash Obligations	\$ 2,482	\$ 1,997	\$ 405	\$ 40	\$ 40

## Results of Operations

### 2004 Compared to 2003

#### Revenues

Consolidated revenues for the year ended 2004 increased 27-fold to \$11,909,465 from sales of \$436,157 in 2003. Consolidated cost of sales increased to \$11,914,050 in 2004 from \$2,802,597 in 2003. Consolidated operating losses increased to \$6,558,499 in 2004 compared to \$5,329,466 in 2003. Consolidated net losses increased to \$6,535,147 in 2004 or \$.55 per diluted share compared to \$5,009,434 or \$.42 in 2003.

APA's revenues for the year ended 2004 were \$218,187 as compared to \$202,137 in 2003. Sales of its optics products were \$91,778 versus \$102,592 in 2003. This product line was discontinued in January 2004 and subsequently sold in April 2004. Sales of fiber optics products were \$85,341 in 2004 compared to \$77,028 in 2003. Sales of GaN related products were \$23,519 in 2004 versus \$12,742 in 2003. The majority of the GaN sales were to one customer for the SunUV® Personal UV Monitor. Other revenue was \$17,549 in 2004 compared to \$9,775 in 2003. APA's revenue growth is dependent upon our ability to successfully complete its manufacturing reliability with its GaN products and sell into its targeted market segments.

APACN's revenues for the year ended 2004 were \$11,691,278 versus \$234,020 in the year ended 2003. Sales from the preceding year consisted only of revenue generated by the CSP acquisition from March 14, 2003 until March 31, 2003. Sales for fiscal 2004 reflect a full year of revenue from the CSP acquisition and three quarters of revenue from the Americable acquisition which was completed June 27, 2003. For the year ended March 31, 2004, sales to broadband service provider and commercial data networks, which include APACN custom fiber distribution systems, associated cable assemblies and optical components, were \$7,023,700, or 60% of total sales. Sales to OEM's, consisting primarily of fiber optic and copper cable assemblies produced to customer design specifications, were \$4,667,600, or 40% of total sales. APACN's revenue growth is dependent upon capital expenditures in the communications equipment industry, our ability to develop and introduce new products, and our ability to acquire and retain business in a competitive industry. We expect sales at APACN in fiscal 2005 to increase slightly over the next year.

#### Cost of Sales and Gross Profit

APA's cost of sales for the year ended 2004 were \$2,883,054 as compared to \$2,626,685 in 2003. Product development and materials cost increased approximately \$280,000, while amortization expenses decreased approximately \$181,000, mainly due to additional patent amortization taken in 2003.

APACN's gross profit for the year ended 2004 was \$2,660,282 as compared to \$58,109 in 2003. Gross profit from the preceding year consisted of only gross profit generated by the CSP acquisition from March 14, 2003 until March 31, 2003. Gross profit for fiscal 2004 reflects a full year of gross profit from the CSP acquisition and three quarters of gross profit from the Americable acquisition which was completed June 27, 2003. Gross profit percent for APACN for the period ending March 31, 2004 was 22.8%. Gross profit was negatively affected by production variances resulting from combining the two acquired companies into one operation. We expect gross margins for APACN to gradually improve in fiscal 2005.

#### Research and Development Expenses

Research and development expenses consist of the research and development expense at APA (there have been no research and development expenses at APACN). Expenses decreased by \$263,482, to \$948,737 for the year ended 2004 as compared to \$1,212,219 for the year ended 2003. This represents a decrease of 22% from 2003. The decrease is primarily due to decreased research activity related to fiber optics products. The majority of the decreases are due to the reduction in salaries and other related personnel expenses. We expect fiscal 2005 research and development expenses at APA to remain constant with 2004.

#### Selling, General and Administration Expenses

Selling, general and administration (S, G & A) expenses at APA increased approximately \$357,635 to \$1,989,969 in 2004 from \$1,632,334 in 2003. The increase is due primarily to higher depreciation and amortization as well as higher professional fees related to the acquisition costs for CSP and Americable. We expect S, G & A to decrease slightly over the balance of the 2005 fiscal year as a result of cost reductions implemented throughout fiscal 2004.

Selling, general and administration expenses at APACN were \$3,615,208 for the year ending March 31, 2004 as compared to \$118,473 in 2003. S, G & A from the preceding year consisted of expenses generated by the CSP acquisition from March 14, 2003 until March 31, 2003. S, G & A for fiscal 2004 reflects a full year of S, G & A from the CSP acquisition and three quarters worth of S, G & A from the Americable acquisition which was completed June 27, 2003. S, G & A for fiscal 2004 was negatively affected by duplicate expenses related to the consolidation of operations and facilities. We expect S, G & A to decrease slightly in fiscal 2005 from fiscal 2004 in relation to current sales levels.

#### Other Income and Expense

Other income at APA decreased \$231,035 to \$202,837 in fiscal 2004 from \$433,872 in 2003. The decrease is due mainly to lower interest income resulting from a combination of a decline in the rate of interest earned on investments and a lower average cash balance. Other expenses increased \$1,829 to \$115,010 from \$113,181 in 2003.

