



# FORM 10-K

## BTU INTERNATIONAL INC - BTUI

Exhibit:

**Filed: April 01, 2002 (period: December 31, 2001)**

Annual report which provides a comprehensive overview of the company for the past year

## Part III

- Portions of the Proxy Statement for the 2002 Annual Meeting of

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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549  
FORM 10-K

(MARK ONE)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF  
THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2001

OR

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 0-17297

BTU INTERNATIONAL, INC.  
(Exact name of Registrant as specified in its charter)

DELAWARE  
(State or Other Jurisdiction of  
Incorporation or Organization)

04-2781248  
(I.R.S. Employer  
Identification Number)

23 ESQUIRE ROAD, NORTH BILLERICA, MASSACHUSETTS  
(Address of principal executive offices)

01862-2596  
(Zip Code)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: (978) 667-4111

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SECURITIES REGISTERED PURSUANT TO SECTION 12(B) OF THE ACT:

None Registered

SECURITIES REGISTERED PURSUANT TO SECTION 12(G) OF THE ACT:

Title of Each Class  
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Common Stock, \$.01 Par Value

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X 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 the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K [ ].

The aggregate market value of the shares of Common Stock, \$.01 par value, of the Company held by non-affiliates of the Company was \$28,028,347 on March 28, 2002.

Indicate number of shares outstanding of the Registrant's Common Stock, par value \$.01 per share, as of the latest practicable date: As of March 28, 2002: 6,848,487 shares.

DOCUMENTS INCORPORATED HEREIN BY REFERENCE

The following documents are incorporated herein by reference: Part II - Portions of the Annual Report to Stockholders, for the year ended December 31, 2001; and

Part III - Portions of the Proxy Statement for the 2002 Annual Meeting of Stockholders, both of which are to be filed with the Securities and Exchange Commission.

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BTU INTERNATIONAL, INC.  
2001 FORM 10-K ANNUAL REPORT

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## PART I

### ITEM 1. BUSINESS

We design, manufacture, sell and support advanced thermal processing systems used primarily in advanced semiconductor packaging and the assembly of printed circuit boards (PCBs). We believe we are the leading supplier of solder reflow systems used by electronics original equipment manufacturers (OEMs) and electronic manufacturing service (EMS) providers. In addition, we produce high temperature advanced thermal processing systems for manufacturing ceramics components for electronics and a variety of specialty applications.

Our customers serve the advanced segments of the electronics industry in which complex, high density PCBs and components are used. Our customers typically require high throughput, high yield and highly reliable advanced thermal processing systems with tightly controlled temperature and atmosphere parameters of the type realizable with our products.

Our products are sold worldwide through our direct technical sales force and through independent sales representatives. Among our top revenue generating customers in 2001 were such industry leaders as IBM, Intel Corporation, Raytheon, Celestica Incorporated Lucent Technologies Inc., Motorola, Inc. and Samsung Corporation.

Our principal offices are located at 23 Esquire Road, North Billerica, Massachusetts 01862. Our telephone number is (978) 667-4111. We also have sales and service facilities throughout North America, Europe and Asia. Our corporate website is [www.btu.com](http://www.btu.com).

### INDUSTRY BACKGROUND

**GROWTH IN ELECTRONICS.** Demand has grown rapidly over the past few years for increasingly sophisticated electronic devices such as notebook computers, cellular phones, and personal digital assistants (PDAs). Other types of electronics equipment are becoming more complex, including data communications equipment such as switches, routers and servers, broadband access products such as cable modems and ethernet accessories and consumer products such as automobile electronics and digital cameras.

Integral to the growth in electronics are the advances in technology, which result in producing smaller, lighter and less expensive end products. These advances are achieved, in part, by increasing the performance and reducing the cost, size, weight and power requirements of the components that comprise electronic devices, such as electronic assemblies, PCBs and semiconductors. In response to these developments, OEMs and EMS providers are increasingly employing more sophisticated manufacturing and assembly techniques and more advanced manufacturing equipment.

**ELECTRONICS MANUFACTURING PROCESS.** Electronics manufacturing processes include integrated circuit manufacturing, integrated circuit packaging and the assembly of PCBs. In the advanced semiconductor packaging and PCB assembly processes, several precision thermal processes are required to connect and bond integrated circuits (ICs) to semiconductor packages and packaged circuits and other components to PCBs. The attachment process, which creates a permanent physical and electrical bond, is called solder reflow, or reflow. For example, the PCB assembly process involves heating a PCB upon which solder pads have been printed and electronic components have been placed. A convection thermal processing system heats the PCB until just above the melting point of the solder pads and then provides a controlled cooling cycle, resulting in a permanent physical and electrical bond between the PCB and the electronic components. Flux, which is produced by vaporized solder during the solder reflow thermal processing cycle, must be contained and collected. Following the bonding process, voids must be filled with an epoxy material which is then thermally cured.

The growth in the electronics industry is driving manufacturers to demand more versatile, more reliable and more advanced capital equipment. Other factors that drive the demand for advanced thermal processing systems include:

- Rapid growth in EMS providers;
- Shift to higher value added and more complex boards at EMS providers;
- High growth in manufacturing capacity for consumer and Internet infrastructure products;
- Technological advances in semiconductor packaging and PCB assembly;
- Globalization of major electronics manufacturers;

- Emphasis on environmental protection through the use of lead-free solders;
- Increased velocity of new product introductions.

#### TECHNOLOGICAL CHALLENGES

Advanced thermal processing systems present significant engineering challenges related to temperature control, atmosphere control, product handling, flux containment and disposal, and high system up time.

Advanced thermal processing systems maintain accurate and uniform temperatures within their process chambers. The temperature within the process chamber is influenced by the rate at which components are moved through the system and the weight and density of the PCBs. In addition, the thermal processing system's heat convection rate must be varied and controlled as different components and PCBs are processed. The chamber must also dispense heat uniformly across the PCBs and components at precise temperatures so that all of the solder will reflow properly without damaging the components. Also, components must be heated and cooled at closely preset rates in order to avoid damage caused by thermal stress.

Another technological challenge for advanced thermal processing systems is achieving precisely controlled atmospheric conditions within the process chamber. In order to facilitate thermal processing without damage to components, many advanced thermal processing systems use a substantially oxygen-free atmosphere of nitrogen or hydrogen in their process chambers. If such gases are used, the entry of contaminating air must be substantially eliminated, even though the product enters and exits the system continuously from the ambient atmosphere. Maintaining a pure and controlled atmosphere in the process chamber, while minimizing the consumption of nitrogen or hydrogen gases in order to reduce operating costs, presents significant engineering challenges.

Handling PCBs in advanced thermal processing systems requires highly reliable conveyance systems that can easily be converted to process a wide variety of products having different specifications, often on side-by-side tracks through the process chamber. The product handling system must also fully support different sizes of PCBs to eliminate yield loss, which could be caused by the sagging of PCBs at elevated temperatures during the heating process.

Volatile compounds in the flux, which is vaporized during the solder reflow thermal processing cycle, must be contained and collected so that they do not condense in the system and damage the environment. The efficient containment, collection and disposal of the flux are important factors in achieving high system up time, high throughput and reliability.

The mechanical components in advanced thermal processing systems must operate almost continuously in a demanding, elevated temperature environment with frequent thermal cycles. The use of materials that are resistant to high temperature and thermal stress is important to achieving high reliability.

#### OUR SOLUTION

We deliver a broad range of advanced thermal processing systems to serve the needs of electronics manufacturers that require high throughput, process yields and reliability with tightly controlled process parameters. Our systems enable our customers to increase advanced semiconductor packaging and PCB assembly throughput and yield by providing precise atmosphere and temperature control. In addition to the high performance of our products, we believe the quality standards of our organization and our worldwide service and support are important to our success with industry leading global electronics manufacturers.

**ATMOSPHERE UNIFORMITY AND CONTROL.** Our advanced thermal processing systems provide precision control over atmospheric conditions within their process chambers by integrating our gas curtain and physical curtain technologies. Our systems are capable of excluding virtually all oxygen from the reflow and curing process steps to maintain the integrity of the process chamber atmosphere. In addition, our systems minimize the consumption of nitrogen or hydrogen, thereby reducing the operating cost of maintaining the atmosphere.