Other income at APACN increased \$19,829 to \$22,882 in fiscal 2004 as compared to \$3,053 in fiscal 2003. The increase was due to management fee income for the first quarter of 2004 for personnel related to the CSP acquisition. Other expense at APACN increased \$82,592 to \$85,304 for the year ending 2004. The increase is due primarily to the disposal of assets related to the consolidation of CSP and Americable into a single facility.

#### Net Loss

Consolidated net loss for the Company increased \$1,525,713 to \$6,535,147, or \$.55 cents per share, as compared to a net loss of \$5,009,434, or \$.42 cents per share, in fiscal 2003. The increase in losses is due primarily to the additional net losses as APACN.

Net loss for APA for the year ending 2004 was \$5,537,390, an increase of \$587,980, or 12%, from \$4,949,410 in 2003. The increased losses are primarily the result of a combination of higher cost of sales and S, G, & A expenses.

Net loss for APACN for the year ending 2004 was \$997,757 versus \$60,024 in fiscal 2003. The increase is due mainly to 2003 expenses only representing several days of expense from the CSP acquisition in March, 2003. The increase in net loss was partly attributable to the expenses related to integrate the two acquisitions.

### 2003 Compared to 2002

#### Revenues

APA recognized operating revenues of \$436,157 and \$595,955 for the fiscal years ended March 31, 2003 and 2002, respectively. The decrease of \$159,798 or 27% from fiscal 2002 to 2003 was primarily the result of lower sales of DWDM components. 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.

## Results of Operations 2003 Compared to 2002 Continued

### Cost of Sales and Gross Profit

Costs of sales were \$2,802,597 and \$3,545,519 for fiscal 2003 and 2002, 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. Gross margin for product sales was negative in both 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.

### Research and Development Expenses

Research and development expenses were \$1,212,219 and \$1,114,051 for fiscal years 2003 and 2002, 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.

### Selling, General and Administration Expenses

Selling, general and administrative expenses were \$1,750,807 and \$1,733,846 for fiscal years 2003 and 2002, respectively. The decrease of \$16,961 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.

### Other Income and Expense

We realized \$436,925 and \$1,193,525 in interest income in fiscal years 2003 and 2002, respectively. The decrease in interest income of \$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.

### Net Loss

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

## Liquidity and Capital Resources

As of March 31, 2004, our principal source of liquidity was our cash, cash equivalents and short-term investments, which totaled \$13,544,910 compared to \$22,235,686 at March 31, 2003.

We used \$5,595,781 to fund operating activities during fiscal 2004 compared to \$4,659,154 in fiscal 2003, and \$3,753,553 in fiscal 2002. In all three years the largest use of cash in operating activities was the funding of the net losses. The net loss for fiscal 2004 expanded to \$6,535,147 from \$5,009,434 in fiscal 2003. The primary factors contributing to the increased loss from fiscal 2003 to 2004 were the increased losses at APACN. The significant 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.

In fiscal 2004 we used \$2,753,246 in investing activities including \$1,960,000 used to purchase the assets of Americable. We also invested \$785,870 to purchase property and equipment, mainly for the purchase of the MOCVD. In fiscal 2003 we used \$3,828,000 in investing activities to purchase CSP. We invested \$359,474 in property and equipment and \$84,131 in patents, for a net decrease in cash from investment activities of \$4,271,605. 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.

In fiscal 2004, we used \$341,749 in financing activities primarily to pay down long-term debt relating to our facility in Aberdeen, South Dakota. In fiscal 2003, we used \$439,958 in financing activities primarily to pay down long-term debt also related to the Aberdeen facility. We used \$460,564 in financing activities in fiscal 2002. Primary uses of cash in 2002 included the repurchase of common stock for \$92,638 and the scheduled retirement of debt in the amount of \$375,468.

Construction of our manufacturing facility in Aberdeen utilized certain economic incentive programs offered by the State of South Dakota and the City of Aberdeen. At March 31, 2004, the total principal outstanding under bonds issued by the State of South Dakota was \$1,485,000. 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 these covenants during all of fiscal 2002, 2003 and 2004. For further information regarding these bonds, see Note E of Notes to Financial Statements included under Item 8 of this Report. On April 14, 2004 the Company sold its Optics manufacturing operations discussed in Note M to the Financial Statements included under Item 8 of this report, to PNE, Inc. dba IRD. The terms of the sale required the Company to prepay \$89,000 of a loan with the City of Aberdeen, South Dakota and to accelerate the loan payment schedule over the next several years, ending in 2010.

Our capital requirements are dependent upon several factors including market acceptance of our products, the timing and 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.

## Report of Independent Registered Public Accounting Firm

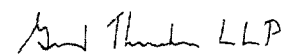
Board of Directors and Shareholders  
APA Optics, Inc.

We have audited the accompanying consolidated balance sheets of APA Optics, Inc. (the Company) as of March 31, 2004 and 2003, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the three years in the period ended March 31, 2004. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (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 consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of APA Optics, Inc. as of March 31, 2004 and 2003 and the consolidated results of its operations and its cash flows for each of the three years in the period ended March 31, 2004, 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," on April 1, 2002.



Grant Thornton LLP  
Minneapolis, Minnesota  
June 15, 2004

## Consolidated balance sheets

March 31,

<b>Assets</b>	<b>2004</b>	<b>2003</b>
Current assets:		
Cash and cash equivalents	\$13,544,910	\$22,235,686
Accounts receivable, net of allowance for uncollectible accounts of \$49,038 and \$20,644 at March 31, 2004 and 2003	1,549,016	468,576
Inventories	1,574,188	1,398,203
Prepaid expenses	174,503	134,045
Bond reserve funds	133,865	125,830
Total current assets	<u>16,976,482</u>	<u>24,362,340</u>
Property, plant and equipment, net	4,550,956	3,989,344
Other assets:		
Bond reserve funds	332,433	340,629
Goodwill	3,422,511	2,500,296
Other	562,609	691,917
	<u>4,317,553</u>	<u>3,532,842</u>
Total assets	<u>\$25,844,991</u>	<u>\$31,884,526</u>

## Liabilities and shareholders' equity

	<b>2004</b>	<b>2003</b>
Current liabilities:		
Current maturities of long-term debt	\$ 1,637,923	\$ 1,846,922
Accounts payable	812,165	454,804
Accrued compensation	645,293	255,403
Accrued expenses	212,713	81,694
Total current liabilities	<u>3,308,094</u>	<u>2,638,823</u>
Long-term debt, net of current maturities	173,836	326,760
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 shares issued and outstanding at March 31, 2004 and 2003	118,723	118,723
Additional paid-in capital	51,980,946	52,001,681
Accumulated deficit	<u>(29,736,608)</u>	<u>(23,201,461)</u>
Total shareholders' equity	<u>22,363,061</u>	<u>28,918,943</u>
Total liabilities and shareholders' equity	<u>\$ 25,844,991</u>	<u>\$ 31,884,526</u>

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



### Consolidated statements of operations years ended March 31,

	2004	2003	2002
Revenues	\$11,909,465	\$ 436,157	\$ 595,955
Costs and expenses:			
Cost of sales	11,914,050	2,802,597	3,545,519
Research and development	948,737	1,212,219	1,114,051
Selling, general and administrative	5,605,177	1,750,807	1,733,846
	<u>18,467,964</u>	<u>5,765,623</u>	<u>6,393,416</u>
Loss from operations	(6,558,499)	(5,329,466)	(5,797,461)
Other income	225,719	436,925	1,193,525
Other expense	(200,314)	(115,893)	(132,263)
	<u>25,405</u>	<u>321,032</u>	<u>1,061,262</u>
Loss before income taxes	(6,533,094)	(5,008,434)	(4,736,199)
Income taxes	2,053	1,000	2,000
Net loss	<u>\$(6,535,147)</u>	<u>\$(5,009,434)</u>	<u>\$(4,738,199)</u>
Net loss per share			
Basic and diluted	<u>\$(0.55)</u>	<u>\$(0.42)</u>	<u>\$(0.40)</u>
Weighted average shares outstanding			
Basic and diluted	<u>11,872,331</u>	<u>11,873,914</u>	<u>11,896,976</u>

### Consolidated statement of shareholders' equity years ended March 31,

	Undesignated Shares	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Shareholders' Equity
		Shares	Amount	Shares	Amount			
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
Options issued as compensation	-	-	-	-	-	(20,735)	-	(20,735)
Net loss	-	-	-	-	-	-	(6,535,147)	(6,535,147)
Balance at March 31, 2004	-	-	\$ -	11,872,331	\$118,723	\$51,980,946	\$(29,736,608)	\$22,363,061

## Consolidated statements of cash flows years ended March 31,

	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b>Cash flows from operating activities:</b>			
Net loss	\$ (6,535,147)	\$ (5,009,434)	\$ (4,738,199)
Adjustments to reconcile net loss to net cash used in operating activities, net of acquisitions:			
Depreciation and amortization	971,194	810,505	654,460
Deferred compensation expense	(20,735)	(9,309)	45,414
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(440,161)	(63,392)	350,246
Inventories	(179,293)	(130,889)	375,241
Prepaid expenses and other assets	(44,909)	(30,457)	(73,524)
Accounts payable and accrued expenses	653,270	(226,178)	(367,191)
Net cash used in operating activities	<u>(5,595,781)</u>	<u>(4,659,154)</u>	<u>(3,753,553)</u>
<b>Cash flows from investment activities:</b>			
Purchases of property and equipment	(785,870)	(359,474)	(1,050,274)
Sale of short-term investments	-	-	15,759,000
Cash paid for business acquisition	(1,960,000)	(3,828,000)	-
Other	(7,376)	(84,131)	(113,698)
Net cash provided by (used in) investing activities	<u>(2,753,246)</u>	<u>(4,271,605)</u>	<u>14,595,028</u>
<b>Cash flows from financing activities:</b>			
Repurchase of common stock	-	(5,991)	(92,638)
Proceeds from exercise of warrants and options	-	-	10,041
Payment of long-term debt	(361,923)	(437,467)	(375,468)
Bond reserve funds	20,174	3,500	(2,499)
Net cash used in financing activities	<u>(341,749)</u>	<u>(439,958)</u>	<u>(460,564)</u>
Increase (decrease) in cash and cash equivalents	(8,690,776)	(9,370,717)	10,380,911
Cash and cash equivalents at beginning of year	22,235,686	31,606,403	21,225,492
Cash and cash equivalents at end of year	<u>\$ 13,544,910</u>	<u>\$ 22,235,686</u>	<u>\$ 31,606,403</u>
<b>Supplemental cash flow information:</b>			
Cash paid during the year for:			
Interest	\$ 109,251	\$ 115,893	\$ 132,263
Income taxes	2,053	1,000	2,000
Noncash investing and financing transactions:			
Contributed land	\$ -	\$ 67,760	\$ -
Issuance of warrants	\$ -	\$ 371,000	\$ -
Capital expenditure included in accounts payable	\$ 225,000	\$ -	\$ -