**ACCURATE AND UNIFORM TEMPERATURE.** Our high rate convection heating modules provide controlled heating capacities across many different sizes of PCBs, thereby enabling our customers to maximize throughput regardless of their product mix. In addition, our systems apply heat uniformly across each PCB and its semiconductor and other components, which is critical to ensure that complete reflow occurs. Heat up and cool down profiles are also closely controlled for process consistency and the protection of component parts.

REPEATABILITY FROM SYSTEM TO SYSTEM. We provide a high degree of repeatability from system to system through our closely characterized atmosphere and temperature controls and the reliability of our systems. This is a critical attribute because our customers must achieve uniform manufacturing performance in plants located throughout the world.

PROCESSING FLEXIBILITY. Major electronics manufacturers process many sizes of PCBs and often need rapid product changeover capabilities. Our systems can process PCBs of different sizes with minimal or no reconfiguration. Rapid changeover reduces down time and increases manufacturing volume. In addition, due to their very high volume requirements, our customers may require the ability to process multiple PCBs simultaneously side by side through the same process chamber. Our systems afford our customers the flexibility to achieve side-by-side processing.

RELIABILITY. Our customers place a high premium on reliability. Reliability is a major contributor to low cost of ownership because high up time can increase the productivity of an entire production line. We believe our advanced thermal processing systems are the most reliable in our customers' production lines and among the most reliable advanced thermal processing systems in the electronics industry.

WORLDWIDE CUSTOMER SUPPORT. We provide our customers with global technical service support, in depth process engineering support and fast delivery of our systems and parts. We provide our customer support through our on-site direct service organization and our independent sales and service representatives, supplemented with telephonic support and extensive customer training programs twenty-four hours a day, seven days a week.

#### PRODUCTS

We supply a broad range of advanced thermal processing systems, the majority of which are used by OEMs and EMS providers in the electronics manufacturing industry. The major applications for our products is currently in the PCB assembly industry for solder reflow, and in advanced thermal processing systems used in the bonding process necessary for the manufacture of advanced semiconductor packages and PCB assemblies. In addition, our products are used for such custom applications as the sintering of ceramics, the brazing of metals and the deposition of thin film coatings.

#### ELECTRONICS MANUFACTURING

PCB Reflow and Cure. We currently sell two families of advanced thermal processing systems used in the solder reflow and cure stages of PCB assembly as well as a new generation of systems under development.

The new PYRAMAX family of advanced convection reflow systems is designed on a single platform to be rapidly configurable, which reduces the product build cycle, allowing us to meet customer demands for shorter delivery lead times. Pyramax products offer our customers reduced capital cost, lower nitrogen consumption and reduced scheduled maintenance cycles.

Pyramax provides increased process flexibility due to its ability to process PCBs up to 24 inches wide. Rated up to 350(degrees)C, these products are capable of operating in air or nitrogen atmospheres and have increased convection flow for greater performance. Pyramax utilizes impingement technology to transfer heat to the substrate. These systems are offered in various heated lengths and are capable of processing lead-free solder. They range in price from \$70,000 to \$150,000.

The solder reflow process requires the thermal processing system to manage flux residues outgassed during the processing of the PCBs. Pyramax advanced thermal processing systems are equipped with a patented flux management system that isolates the flux outside the main process chamber, thereby helping to maintain the integrity of the atmosphere and facilitate easy disposal. Pyramax also features a closed loop convection control system to provide repeatable processes and controllable convection flows used in direct chip attach processes.

The VIP family of fan based reflow and curing systems is rated up to 300(degrees)C and is available in either air or air/nitrogen configurations. VIP also utilizes an impingement convection technology. The VIP uses 2.5 kilowatt heaters and is available in various heated lengths. The VIP series can be upgraded to process lead-free materials and ranges in price from \$40,000 to \$100,000.

ADVANCED SEMICONDUCTOR PACKAGING. We sell several systems for the thermal processes used in advanced semiconductor packaging.

WAFER BUMP REFLOW. Our TCAS series of continuous belt advanced thermal processing system is rated up to 800(degrees)C and is designed for wafer bump reflow. It can operate in a variety of controlled atmospheres including hydrogen using patented gas barrier technology to achieve a high purity hydrogen atmosphere. Our TCAS systems range in price from \$100,000 to \$300,000 and are available in various belt widths and heated lengths.

We also provide advanced solutions for wafer bump reflow by integrating automated handling systems with thermal equipment for processing both 200mm and 300mm wafers. 300mm systems are fully compliant with I300i protocol and with SEMI S2 and S8 standards. These integrated systems range in price from \$600,000 to \$1.5 million.

FLIP CHIP REFLOW IN PACKAGE. Flip Chip Reflow physically and electronically attaches the die to its package. The PARAGON family of advanced convection reflow systems, using specialized fan drives, is rated up to 400(degrees)C and operates in air or nitrogen atmospheres. Paragon utilizes impingement technology to transfer heat to the substrate. Using thermal power arrays of five-kilowatt heaters, Paragon can process substrates in dual track configurations, thereby enabling our customers to double production without increasing the machine's footprint. The Paragon family is available in three models based on the heated lengths of thermal processing chambers. Heated length is based on the required production rate and loading requirements. Paragon products range in price from \$70,000 to \$160,000.

BALL GRID ARRAY SOLDER SPHERE ATTACH REFLOW. The VIP series, with nitrogen atmosphere capability, is used for the attachment of solder balls to the semiconductor package. Our VIP series, as configured with 70 inches of heated length and nitrogen atmosphere, is used for the solder reflow process. See "VIP" above.

EPOXY UNDERFILL CURE. The VIP series, operating in a clean dry air atmosphere, is used to cure the epoxy underfill materials in various advanced semiconductor packaging technologies. To reduce footprint, the VIP utilizes dual or triple track conveyance system for materials requiring longer cure times. As part of the process, the VIP is used for heating the epoxy underfill materials thereby keeping the material flowing under the chip prior to the curing process.

HYBRID CIRCUITS AND DISCRETE COMPONENTS. We offer a range of products that are used in the manufacturing of multilayer ceramic capacitors and thick film hybrid circuits.

Our VMCA series of continuous belt advanced thermal processing systems, rated up to 1100(degrees)C in air or nitrogen atmospheres, is used for firing copper thick film. The VMCA utilizes an advanced gas scrubbing system to control the binder remover phase in the termination firing process. The VMCA is available in various belt widths and heated lengths and ranges in price from \$100,000 to \$150,000.

Thick Film Resistors and Conductors. The TFF and the VM series of continuous belt advanced thermal processing systems is rated up to 1050(degrees)C in air. These systems are used for firing thick film pastes in the production of hybrid circuits and can achieve an across belt temperature uniformity of +/- 1(degrees)C. Such thermal uniformity is critical in the production of resistor circuits. These systems are available in various belt widths and heated lengths and range in price from \$50,000 to \$180,000.

#### CUSTOM APPLICATIONS

We design and manufacture custom high temperature systems used in such applications as metals brazing, ceramic sintering and thin film coatings.

METALS BRAZING. The TCA series of continuous advanced thermal processing systems is rated up to 1150(degrees)C and operates in a variety of atmospheres. This series is used for a range of thermal processing applications including brazing of metals such as aluminum oil coolers for the automotive industry. The TCA series utilizes a patented system to enhance temperature uniformity and increase product throughput. The TCA series is available in a variety of belt widths and heated lengths and ranges in price from \$70,000 to \$500,000.

CERAMIC SINTERING. The WBE WALKING BEAM thermal processing system is rated up to 1800(degrees)C and operates in a hydrogen reducing atmosphere. This series is primarily used for sintering of multilayer ceramics and nuclear fuel pellets that are used in the production of nuclear power. The WBE Walking Beam is designed for high volume production applications with very heavy loads. It uses a walking beam transport system to eliminate friction associated with advanced thermal processing systems that use plunger technology. This system ranges in price from \$500,000 to \$2.0 million.

We also offer a PUSHER thermal processing system, which is rated up to 1800(degrees)C in a hydrogen reducing atmosphere. The Pusher is used in lower volume applications for the sintering of ceramics and nuclear fuels. These systems range in price from \$500,000 to \$1.2 million.

#### CUSTOMERS

Many of our principal customers are large-volume global OEMs and EMS providers that produce ICs and assemble PCBs for use in the manufacture of electronic devices. Many of our customers use our products in multiple facilities worldwide. Our EMS customers include industry leaders such as Celestica, Solectron, SCI-Sanmina and Foxconn. Our OEM customers include leaders in their respective industries such as Intel, IBM, Nokia and Samsung.