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

# Notes to consolidated financial statements

## March 31, 2004, 2003 and 2002

### NOTE A – Summary of significant accounting policies

**Nature of Business**--APA Optics, Inc. (the Company) 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. The Company also manufactures and markets dense wavelength division multiplexer (DWDM) optical components and offers a range of gallium nitride-based devices

**Principles of Consolidation**--The consolidated financial statements include the accounts of APA Optics, Inc. and its wholly-owned subsidiary. All significant inter-company accounts and transactions have been eliminated in consolidation

**Revenue Recognition**--Revenue is recognized when the product has been shipped, acceptance by the customer is reasonably certain 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, 2004 and 2003 consist entirely of short-term money market accounts. Cash equivalents are stated at cost, which approximates fair value.

**Accounts Receivable**--Accounts receivable are presented net of allowances. Credit is extended based on the evaluation of a customer's financial condition and, generally, collateral is not required. Accounts outstanding longer than the contractual payment terms are considered past due. The Company determines its allowance by considering a number of factors, including the length of time trade receivables are past due, the Company's previous loss history, the customer's current ability to pay its obligation to the Company, and the condition of the general economy and the industry as whole. The Company writes off accounts receivable when they become uncollectible; payments subsequently received on such receivables are credited to the allowance for doubtful accounts.

**Inventories**--Inventories consist of finished goods, raw materials and work in process and are stated at the lower of average cost (which approximates the first-in, first-out method) or market. Cost is determined using material costs, internal and external labor charges, and allocated factory overhead charges.

**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 for book and tax purposes over the following estimated useful lives of the assets:

	Years
Building	20
Equipment	3 – 10
Leasehold improvements	7 – 10

**Goodwill and Long Lived Assets**--Goodwill represents the excess of the purchase price over net assets acquired. Effective April 1, 2002, the Company adopted Statement of Financial Accounting Standards (SFAS) 142, *Goodwill and other Intangible Assets*, which provides that goodwill should not be amortized but reviewed for impairment annually or whenever conditions exist that indicate an impairment could exist. The Company performed the annual impairment test in fiscal years 2004 and 2003 and concluded that no impairment had occurred.

**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. 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. The Company's stock based compensation expense also reflects the benefit of the cancellation of previously expensed options. The Company recognized compensation expense (income) of \$(20,735), \$(9,309) and \$45,414 for

### NOTE A – Summary of significant accounting policies Continued

the years ended March 31, 2004, 2003 and 2002. 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 method, to stock-based employee compensation for the following fiscal years:

	March 31, 2004	March 31, 2003	March 31, 2002
Net loss to common shareholders – as reported	\$ 6,535,147	\$ 5,009,434	\$ 4,738,199
Less: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	<u>158,936</u>	<u>153,266</u>	<u>273,516</u>
Net loss – pro forma	<u>\$ 6,694,083</u>	<u>\$ 5,162,700</u>	<u>\$ 5,011,715</u>
Basic and diluted net loss per common share – as reported	<u>\$ (.55)</u>	<u>\$ (.42)</u>	<u>\$ (.40)</u>
Basic and diluted net loss per common share – pro forma	<u>\$ (.55)</u>	<u>\$ (.43)</u>	<u>\$ (.42)</u>

The weighted average fair value of options granted in 2004, 2003 and 2002 was \$2.62, \$1.20, and \$9.30. 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 2004, 2003 and 2002; zero dividend yield, risk-free interest rate of 3.3%, 3.2% and 4.5%; volatility of 75%, 77% and 132%, and a weighted-average expected term of the options of five years.

**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 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 975,937, 999,197 and 655,872 shares of common stock with a weighted average exercise price of \$6.35, \$6.50 and \$10.15 were outstanding during the years ended March 31, 2004, 2003 and 2002, but were excluded because they were antidilutive. Had we not incurred a net loss during the year ended March 31, 2004, we would have assumed conversion of stock options into 18,031 common shares. We would not have assumed any conversions of stock options for fiscal year 2003 and 2002.

**Use of Estimates**--The preparation of consolidated 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.

**Impairment of Long-Lived Assets**--The Company evaluates the recoverability of its long-lived assets and requires recognition of impairment of long-lived assets if events or circumstances indicate an impairment may have occurred and when the net book value of such assets exceeds the future undiscounted cash flows attributed to such assets. The Company assesses the impairment of long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. No impairment of long-lived assets has occurred through the year ended March 31, 2004.

## NOTE A – Summary of significant accounting policies Continued

**Reclassifications**--Certain reclassifications have been made to the 2003 financial statements to conform with the presentation used in 2004. These reclassifications had no effect on net loss or shareholders' equity as previously reported.