Our largest revenue generating customers have historically accounted for a significant percentage of our net sales. Aggregate net sales to our ten largest customers accounted for approximately 35% of our net sales in 2001 and 51% of our net sales in 2000. In 2001 sales to IBM, our largest customer for that year represented approximately 15% of net sales. In 2000, sales to Solectron, our largest customer for that year, represented nearly 23% of our total net sales.

#### SALES AND MARKETING

We market and sell our products through our direct sales force and independent sales representatives throughout the world. All sales are made through one distribution channel made up of our direct sales force and independent sales representatives. We promote our products through industry-wide venues such as trade shows. Our direct sales force is responsible for educating the marketplace, generating leads and creating sales programs and literature. Our on-site direct service organization and our manufacturers representatives provide ongoing services to customers using our products. These services include implementing continuous improvement tools related both to the cost of our products and to their technical performance. These service functions allow us to market future sales within our current customer base. In addition, our management and sales teams participate in periodic trade conventions, through which we aggressively market our products to potential customers.

We market our systems and services globally. Approximately 59% of our net sales originate outside the United States, with Asia Pacific and Europe representing 28% and 25% of net sales, respectively, and 6% to Other Americas.

#### RESEARCH, DEVELOPMENT AND ENGINEERING

Our research, development and engineering efforts are directed toward enhancing existing products and developing our next generation of products. Our expenses for research, development and engineering decreased from \$6.2 million in 2000 to \$5.0 million in 2001. A large percentage of our research, development and engineering expense in 2001 was spent on the development of a new solder reflow platform and in support of custom design solutions.

Close working relationships between our key customers and our product engineering teams enable us to incorporate our customers' feedback and needs into our product development efforts.

We have integrated our product design, manufacturing, engineering and after sales support documentation in support of the new product introduction process and lowered research, development and engineering costs. We also have begun an information technology initiative to develop language-independent electronic service and repair support.

#### MANUFACTURING AND SUPPLIERS

Our principal manufacturing operations consist of final assembly, systems integration and testing at our facility in North Billerica, Massachusetts. We outsource the manufacture of most of our components to a number of different suppliers and maintain close relationships with these key suppliers. We have a list of qualified alternative suppliers in the event we exceed the capacity of our key suppliers.

We continue to invest in software and capital equipment related to our information technology infrastructure and customer support. We have outsourced the manufacture of most of our significant component systems thereby reducing cycle time and increasing our inventory turnover. We adhere closely to the principles of total quality management and have been ISO 9001 certified since March 1998. Our customers, suppliers and employees are encouraged to provide feedback and make suggestions for product improvements.

## INTELLECTUAL PROPERTY

We seek to protect our intellectual property by filing patents on proprietary features of our advanced thermal processing systems and by challenging third parties that we believe infringe on our patents. We also protect our intellectual property rights with nondisclosure and confidentiality agreements with employees, consultants and key customers and with our trademarks, trade secrets and copyrights. As a global supplier of equipment, we recognize that the laws of certain foreign countries may not protect our intellectual property to the same extent as the laws of the United States.

We license some software programs from third party developers and incorporate them into our products. Generally, these agreements grant us non-exclusive licenses to use the software and terminate only upon a material breach by us. We believe that such licenses are generally available on commercial terms from a number of licensors.

## BACKLOG

Backlog as of December 31, 2001 was \$8.0 million, compared to \$13.7 million as of December 31, 2000. As of December 31, 2001, we expected to ship our year-end backlog within 6 to 40 weeks. Most of our backlog for solder reflow systems are expected to be shipped within 3 to 8 weeks. The backlog of our custom systems are expected to be shipped within 12 to 40 weeks. We include in backlog only those orders for which the customer has signed a purchase order and a delivery schedule has been specified. Because of possible changes in delivery schedules and order cancellations, our backlog at any particular date is not necessarily representative of sales for any subsequent period.

## COMPETITION

Several companies compete with us in selling advanced thermal processing systems to OEMs and EMS providers. Although price is a factor in buying decisions on price, we believe that technological leadership, process capability, throughput, environmental safeguards, uptime, mean time-to-repair, cost of ownership and after-sale support have become increasingly important factors. We compete primarily on the basis of these criteria, rather than on the basis of price.

Our principal competitors for advanced semiconductor packaging and PCB assembly equipment vary by product application. Our principal competitors for solder reflow systems are Electrovert-Speedline Technologies (a Cookson Electronic Company), Heller Industries, and Vitronics-Soltec, Inc. (a Dover Technologies Company). Our high temperature systems for thick film, hybrid circuits, ceramics and other applications compete primarily against systems sold by Lindberg (a Unit of SPX Corp.), SierraTherm Production Furnaces, Inc., Centrotherm and Harper International Corp.

## EMPLOYEES

As of March 1, 2002, we had 221 employees, of whom 77 are engaged in sales, marketing and service, 23 in research, development and engineering, 22 in finance and administration and 99 in operations. None of our employees are represented by a collective bargaining agreement, and we believe that we have satisfactory relations with our employees.

## ENVIRONMENTAL

Compliance with laws and regulations regarding the discharge of materials into the environment, or otherwise relating to the protection of the environment, has not had any material effects on the capital expenditures, earnings or competitive position of the Company. The Company does not anticipate any material capital expenditures for environmental control facilities in 2002.

## ITEM 2. PROPERTIES

### FACILITIES

We maintain our headquarters in North Billerica, Massachusetts, where we own a 150,000 square foot manufacturing facility. We currently operate our manufacturing facility on a full time first shift and a partial second shift basis. In England, we lease a facility for our European sale and service operations. We also rent office space in Paris, France. In Asia, we lease sales and service offices in Shanghai and Beijing, China; Singapore; Penang, Malaysia; and Cavite, Philippines. We believe that our plant and capital equipment provide sufficient manufacturing capacity into 2003.

ITEM 3. LEGAL PROCEEDINGS

There were no material legal proceedings pending as of the time of this filing.

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

There were no matters submitted to a vote of the Company's security holders during the fourth quarter of 2001.

ITEM 4A. EXECUTIVE OFFICERS OF THE REGISTRANT

| NAME<br>----           | AGE<br>--- | POSITIONS<br>-----                                                        |
|------------------------|------------|---------------------------------------------------------------------------|
| Paul J. van der Wansem | 62         | Chairman of the Board of Directors, President and Chief Executive Officer |
| Thomas P. Kealy        | 59         | Vice President, Corporate Controller and Chief Accounting Officer         |
| James M. Griffin       | 44         | Vice President of Sales-Americas                                          |

Paul J. van der Wansem has been President, Chief Executive Officer and a member of our board of directors since 1979. From December 1977 to 1981, he served as Vice President of Holec, N.V., a Dutch electronics company, and from 1978 to 1981, he was also president of Holec (USA), Inc. From 1973 to 1977, he worked as a Management Consultant for the Boston Consulting Group, Inc. From 1970 to 1973, Mr. van der Wansem worked as an Adjunct Director of First National City Bank in Amsterdam and New York. Mr. van der Wansem received an undergraduate degree in automotive engineering from Bromsgrove College, England and holds an M.B.A. from IMD, Switzerland.

Thomas P. Kealy has been Vice President, Corporate Controller and Chief Accounting Officer of our company since February 1991. He has been the Corporate Controller since joining our company in July 1985. Prior to 1985, Mr. Kealy served for 14 years in various financial management positions, including Division Controller for Polaroid Corporation. Earlier he was the Corporate Controller for Coro, Inc. and Lebanon, Inc. Mr. Kealy holds a B.S. in Finance and Accounting from Bentley College and an M.B.A. from Clark University.

James M. Griffin has been Vice President Sales-Americas of our company since February 2000. Previously, Mr. Griffin was our Director of Sales-North America. Mr. Griffin has held a number of positions within our company's sales organization. Mr. Griffin has been with our company for 18 years. Mr. Griffin attended Worcester Polytechnic Institute in the mechanical engineering program.