**Newly Adopted Accounting Standards**--The Financial Accounting Standards Board issued FIN 46 (R), *Consolidation of Variable Interest Entities*, in December 2003 to provide guidance on when an investor should consolidate another entity from which they receive benefits or are exposed to risks when those other entities are not controlled based on traditional voting interest or they are thinly capitalized. FIN 46 (R) refers to those entities as variable interest entities (VIEs). A variable interest is a contractual, ownership, guarantee of debt, or other financial interest in an entity that changes with changes in the entity's asset value. An entity would be considered a VIE if the amount of equity at risk in the entity is not sufficient to allow it to finance its activities without additional subordinated financial support from the Company. The provisions of FIN 46 (R) were effective at the end of the first reporting period after March 15, 2004. The adoption of FIN 46 (R) will not 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 CSP. The acquisition was accounted for as a purchase and, accordingly, results of operations relating to the purchased assets were included in the statement of operations from the date of acquisition. The impact on operations for year ended March 31, 2003 was not material. There were no contingent payments related to the acquisition.

In accordance with SFAS 141, the Company reclassified certain balances from the original CSP purchase price allocation as part of an asset valuation adjustment. The adjustment was made after determining the fair value of the assets purchased. The result of the change was a decrease in inventory and an increase in goodwill recorded. This did not change the purchase price of the transaction.

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

	Original Purchase Price Allocation	Purchase Price Adjustment	Net Purchase Price Allocation
Accounts receivable	\$ 384,571	\$ -	\$ 384,571
Inventory	1,227,239	(627,364)	599,875
Property, plant and equipment	402,799	-	402,799
Assets purchased	2,014,609	(627,364)	1,387,245
Trade accounts payable	239,187	-	239,187
Capitalized leases	149,786	-	149,786
Vendor restructuring payable	263,818	-	263,818
Accrued expenses	34,114	-	34,114
Less: Liabilities assumed	686,905	-	686,905
Net assets	1,327,704	(627,364)	700,340
Goodwill	2,500,296	627,364	3,127,660
Purchase price	<u>\$ 3,828,000</u>	<u>\$ -</u>	<u>\$ 3,828,000</u>

On June 27, 2003, the Company acquired certain assets of Americable, 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. There are no contingent payments related to the acquisition.

## Note B – Acquisition Continued

In accordance with SFAS 141, the Company reclassified certain balances from the original Americable purchase price allocation as part of an asset valuation adjustment. The adjustment was made after determining the fair value of the assets purchased. The result of the change was a decrease in inventory and property, an increase in accounts receivable, and an increase in goodwill recorded. This did not change the purchase price of the transaction.

The purchase price and assets acquired with purchase price adjustments are as follows:

	Original Purchase Price Allocation	Purchase Price Adjustment	Net Purchase Price Allocation
Accounts receivable	\$ 594,000	\$ 46,279	\$ 640,279
Inventory	638,000	(13,944)	624,056
Property, plant and equipment	450,000	(49,186)	400,814
Assets purchased	1,682,000	(16,851)	1,665,149
Goodwill	278,000	16,851	294,851
Purchase Price	<u>\$1,960,000</u>	<u>\$ -</u>	<u>\$1,960,000</u>

Goodwill for both acquisitions is expected to be fully deductible for tax purposes.

## NOTE C – Inventories

Inventories consist of the following at March 31:

	2004	2003
Raw materials	\$ 371,536	\$ 702,233
Work-in-process	46,222	155,138
Finished goods	1,156,430	540,832
	<u>\$1,574,188</u>	<u>\$1,398,203</u>

## NOTE D – Property, Plant and Equipment

Property, Plant and Equipment consist of the following at March 31:

	2004	2003
Land	\$ 127,760	\$ 127,760
Buildings	1,679,424	1,679,424
Manufacturing equipment	6,037,670	5,731,507
Office equipment	619,026	507,872
Leasehold improvements	1,119,616	1,082,538
	<u>9,583,496</u>	<u>9,129,101</u>
Less accumulated depreciation and amortization	5,032,540	5,139,757
	<u>\$4,550,956</u>	<u>\$3,989,344</u>

## NOTE E – Long-Term Debt

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

	2004	2003
South Dakota Governor's Office of Economic Development and the Aberdeen Development Corporation Bond, 5% to 6.75% due in various installments through 2016	\$1,485,000	\$1,560,000
Low interest economic development loans, 0%, due in various installments through 2010	229,305	246,944
Forgivable economic development loans, 3%, paid in full in fiscal 2004	-	216,951
Capital lease obligations	97,454	149,787
	<u>1,811,759</u>	<u>2,173,682</u>
Less current maturities	1,637,923	1,846,922
	<u>\$ 173,836</u>	<u>\$ 326,760</u>

**NOTE E – Long-Term Debt Continued**

The forgivable economic development 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 matured in fiscal 2004. As of March 31, 2004, 36,511 warrants have been issued for loans forgiven totaling \$187,289.

At March 31, 2004 and 2003, the Company had on deposit with trustees \$466,298 and \$415,629 in reserve funds for current bond maturities, of which \$133,865 and \$125,830 are for current bond maturities. 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 2004. All debt, except for the long-term portion of the low interest 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 a 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. In April 2004, the Company was required to restructure one of its loans with the City of Aberdeen in conjunction with the sale of its Optics manufacturing operations to include an advance payment and an accelerated payment stream. The restructuring had no effect on the amount or classification of the overall loan balance at March 31, 2004.

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

Years ending March 31,	
2005	\$1,637,923
2006	65,873
2007	27,963
2008	20,000
2009	20,000
Thereafter	40,000
	<u>\$1,811,759</u>

**NOTE F – Employee Benefit Plan**

The Company maintains a contributory 401(k) profit sharing benefit plan covering all employees. The Company matches 50% of employee contributions up to 6% of a participant's compensation. The Company's contributions under this plan were \$72,000, \$51,000, and \$53,000 for the years ended March 31, 2004, 2003 and 2002.

**NOTE G – Income Taxes**

Deferred taxes recognize the impact of temporary differences between the amounts of the assets and liabilities recorded for financial statement purposes and such amount measured in accordance with tax laws. Realization of net operating loss carry forward and other deferred tax temporary differences are contingent upon future taxable earnings. The Company's deferred tax asset was reviewed for expected utilization using a "more likely than not" approach as required by SFAS 109 by assessing the available positive and negative factors surrounding its recoverability. Accordingly, the Company has recorded a full valuation allowance at March 31, 2004 and 2003.

**NOTE G – Income Taxes Continued**

Significant components of deferred income tax assets and liabilities are as follows at March 31, 2004:

	2004	2003
Current deferred income tax assets:		
Inventories	\$ 64,350	\$ 73,710
Accrued expenses	33,930	-
	<u>98,280</u>	<u>73,710</u>
Long-term deferred income tax assets:		
Property and equipment depreciation	172,770	-
Intangibles	17,940	-
Net operating loss carryforward	<u>10,880,432</u>	<u>8,679,276</u>
	<u>11,071,142</u>	<u>8,679,276</u>
Total deferred income tax assets	11,169,422	8,752,986
Long-term deferred income tax liabilities:		
Goodwill	94,338	5,418
Total net deferred income taxes	<u>11,075,084</u>	<u>8,747,568</u>
Valuation allowance	<u>(11,075,084)</u>	<u>(8,747,568)</u>
Total	<u>\$ -</u>	<u>\$ -</u>

As of March 31, 2004, the Company has net operating loss carry forwards for federal income tax purposes of approximately \$27,899,000 which expire in fiscal years 2005 to 2024.

Income tax expense consists entirely of state taxes in 2004, 2003 and 2002.

**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. There were no purchases in fiscal 2004. As of March 31, 2004 and 2003, a total of 46,750 shares for \$98,629 at an average price of \$2.11 per share had been repurchased and retired.

**NOTE I – Shareholder Rights Plan**

Pursuant to the Shareholder Rights Plan 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 1,089,148 shares of common stock available for issue at March 31, 2004.

Option transactions under these plans during the three years ended March 31, 2004 are summarized as follows:

	Number of shares	Weighted average exercise price
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
Granted	140,000	2.62
Canceled	(163,260)	5.65
Outstanding at March 31, 2004	<u>385,115</u>	3.74

The number of shares exercisable at March 31, 2004, 2003 and 2002 was 176,815, 165,325 and 108,674, respectively, at a weighted average exercise price of \$4.21, \$5.42 and \$4.68 per share, respectively.

The following table summarizes information concerning currently outstanding and exercisable stock options at March 31, 2004:

Options outstanding			
Range of exercise prices	Number outstanding	Weighted average remaining contractual life	Weighted average exercise price
\$1.48 – \$2.91	194,740	4.32 years	\$2.31
3.77 – 5.53	140,375	.67 years	4.31
5.73 – 7.22	25,000	2.33 years	6.65
8.50 – 11.90	25,000	3.05 years	8.82
	<u>385,115</u>	2.84 years	3.74
Options exercisable			
	Number outstanding	Weighted average exercise price	
	29,940	\$1.91	
	128,250	4.24	
	9,500	6.62	
	9,125	8.83	
	<u>176,815</u>	4.21	

### 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, 2001	318,197	\$4.00 – \$17.84	2002 – 2006
Issued	(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	2005 – 2008
Issued	-	-	-
Expired	-	-	-
Balance at March 31, 2004	<u>590,822</u>	3.00 – 17.84	2005 – 2008

All warrants are exercisable upon date of grant.

There were no warrants issued in fiscal year 2004.

In fiscal year 2003, 350,000 warrants 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.

### 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 increases of the rental rate based on increases in the consumer price index. As of the date of this report, the Company intends to extend that lease. The Company leases other office and manufacturing facilities space that expires June 30, 2006.

The Company leases certain equipment under capital lease arrangements with interest ranging from 10% to 10.62% and terms through July 2006. The equipment has a net book value of \$104,561 at March 31, 2004.

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

Year ending March 31	Capital leases	Operating leases
2005	\$51,633	\$ 359,011
2006	49,321	251,850
2007	7,963	59,164
2008	-	240
Total minimum lease payments	108,917	<u>\$670,265</u>
Less: Amounts representing interest	11,463	
Present value of future minimum lease payments	97,454	
Less: Current portion	52,332	
Capital lease obligations, net of current portion	<u>\$45,122</u>	

Rental expense was \$485,000, \$149,000 and \$138,000 for the years ended March 31, 2004, 2003 and 2002, of which \$149,000, \$139,000 and \$138,000 was paid to the partnership, respectively.