PART II

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

Our common stock has been listed on the Nasdaq National Market System under the symbol "BTUI" since February 7, 1989. The following table sets forth, for the periods indicated, the high and low closing prices of our common stock as reported on the Nasdaq National Market System.

|                                      | HIGH<br>---- | LOW<br>---- |
|--------------------------------------|--------------|-------------|
| Fiscal Year Ended December 31, 2000: |              |             |
| First Quarter.....                   | 17.75        | 5.25        |
| Second Quarter.....                  | 12.13        | 8.13        |
| Third Quarter.....                   | 15.50        | 9.88        |
| Fourth Quarter.....                  | 13.63        | 6.88        |
| Fiscal Year Ended December 31, 2001: |              |             |
| First Quarter.....                   | 9.70         | 5.13        |
| Second Quarter.....                  | 7.25         | 4.56        |
| Third Quarter.....                   | 6.20         | 3.02        |
| Fourth Quarter.....                  | 4.45         | 3.01        |

As of March 28, 2002 there were approximately 508 stockholders of

DIVIDEND POLICY

Our policy is to retain earnings to provide funds for the operation and expansion of our business. We have not paid cash dividends on our common stock and do not anticipate that we will do so in the foreseeable future. The payment of dividends in the future will depend on our growth, profitability, financial condition and other factors that our board of directors may deem relevant.

ITEM 6. SELECTED FINANCIAL DATA

The selected consolidated statement of operations data for each of the fiscal years ended December 31, 1999, December 31, 2000 and December 31, 2001 and the selected consolidated balance sheet data as of December 31, 2000 and December 31, 2001 have been derived from our consolidated financial statements audited by Arthur Andersen LLP, independent public accountants, and are included elsewhere in this Form 10-K. The selected consolidated statement of operations data for the fiscal years ended December 31, 1997 and December 31, 1998 and the selected consolidated balance sheet data as of December 31, 1997, December 31, 1998 and December 31, 1999 have been derived from audited financial statements not included in this Form 10-K. This data should be read together with our consolidated financial statements and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this Form 10-K.

|                                                      | FISCAL YEAR ENDED DECEMBER 31,        |           |           |           |            |
|------------------------------------------------------|---------------------------------------|-----------|-----------|-----------|------------|
|                                                      | 1997                                  | 1998      | 1999      | 2000      | 2001       |
|                                                      | (IN THOUSANDS, EXCEPT PER SHARE DATA) |           |           |           |            |
| CONSOLIDATED STATEMENT OF OPERATIONS DATA:           |                                       |           |           |           |            |
| Net sales.....                                       | \$ 52,118                             | \$ 57,208 | \$ 71,260 | \$ 99,494 | \$ 47,057  |
| Cost of goods sold.....                              | 30,431                                | 33,946    | 42,449    | 59,112    | 31,625     |
| Gross profit.....                                    | 21,687                                | 23,262    | 28,811    | 40,382    | 15,432     |
| Selling, general and administrative.....             | 15,349                                | 16,800    | 20,284    | 25,310    | 16,328     |
| Research, development and engineering.....           | 3,808                                 | 4,575     | 4,786     | 6,231     | 5,001      |
| Restructuring charge(1).....                         | 530                                   | --        | --        | --        | --         |
| Operating income (loss).....                         | 2,000                                 | 1,887     | 3,741     | 8,841     | (5,897)    |
| Interest income (expense), net.....                  | (10)                                  | (46)      | 8         | (54)      | (53)       |
| Other income (expense).....                          | (341)                                 | 73        | 24        | (440)     | 2          |
| Income (loss) before provision for income taxes..... | 1,649                                 | 1,914     | 3,773     | 8,347     | (5,948)    |
| Net income (loss).....                               | \$ 1,250                              | \$ 1,533  | \$ 2,838  | \$ 5,422  | \$ (3,747) |
| Earnings per share, diluted.....                     | \$ 0.17                               | \$ 0.22   | \$ 0.41   | \$ 0.74   | \$ (.54)   |
| Weighted average shares outstanding, diluted.....    | 7,336                                 | 7,118     | 6,968     | 7,278     | 6,928      |

|                                  | DECEMBER 31,   |           |           |          |           |
|----------------------------------|----------------|-----------|-----------|----------|-----------|
|                                  | 1997           | 1998      | 1999      | 2000     | 2001      |
|                                  | (IN THOUSANDS) |           |           |          |           |
| CONSOLIDATED BALANCE SHEET DATA: |                |           |           |          |           |
| Cash and cash equivalents.....   | \$11,873       | \$ 10,594 | \$ 12,431 | \$ 8,886 | \$ 15,716 |
| Working capital.....             | 26,098         | 24,961    | 26,693    | 30,709   | 26,571    |
| Total liabilities.....           | 16,821         | 15,478    | 17,346    | 19,363   | 10,185    |
| Total assets.....                | 40,379         | 38,615    | 43,149    | 51,160   | 37,836    |
| Stockholders' equity.....        | 23,558         | 23,137    | 25,803    | 31,797   | 27,651    |

- (1) In 1997, we incurred a one-time restructuring charge resulting from the implementation of our strategy to outsource subassemblies and change our approach in our sales and service support in certain Asia Pacific countries.

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

##### OVERVIEW

We design, manufacture, sell and support advanced thermal processing systems used primarily in the assembly of PCBs and in advanced semiconductor packaging. We believe we are the leading supplier of solder reflow systems used by OEMs and EMS providers. In addition, we produce advanced high temperature processing systems for manufacturing ceramic components for electronic devices and a variety of specialty applications.

We derive our net sales from customers around the world. Our customers include large multinational OEMs and EMS providers requiring advanced thermal processing equipment solutions. In 2001, net sales to our five largest customers accounted for 26.1% of our total net sales. Our net sales in 2001 were dispersed worldwide, with approximately 41.0% to customers in the United States, 28.0% to Asia Pacific customers, 25.0% to European customers and 6.0% to Other Americas. Over the past three years, the percentage of our net sales to international customers was 68.0% in 1999, 66.0% in 2000 and 59.0% in 2001. These percentages reflect an emphasis on offshore manufacturing by our U.S.-based multinational customers and the successful penetration of new non-U.S. based customers.

CRITICAL ACCOUNTING POLICIES

The following is a discussion of those accounting policies that the Company deems to be "critical" - that is, they are important to the portrayal of the Company's financial condition and results, and they reflect management's reliance on estimates regarding matters that are inherently uncertain.

REVENUE RECOGNITION ON LONG-TERM AGREEMENTS - The Company regularly enters into sales transactions projects that take longer than the normal business cycle to complete. The Company accounts for these projects on a percentage completion basis. Using this method, revenues are recognized based on the ratio of costs incurred to the project's total estimated costs. To the extent that the Company's estimates regarding costs or time required for completion prove to be materially inaccurate, the Company's revenues for a period may likewise be materially different. The Company routinely reviews estimates relating to these projects, and regularly revises the estimates when necessary to reflect a change in outlook. Revisions to cost estimates result in a charge to revenues for the period in which the facts leading to the revision become known. Adjustments to revenues based on revisions to estimates under long-term agreements were insignificant for each of the three years ending December 31, 2001.

For more information on the Company's general revenue recognition policies, please see Note 1 to the financial statements included in this report.

INVENTORY VALUATION - The Company's inventories consist of material, labor and manufacturing overhead costs. The Company determines the cost of inventory based on the first-in, first-out method (FIFO). The Company regularly reviews the quantity of inventories on hand and compares these quantities to the expected usage of each applicable product or product line. The Company's inventories are regularly adjusted in value to the lower of costs and/or net realizable value. Since the value of the Company's inventories depends in part on the Company's estimates of each product's net realizable value, adjustments may be needed to reflect changes in valuation. Any adjustments the Company is required to make to lower the value of the inventories are recorded as a charge to cost of revenue.

RESULTS OF OPERATIONS

The following table sets forth the percentage of net sales of certain items in our consolidated financial statements for the periods indicated.

|                                                      | FISCAL YEAR ENDED<br>DECEMBER 31, |        |         |
|------------------------------------------------------|-----------------------------------|--------|---------|
|                                                      | 1999                              | 2000   | 2001    |
| Net sales.....                                       | 100.0%                            | 100.0% | 100.0%  |
| Cost of goods sold.....                              | 59.6%                             | 59.4%  | 67.2%   |
| Gross profit.....                                    | 40.4%                             | 40.6%  | 32.8%   |
| Operating expenses:                                  |                                   |        |         |
| Selling, general and administrative.....             | 28.5%                             | 25.4%  | 34.7%   |
| Research, development and engineering.....           | 6.7%                              | 6.3%   | 10.6%   |
| Operating (loss) income.....                         | 5.2%                              | 8.9%   | (12.5)% |
| Interest income.....                                 | 0.6%                              | 0.4%   | 0.8%    |
| Interest expense.....                                | (0.6)%                            | (0.4)% | (0.9)%  |
| Other income (expense), net.....                     | 0.0%                              | (0.4)% | 0.0%    |
| Income before (loss) provision for income taxes..... | 5.3%                              | 8.4%   | (12.6)% |
| Income taxes.....                                    | 1.3%                              | 2.9%   | (4.7)%  |
| Net (loss) Income.....                               | 4.0%                              | 5.5%   | (7.9)%  |

FISCAL YEAR ENDED DECEMBER 31, 2001 AS COMPARED TO FISCAL YEAR ENDED DECEMBER 31, 2000

Net Sales. Net sales decreased 52.7% from \$99.5 million in 2000 to \$47.1 million in 2001. The decrease in 2001 net sales reflects the lower demand for our products, primarily by our large multinational EMS providers. This decrease in net sales also reflects the slow down in the electronics manufacturing market.

The growth in the percentage of net sales to United States customers reflects the increase in the percentage of sales made to our OEM providers. The decrease in net sales to European and Asia Pacific customers reflects the decline in net sales to our EMS providers. The percentage of net sales attributable to our customers in the United States increased in 2001 by 7.2%, net sales attributable to our customers in Europe decreased by 2.6%, net sales

attributable to our Asia Pacific customers decreased by 3.7% and net sales attributable to our customers in the other Americas decreased by 0.9% as compared to 2000. The effect of price changes for specific products has not materially impacted the change in net sales for the periods presented.

Gross Profit. Gross profit decreased 61.8% from \$40.4 million in 2000 to \$15.4 million in 2001 and, as a percentage of net sales, decreased from 40.6% in 2000 to 32.8% in 2001. The decrease in gross profit and gross profit percentage for 2001 was due to the decrease in net sales in 2001 and the under absorption of overhead.

Selling, General and Administrative. Selling, general and administrative costs decreased 35.5% from \$25.3 million in 2000 to \$16.3 million in 2001, and as a percentage of net sales, increased from 25.4% to 34.7%. Lower costs were incurred for every area of selling, general and administrative including sales, service and commissions and administrative costs.

Research, Development and Engineering. Research, development and engineering costs decreased 19.7% from \$6.2 million in 2000 to \$5.0 million in 2001, and as a percentage of net sales, increased from 6.3% in 2000 to 10.6% in 2001. A large percentage of our research, development and engineering expense in 2001 was spent on the development of a new solder reflow platform and in support of custom design solutions.

Operating Income. Operating income decreased 166.7% from an operating income of \$8.8 million in 2000 to an operating loss of \$(5.9) million in 2001, and as a percentage of net sales, operating income decreased from an 8.9% profit in 2000 to a (12.5)% operating loss in 2001. In 2001, the decrease in operating income was the result of a 52.7% decrease in net sales compared to 2000.

Other income (expense), net. During 2000, the Company initiated a plan to sell an additional 2.5 million shares of common stock in a secondary offering. The Board of Directors voted to withdraw the stock offering as market conditions were unfavorable to proceed. In 2000 the Company incurred approximately \$450,000 in costs associated with this proposed sale of stock.

Income Taxes. Income taxes decreased from a \$2.9 million provision in 2000 to a \$2.2 million benefit in 2001. Our effective tax provision and benefit rates were 35.0% in 2000 and 37.0% in 2001.

FISCAL YEAR ENDED DECEMBER 31, 2000 AS COMPARED TO FISCAL YEAR ENDED DECEMBER 31, 1999

Net Sales. Net sales increased 39.6% from \$71.3 million in 1999 to \$99.5 million in 2000. The increase in 2000 net sales reflects the higher demand for our products, primarily by our large multinational OEMs and EMS providers. This increase in net sales also reflects growth of approximately 20.0% in the electronics manufacturing market and the gain in market share we have achieved with our medium and high end solder reflow systems.

The percentage of net sales attributable to our customers in the United States increased by 2.5%, net sales attributable to our customers in Europe increased by 0.8%, net sales attributable to our Asia Pacific customers increased by 1.8% and net sales attributable to our customers in the other Americas decreased by 5.1%. The growth in net sales to United States customers reflects the continued increase in EMS providers market share. The growth in net sales to European and Asia Pacific customers reflects the trend toward offshore manufacturing by our U.S.-based and multinational customers and our increased sales to overseas domestic manufacturers. The effect of price changes for specific products has not materially impacted the change in net sales for the periods presented.

Gross Profit. Gross profit increased 40.2% from \$28.8 million in 1999 to \$40.4 million in 2000 and, as a percentage of net sales, increased from 40.4% in 1999 to 40.6% in 2000. The increase in gross profit and gross profit percentage for 2000 was due to the increase in net sales in 2000.

Selling, General and Administrative. Selling, general and administrative increased 24.8% from \$20.3 million in 1999 to \$25.3 million in 2000, and as a percentage of net sales, decreased from 28.5% to 25.4%. The higher costs in 2000 were primarily the result of a \$28.2 million increase in our net sales. The higher selling, general and administrative in 2000 can be attributed to an increase in customer service support for our worldwide customer base and higher selling expenses. In 2000, sales commission expense was higher as sales increased. In addition, higher bonuses were recorded in 2000 compared to 1999, due to the increase in net income. In 2000 the Company's net warranty costs were favorably impacted by \$246,000 through a cost sharing program.

Research, Development and Engineering. Research, development and engineering increased 30.2% from \$4.8 million in 1999 to \$6.2 million in 2000, and as a percentage of net sales, decreased from 6.7% in 1999 to 6.3% in 2000. A large percentage of our research, development and engineering expense in 2000 was spent on the development of a new solder reflow platform and in support of custom design solutions.

Operating Income. Operating income increased 136.3% from \$3.7 million in 1999 to \$8.8 million in 2000, and as a percentage of net sales, increased from 5.2% in 1999 to 8.9% in 2000. In 2000, the increase in operating income was the result of a 39.6% increase in net sales over 1999. In addition, we increased efficiencies throughout the organization and our cost structure for sales, general and administrative and research, development and engineering increased at a lower rate than did the net sales percentage.

Other income (expense), net. During the first half of 2000, the Company initiated a plan to sell an additional 2.5 million shares of common stock in a secondary offering. The Board of Directors voted to withdraw the stock offering as current market conditions were unfavorable to proceed. The Company incurred approximately \$450,000 in costs associated with this proposed sale of stock, which were subsequently expensed during the quarter ending December 31, 2000.

Income Taxes. Income taxes increased from \$935,000 in 1999 to \$2,925,000 in 2000. Our effective tax rates were 24.8% in 1999 and 35.0% in 2000. . During 1999 we recorded the benefit of net operating loss carryforwards available to our UK subsidiary, which was profitable in 1999, resulting in the lower effective tax rates. Our statutory federal income tax rate is 34.0%.

#### LIQUIDITY AND CAPITAL RESOURCES

As of December 31, 2001, we had \$15.7 million in cash and cash equivalents, an increase of \$6.8 million compared to December 31, 2000. The increase was primarily a result of collections on accounts receivable.

The Company has an unsecured revolving line of credit with a US bank, which allows for aggregate borrowings and/or letters of credit of up to \$14,000,000. Borrowings are available to the Company at either the Bank's base rate or a Eurodollar rate, as elected by the Company. This loan facility is available to the Company until April 30, 2004, subject to compliance with certain financial covenants. As of December 31, 2001, no amounts were outstanding under this unsecured revolving line of credit. At December 31, 2001, the Company was not in compliance with certain financial covenants of this agreement. The bank and the Company have agreed on revised financial covenants requiring an amendment to the loan facility, which is in process.

We have a mortgage note that is secured by our real property. The mortgage note had an outstanding balance at December 31, 2001 of approximately \$4.6 million. The mortgage requires monthly payments of \$53,922, which includes interest calculated at the rate of 8.125% per annum. A final balloon payment of approximately \$3.8 million is due on July 1, 2004 upon maturity of the mortgage note.

We expect that our current cash position and ability to borrow necessary funds will be sufficient to meet our corporate, operating and capital requirements into 2003.

#### MARKET RISK DISCLOSURE

Our primary market risk exposure is in the area of foreign currency exchange rate risk. We are exposed to currency exchange rate fluctuations as they pertain to invoices for parts and labor in our foreign service locations.