## NOTE L – Concentrations

**Major Customers** No single customer accounted for more than 10% of the Company's sales in fiscal 2004. 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. These customers also accounted for approximately 6% of the outstanding trade receivable balance at March 31, 2003.

## Suppliers

The Company purchases raw materials, component parts and outsourced labor from many suppliers. Although many of these items are single-sourced, the Company has experienced no significant difficulties to date in obtaining adequate quantities. These circumstances could change, however, and the Company cannot guarantee that sufficient quantities or quality of raw materials, component parts and outsourced labor will be as readily available in the future or, if available, that we will be able to obtain them at favorable prices. There were no suppliers that provided more than 10% of the Company's total purchases in the years ended March 31, 2004, 2003 or 2002.

## NOTE M – Subsequent Event (Unaudited)

The Company sold its optics manufacturing operations on April 14, 2004 for \$220,000. The terms of the sale required the Company to restructure a loan with the City of Aberdeen which amounted to an upfront payment and an acceleration of the loan balance over the next several years. Results of these manufacturing operations were not material to the consolidated financial statements for fiscal years 2004, 2003 and 2002.

## NOTE N – Segments of Business

The March 2003 and June 2003 acquisitions of Computer System Products, Inc. and Americable, Inc prompted the Company's management to adjust how it evaluates its business. As a result the Company established segments under FASB 131 "Disclosures about Segments of an Enterprise and Related Information." This evaluation is based on the way segments are organized within the Company for making operating decisions and assessing performance. The Company has identified two reportable segments based on its internal organizational structure, management of operations, and performance evaluation. These segments are APA Optics (APA) and APA Cables and Networks (APACN). APA's revenue is generated in the design, manufacture and marketing of ultraviolet (UV) detection and measurement devices and optical components. APACN's revenue is derived primarily from standard and custom fiber optic cable assemblies, copper cable assemblies, value added fiber optics frames, panels and modules. Expenses are allocated between the companies based on detailed information contained in invoices. In addition, corporate overhead costs for management's time and other expenses absorbed at APA are allocated to APACN on an ongoing basis. Such allocated expenses were \$152,452 for the twelve months ended March 31, 2004. There were no allocated expenses in fiscal 2003. Segment detail is summarized as follows (unaudited, in thousands):

APA Optics    APACN    Eliminations    Consolidated

### Twelve months ended

#### March 31, 2004

External sales	\$ 409	\$ 11,691	\$ (191)	\$ 11,909
Cost of sales	3,074	9,031	(191)	11,914
Operating loss	(5,604)	(955)	-	(6,559)
Depreciation and amortization	797	174	-	971
Capital expenditures, net	695	91	-	786
Assets	26,187	7,310	(7,652)	25,845

### Twelve months ended

#### March 31, 2003

External sales	\$ 202	234	-	\$ 436
Cost of sales	2,627	176	-	2,803
Operating loss	(5,269)	(60)	-	(5,329)
Depreciation and amortization	811	-	-	811
Capital expenditures	309	50	-	359
Assets	31,406	5,275	(4,848)	31,885

## SHAREHOLDERS MEETING

### Annual Meeting

The Annual Meeting of Shareholders will be held on August 19, 2004 at 3:30 PM at the Four Points Sheraton, 1330 Industrial Blvd., Minneapolis, Minnesota.

### Availability of Form 10-K

Shareholders of record on July 6, 2004 may obtain, exclusive of exhibits, a copy of the annual report to the Securities and Exchange Commission (Form 10-K) for the year ended March 31, 2004 by writing to the Company.

### Stock Transfer Agent

Wells Fargo Bank Minnesota, N.A., 161 N. Concord Exchange, South St. Paul, MN 55075

### Corporate Officers

Anil K. Jain, Chief Executive Officer, President and Chief Financial Officer, Kenneth A. Olsen, Vice President and Secretary

Counsel: Moss & Barnett, A Professional Association Minneapolis, MN

Independent Registered Public Accountants: Grant Thornton LLP Minneapolis, MN





## BOARD OF DIRECTORS

Top left to bottom:

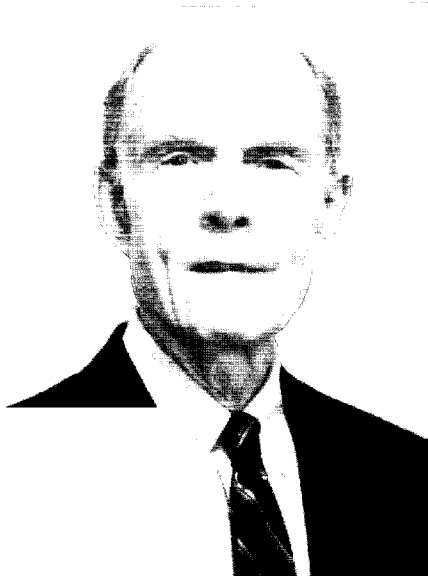
Anil K. Jain, Chief Executive Officer and President;