As of December 31, 2001, all of our long-term debt and capital lease obligations are fixed rate financial instruments. Therefore we are not exposed to interest rate risk resulting from variable interest rate of our debts.

#### OTHER MATTERS

The impact of inflation and the effect of foreign exchange rate changes during 2001 have not had a material impact on our business and financial results.

RECENT ACCOUNTING DEVELOPMENTS

In July 2001, the Financial Accounting Standards Board ("FASB") issued SFAS No. 141, "Accounting for Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." These statements modify accounting for business combinations after September 30, 2001 and will affect the Company's treatment of goodwill and other intangible assets at the start of the year 2002, and for acquisitions consummated after June 30, 2001. The statements require that goodwill existing at the date of adoption be reviewed for possible impairment and that impairment tests be periodically repeated, with impaired assets written down to fair value. Additionally, existing goodwill and intangible assets must be assessed and classified with the statement's criteria. Intangible assets with estimated useful lives will continue to be amortized over those periods. Amortization of goodwill and intangible assets with indeterminable lives will cease. The Company does not expect the adoption of this statement to have a material impact on its results of operations because the Company currently does not have any goodwill.

In June 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations." SFAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. This statement applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or the normal operation of a long-lived asset, except for certain obligations of lessees. This statement does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. This statement is effective for financial statements issued for fiscal years beginning after June 15, 2002. The Company does not expect the adoption of this statement to have a material impact on its results of operations.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement requires that a long-lived asset to be abandoned, exchanged for a similar productive asset, or distributed to owners in a spin-off be considered held and used until it is disposed of. The changes in this statement require that one accounting model be used for long-lived assets to be disposed of by sale, whether previously held and used or newly acquired, and by broadening the presentation of discontinued operations to include more disposal transactions. The provisions of this statement are effective for financial statements issued for fiscal years beginning after December 15, 2001 and interim periods within those fiscal years, with early application encouraged. The provisions of this statement generally are to be applied prospectively. The Company does not expect the adoption of this statement to have a material impact on its results of operations.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by item 8 of Form 10-K is presented here in the following order:

Unaudited Quarterly Financial Information.....  
Consolidated Balance Sheet as of December 31, 2001 and 2000.....  
Consolidated Statement of Operations for the years ended  
December 31, 2001, 2000 and 1999.....  
Consolidated Statement of Stockholders' Equity for the years ended  
December 31, 2001, 2000 and 1999.....  
Consolidated Statement of Comprehensive Income for the years ended  
December 31, 2001, 2000 and 1999.....  
Consolidated Statement of Cash Flows for the years ended December 31,  
2001, 2000 and 1999.....  
Notes to Consolidated Financial Statements.....  
Report of Independent Public Accounts.....

UNAUDITED QUARTERLY RESULTS OF OPERATIONS

The following table presents unaudited statements of operations data for each of the eight quarters in the period ended December 31, 2001 with such data expressed as a percentage of net sales for the period indicated. We believe that all necessary adjustments have been included to present fairly the quarterly information when read in conjunction with our consolidated financial statements. The operating results for any quarter are not necessarily indicative of the results for any subsequent period.

CONSOLIDATED STATEMENT OF OPERATIONS DATA  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|                                          | QUARTER ENDED    |                 |                |                  |                  |                 |                   |                  |
|------------------------------------------|------------------|-----------------|----------------|------------------|------------------|-----------------|-------------------|------------------|
|                                          | APRIL 2,<br>2000 | JULY 2,<br>2000 | OCT 1,<br>2000 | DEC. 31,<br>2000 | APRIL 1,<br>2001 | JULY 1,<br>2001 | SEPT. 30,<br>2001 | DEC. 31,<br>2001 |
| Net sales.....                           | \$ 21,853        | \$ 23,956       | \$ 26,908      | \$ 26,777        | \$ 16,581        | \$ 14,037       | \$ 9,099          | \$ 7,340         |
| Cost of goods sold.....                  | 12,676           | 13,964          | 16,166         | 16,306           | 9,869            | 10,831          | 6,041             | 4,885            |
| Gross profit.....                        | 9,177            | 9,992           | 10,742         | 10,471           | 6,712            | 3,206           | 3,058             | 2,455            |
| Selling, general and administrative....  | 6,070            | 6,404           | 6,733          | 6,103            | 5,091            | 4,254           | 3,329             | 3,653            |
| Research, development and engineering... | 1,330            | 1,359           | 1,629          | 1,913            | 1,501            | 1,383           | 1,116             | 1,001            |
| Income (loss) from operations.....       | 1,777            | 2,229           | 2,380          | 2,455            | 120              | (2,431)         | (1,387)           | (2,199)          |
| Interest income (expense), net.....      | 13               | (19)            | (10)           | (38)             | (2)              | (47)            | 5                 | (9)              |
| Other income (expense), net.....         | 4                | 7               | 4              | (455)            | 5                | (11)            | 0                 | 8                |
| Income (loss) before taxes.....          | 1,794            | 2,217           | 2,374          | 1,962            | 123              | (2,489)         | (1,382)           | (2,200)          |
| Income tax (benefit) provision.....      | 638              | 766             | 823            | 698              | 46               | (921)           | (513)             | (813)            |
| Net income (loss).....                   | \$ 1,156         | \$ 1,451        | \$ 1,551       | \$ 1,264         | \$ 77            | \$ (1,568)      | \$ (869)          | \$ (1,387)       |
| Earnings per share, diluted.....         | \$ 0.16          | \$ 0.20         | \$ 0.21        | \$ 0.17          | \$ 0.01          | \$ (0.23)       | \$ (0.13)         | \$ 0.20          |
| Weighted average shares, diluted.....    | 7,284            | 7,323           | 7,371          | 7,319            | 7,251            | 6,967           | 6,972             | 6,842            |

|                                          | QUARTER ENDED    |                 |                 |                  |                  |                 |                   |                  |
|------------------------------------------|------------------|-----------------|-----------------|------------------|------------------|-----------------|-------------------|------------------|
|                                          | APRIL 2,<br>2000 | JULY 2,<br>2000 | OCT. 1,<br>2000 | DEC. 31,<br>2000 | APRIL 1,<br>2001 | JULY 1,<br>2001 | SEPT. 30,<br>2001 | DEC. 31,<br>2001 |
| PERCENTAGE OF NET SALES:                 |                  |                 |                 |                  |                  |                 |                   |                  |
| Net sales.....                           | 100.0%           | 100.0%          | 100.0%          | 100.0%           | 100.0%           | 100.0%          | 100.0%            | 100.0%           |
| Cost of goods sold.....                  | 58.0             | 58.3            | 60.1            | 60.9             | 59.5             | 77.2            | 66.4              | 66.6             |
| Gross profit .....                       | 42.0             | 41.7            | 39.9            | 39.1             | 40.5             | 22.8            | 33.6              | 33.4             |
| Selling, general and administrative....  | 27.8             | 26.7            | 25.0            | 22.8             | 30.7             | 30.3            | 36.6              | 49.8             |
| Research, development and engineering... | 6.1              | 5.7             | 6.1             | 7.1              | 9.1              | 9.8             | 12.2              | 13.6             |
| Income (loss) from operations.....       | 8.1              | 9.3             | 8.8             | 9.2              | 0.7              | (17.3)          | (15.2)            | (30.0)           |
| Interest income (expense), net.....      | 0.1              | (0.1)           | 0.0             | (0.1)            | 0.0              | (0.3)           | 0.0               | (0.1)            |
| Other income (expense), net.....         | 0.0              | 0.0             | 0.0             | 1.7              | 0.0              | (0.1)           | 0.0               | 0.1              |
| Income (loss) before taxes.....          | 8.2              | 9.3             | 8.8             | 7.3              | 0.7              | (17.7)          | (15.2)            | (30.0)           |
| Income tax (benefit) provision.....      | 2.9              | 3.2             | 3.1             | 2.6              | 0.3              | (6.5)           | (5.6)             | (11.1)           |
| Net income (loss).....                   | 5.3%             | 6.1%            | 5.8%            | 4.7%             | 0.4%             | (11.2)%         | (9.6)%            | (18.9)%          |

During the eight quarters in 2000 and 2001, net sales decreased from a high of \$26.9 million to a low of \$7.3 million. The overall decline in net sales for 2001 is the result of a continual decline in the electronics manufacturing marketplace.