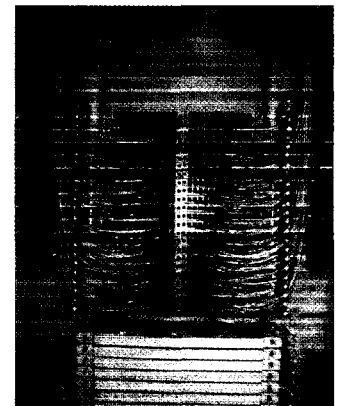
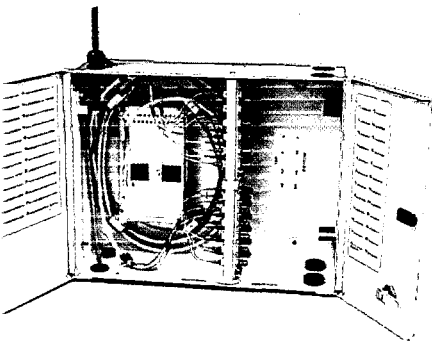
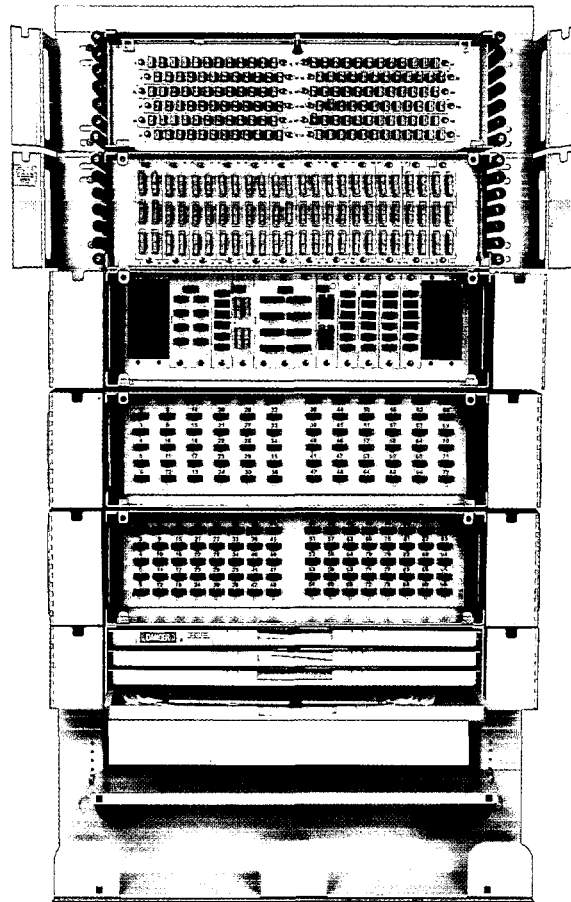
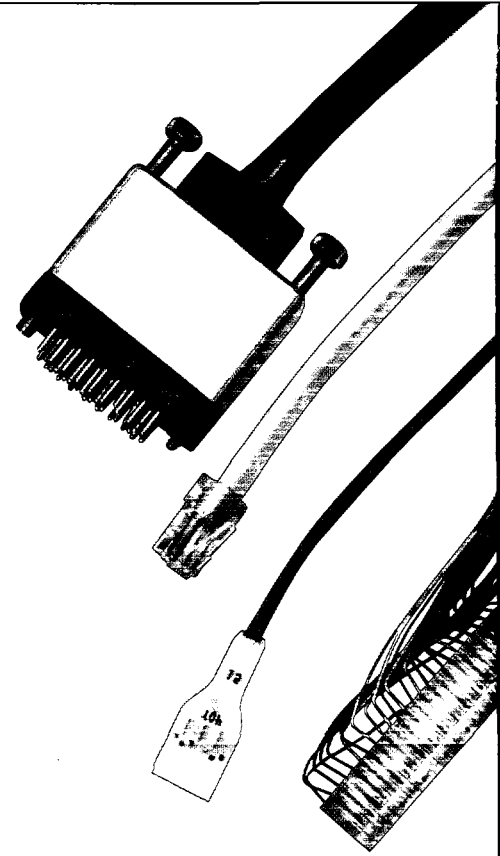
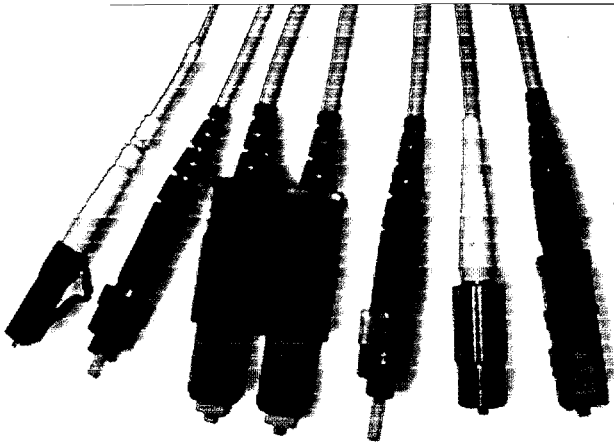
Kenneth A. Olsen, Vice President and Secretary;

Ronald G. Roth, semi-retired consultant;

Dr. Stephen L. Zuckerman, Aspen Medical Group,  
Minneapolis, Minnesota;

John G. Reddan, retired marketing executive





# APA OPTICS, Inc.

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