Gross profits as a percentage of net sales during the last eight quarters began at 42.0% and ended at 33.4%. The decline in gross profit and gross profit as a percent of net sales during 2001 was due to the decrease in net sales and the under absorption of overhead.

Selling, general and administrative costs during the last eight quarters of 2000 and 2001 decreased from a high of \$6.7 million to a low of \$3.3 million. Lower costs were incurred in every area of selling, general and administrative for 2001 including sales, service and commission costs.

Research, development and engineering costs decreased in real terms but increased as a percentage of net sales from 2000 to 2001 due to the decrease in net sales for 2001.

Income from operations decreased during the eight quarters in 2000 and 2001 from a high income of \$2.5 million to a loss of \$(2.4) million. The loss from operations for the year 2001 was the result of the decrease in net sales over

2000.

Other income (expense), net includes approximately \$450,000 in the fourth quarter of 2000 in costs associated with the proposed sale of stock which was withdrawn due to unfavorable market conditions.

BTU INTERNATIONAL, INC.  
CONSOLIDATED BALANCE SHEETS  
(IN THOUSANDS, EXCEPT SHARE DATA)

|                                                                                                                                                             | AS OF DECEMBER 31, |           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|
|                                                                                                                                                             | 2001               | 2000      |
|                                                                                                                                                             | -----              | -----     |
| <b>ASSETS</b>                                                                                                                                               |                    |           |
| Current Assets:                                                                                                                                             |                    |           |
| Cash and cash equivalents(Notes 1 and 11).....                                                                                                              | \$ 15,716          | \$ 8,886  |
| Trade accounts receivable, less reserves of \$230 and \$206 at<br>December 31, 2001 and 2000, respectively(Note 1).....                                     | 5,626              | 21,716    |
| Inventories(Note 1).....                                                                                                                                    | 9,051              | 13,619    |
| Deferred income taxes(Notes 1 and 6).....                                                                                                                   | 1,459              | 0         |
| Other current assets.....                                                                                                                                   | 557                | 512       |
|                                                                                                                                                             | -----              | -----     |
| Total current assets.....                                                                                                                                   | 32,409             | 44,733    |
|                                                                                                                                                             | -----              | -----     |
| Property, Plant and Equipment, at cost (Notes 1 and 3)                                                                                                      |                    |           |
| Land.....                                                                                                                                                   | 210                | 210       |
| Buildings and improvements.....                                                                                                                             | 7,805              | 7,730     |
| Machinery and equipment.....                                                                                                                                | 7,626              | 7,857     |
| Furniture and fixtures.....                                                                                                                                 | 853                | 860       |
|                                                                                                                                                             | -----              | -----     |
| Less-accumulated depreciation.....                                                                                                                          | (16,494)           | (16,657)  |
|                                                                                                                                                             | -----              | -----     |
| Net property, plant and equipment.....                                                                                                                      | 5,118              | 6,128     |
|                                                                                                                                                             | -----              | -----     |
| Other assets, net of accumulated amortization of \$455 in<br>2001 and \$448 in 2000.....                                                                    | 309                | 299       |
|                                                                                                                                                             | -----              | -----     |
| Total Assets.....                                                                                                                                           | \$ 37,836          | \$ 51,160 |
|                                                                                                                                                             | =====              | =====     |
| <b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>                                                                                                                 |                    |           |
| Current Liabilities:                                                                                                                                        |                    |           |
| Current maturities of long-term debt and capital lease<br>obligations(Note 3).....                                                                          | \$ 297             | \$ 286    |
| Trade accounts payable(Note 9).....                                                                                                                         | 2,846              | 6,922     |
| Customer deposits.....                                                                                                                                      | 277                | 313       |
| Accrued expenses(Note 2).....                                                                                                                               | 2,418              | 6,503     |
|                                                                                                                                                             | -----              | -----     |
| Total current liabilities.....                                                                                                                              | 5,838              | 14,024    |
| Long-term debt and capital lease obligations less current<br>maturities(Notes 3 and 11).....                                                                | 4,347              | 4,668     |
| Deferred income taxes(Notes 1 and 6).....                                                                                                                   | --                 | 671       |
|                                                                                                                                                             | -----              | -----     |
| Total Liabilities.....                                                                                                                                      | \$ 10,185          | \$ 19,363 |
|                                                                                                                                                             | -----              | -----     |
| Commitments and contingencies(Note 3)                                                                                                                       |                    |           |
| Stockholders' Equity (Note 8):                                                                                                                              |                    |           |
| Series preferred stock, \$1.00 par value --                                                                                                                 |                    |           |
| Authorized -- 5,000,000 shares; Issued and outstanding - none.....                                                                                          | --                 | --        |
| Common Stock, \$.01 par value --                                                                                                                            |                    |           |
| Authorized -- 25,000,000 shares Issued -- 7,975,419, outstanding<br>-- 6,833,309 in 2001; and Issued -- 7,906,844, outstanding --<br>6,930,934 in 2000..... | 80                 | 79        |
| Additional paid-in capital.....                                                                                                                             | 21,458             | 21,223    |
| Retained earnings.....                                                                                                                                      | 10,107             | 13,854    |
| Less treasury stock at cost 1,142,110 shares at December 31,2001<br>and 975,910 shares at December 31,2000.....                                             | (4,150)            | (3,538)   |
| Accumulated other comprehensive income.....                                                                                                                 | 156                | 179       |
|                                                                                                                                                             | -----              | -----     |
| Total stockholders' equity.....                                                                                                                             | 27,651             | 31,797    |
|                                                                                                                                                             | -----              | -----     |
| Total Liabilities and Stockholders' Equity.....                                                                                                             | \$ 37,836          | \$ 51,160 |
|                                                                                                                                                             | =====              | =====     |

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

BTU INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|                                                           | YEARS ENDED DECEMBER 31, |          |          |
|-----------------------------------------------------------|--------------------------|----------|----------|
|                                                           | 2001                     | 2000     | 1999     |
| Net sales (Notes 1, 4 and 5).....                         | \$47,057                 | \$99,494 | \$71,260 |
| Cost of goods sold.....                                   | 31,625                   | 59,112   | 42,449   |
| Gross profit.....                                         | 15,432                   | 40,382   | 28,811   |
| Selling, general and administrative (Note 9).....         | 16,328                   | 25,310   | 20,284   |
| Research, development and engineering (Note 1).....       | 5,001                    | 6,231    | 4,786    |
| Operating (loss) income.....                              | (5,897)                  | 8,841    | 3,741    |
| Interest income.....                                      | 360                      | 377      | 440      |
| Interest expense (Note 3).....                            | (413)                    | (431)    | (432)    |
| Other income (expense).....                               | 2                        | (440)    | 24       |
| (Loss) income before provision for income taxes.....      | (5,948)                  | 8,347    | 3,773    |
| (Benefit) Provision for income taxes (Notes 1 and 6)..... | (2,201)                  | 2,925    | 935      |
| Net (loss) income.....                                    | \$ (3,747)               | \$ 5,422 | \$ 2,838 |
| Earnings (loss) per share:                                |                          |          |          |
| Basic.....                                                | \$ (0.54)                | \$ 0.79  | \$ 0.42  |
| Diluted.....                                              | \$ (0.54)                | \$ 0.74  | \$ 0.41  |
| Weighted average number of shares outstanding:            |                          |          |          |
| Basic shares.....                                         | 6,928                    | 6,876    | 6,799    |
| Effect of Dilutive Options.....                           | --                       | 402      | 169      |
| Diluted Shares.....                                       | 6,928                    | 7,278    | 6,968    |

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

BTU INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|                                                             | COMMON<br>STOCK | ADDITIONAL<br>PAID-IN<br>CAPITAL | RETAINED<br>EARNINGS | TREASURY<br>STOCK | ACCUMULATED<br>OTHER<br>COMPREHENSIVE<br>INCOME | TOTAL<br>STOCKHOLDERS'<br>EQUITY |
|-------------------------------------------------------------|-----------------|----------------------------------|----------------------|-------------------|-------------------------------------------------|----------------------------------|
| BALANCE AT DECEMBER 31, 1998.....                           | \$ 77           | \$20,322                         | \$ 5,594             | \$(3,166)         | \$ 310                                          | \$23,137                         |
| Net income.....                                             | --              | --                               | 2,838                | --                | --                                              | 2,838                            |
| Translation adjustment.....                                 | --              | --                               | --                   | --                | (22)                                            | (22)                             |
| Sale of common stock and<br>exercise of stock options.....  | 1               | 187                              | --                   | --                | --                                              | 188                              |
| Tax benefits of options<br>exercised.....                   | --              | 34                               | --                   | --                | --                                              | 34                               |
| Purchase of treasury stock.....                             | --              | --                               | --                   | (372)             | --                                              | (372)                            |
| BALANCE AT DECEMBER 31, 1999.....                           | 78              | 20,543                           | 8,432                | \$(3,538)         | 288                                             | 25,803                           |
| Net income.....                                             | --              | --                               | 5,422                | --                | --                                              | 5,422                            |
| Translation adjustment.....                                 | --              | --                               | --                   | --                | (109)                                           | (109)                            |
| Sales of common stock and<br>exercise of stock options..... | 1               | 446                              | --                   | --                | --                                              | 447                              |
| Tax benefits of options<br>exercised.....                   | --              | 234                              | --                   | --                | --                                              | 234                              |
| BALANCE AT DECEMBER 31, 2000.....                           | 79              | 21,223                           | 13,854               | \$(3,538)         | 179                                             | 31,797                           |
| Net loss.....                                               | --              | --                               | (3,747)              | --                | --                                              | (3,747)                          |
| Translation adjustment.....                                 | --              | --                               | --                   | --                | (23)                                            | (23)                             |
| Sales of common stock and<br>exercise of stock options..... | 1               | 189                              | --                   | --                | --                                              | 190                              |
| Purchase of treasury stock.....                             | --              | --                               | --                   | (612)             | --                                              | (612)                            |
| Deferred compensation.....                                  | --              | 46                               | --                   | --                | --                                              | 46                               |
| BALANCE AT DECEMBER 31, 2001.....                           | \$ 80           | \$ 21,458                        | \$10,107             | \$(4,150)         | \$ 156                                          | \$27,651                         |

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME  
(IN THOUSANDS)

|                                              | YEARS ENDED DECEMBER 31, |         |         |
|----------------------------------------------|--------------------------|---------|---------|
|                                              | 2001                     | 2000    | 1999    |
| Net (loss) income.....                       | \$(3,747)                | \$5,422 | \$2,838 |
| Other comprehensive income                   |                          |         |         |
| Foreign currency translation adjustment..... | (23)                     | (109)   | (22)    |
| Comprehensive (loss) income.....             | \$(3,770)                | \$5,313 | \$2,816 |

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

BTU INTERNATIONAL, INC.  
CONSOLIDATED STATEMENTS OF CASH FLOWS  
(IN THOUSANDS)

|                                                                                                | YEARS ENDED DECEMBER 31, |          |          |
|------------------------------------------------------------------------------------------------|--------------------------|----------|----------|
|                                                                                                | 2001                     | 2000     | 1999     |
| <b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>                                                   |                          |          |          |
| Net (loss) income.....                                                                         | \$ (3,747)               | \$ 5,422 | \$ 2,838 |
| Adjustments to reconcile net income to net cash provided by<br>(used in) operating activities: |                          |          |          |
| Depreciation and amortization.....                                                             | 1,262                    | 1,233    | 1,120    |
| Deferred income taxes.....                                                                     | (671)                    | (1,126)  | 41       |
| Deferred compensation.....                                                                     | 46                       | --       | --       |
| Net changes in operating assets and liabilities:                                               |                          |          |          |
| Accounts receivable.....                                                                       | 16,090                   | (7,153)  | (2,136)  |
| Inventories.....                                                                               | 4,568                    | (4,002)  | 467      |
| Other current assets.....                                                                      | (1,504)                  | 166      | (267)    |
| Accounts payable.....                                                                          | (4,076)                  | 257      | 1,283    |
| Customer deposits.....                                                                         | (36)                     | 313      | (124)    |
| Accrued expenses.....                                                                          | (4,085)                  | 2,839    | 841      |
| Other assets.....                                                                              | (17)                     | 13       | 33       |
| Tax benefit of stock options exercised.....                                                    | --                       | 234      | 34       |
|                                                                                                | 7,830                    | (1,804)  | 4,130    |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>                                                   |                          |          |          |
| Purchases of property, plant and equipment, net.....                                           | (245)                    | (1,813)  | (1,842)  |
| Net cash used in investing activities.....                                                     | (245)                    | (1,813)  | (1,842)  |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>                                                   |                          |          |          |
| Principal payments under long-term debt and capital lease<br>obligations.....                  | (310)                    | (266)    | (245)    |
| Issuance of common stock.....                                                                  | 190                      | 447      | 188      |
| Purchase of treasury stock.....                                                                | (612)                    | --       | (372)    |
| Net cash (used in) provided by financing activities.....                                       | (732)                    | 181      | (429)    |
| EFFECT OF EXCHANGE RATES ON CASH.....                                                          | (23)                     | (109)    | (22)     |
| NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS.....                                      | 6,830                    | (3,545)  | 1,837    |
| CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR.....                                            | 8,886                    | 12,431   | 10,594   |
| CASH AND CASH EQUIVALENTS AT END OF YEAR.....                                                  | \$15,716                 | \$ 8,886 | \$12,431 |

Supplemental disclosures of cash flow information are included in Note 10.

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

BTU INTERNATIONAL, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS  
DECEMBER 31, 2001, 2000 AND 1999

(1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

NATURE OF OPERATIONS

BTU International, Inc. and its wholly owned subsidiaries (the Company) are primarily engaged in the design, manufacture, sale, and service of thermal processing systems, which are used as capital equipment in various manufacturing processes, primarily in the electronics industry.

PRINCIPLES OF CONSOLIDATION AND THE USE OF ESTIMATES

The accompanying consolidated financial statements include the accounts of the Company. All material intercompany balances and transactions have been eliminated in consolidation. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. The primary estimates used in the consolidated financial statements include percent complete revenue and inventory reserves.

CASH AND CASH EQUIVALENTS

The Company has classified certain liquid financial instruments, with original maturities of less than three months, as cash equivalents. These financial instruments are carried at cost, which approximates fair value.

INVENTORIES

Inventories consist of material, labor and manufacturing overhead and are valued at the lower of cost or net realizable value. Cost is determined by the first-in, first-out (FIFO) method for all inventories.

Inventories consist of the following (in thousands):

|                                                | YEARS ENDED<br>DECEMBER 31, |          |
|------------------------------------------------|-----------------------------|----------|
|                                                | 2001                        | 2000     |
| Raw materials and manufactured components..... | \$ 4,903                    | \$ 6,004 |
| Work-in-progress.....                          | 3,026                       | 5,552    |
| Finished goods.....                            | 1,122                       | 2,063    |
|                                                | \$ 9,051                    | \$13,619 |
|                                                | =====                       | =====    |

The Company periodically reviews quantities of inventory on hand and compares these amounts to expected usage of each particular product or product line. The Company records, as a charge to cost of revenue, any amounts required to reduce the carrying value of the inventory to net realizable value.

PROPERTY, PLANT AND EQUIPMENT

The Company provides for depreciation using the straight-line method over the assets' useful lives. The estimated useful lives for depreciation purposes are as follows:

|                                 |            |
|---------------------------------|------------|
| Buildings and improvements..... | 8-25 years |
| Machinery and equipment.....    | 2-8 years  |
| Furniture and fixtures.....     | 5-8 years  |

Maintenance and repairs are charged to operations as incurred. When equipment and improvements are sold or otherwise disposed of, the asset cost and accumulated depreciation are removed from the accounts, and the resulting gain or loss, if any, is included in the results of operations.

## INCOME TAXES

Deferred tax assets and liabilities are recognized for the expected future tax consequences of events that have been included in the consolidated financial statements or tax returns. The amounts of deferred tax assets or liabilities are based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse.

## TRANSLATION OF FOREIGN CURRENCIES

Assets and liabilities of the Company's foreign operations are translated from their functional currency into United States dollars at year end exchange rates. Revenue and expense items are translated at weighted average rates of exchange prevailing during the year. Gains and losses arising from translation are accumulated as a separate component of stockholders' equity, as the functional currency of the subsidiaries is their local currency, and the reporting currency of the Company is the US dollar. Exchange gains and losses (if any) arising from transactions denominated in foreign currencies are included in income as incurred. Such exchange gains or losses were not material during the periods presented.

## PATENTS

The Company has patents in the United States and certain foreign countries for some of its products and processes. No value has been assigned to these patents in the accompanying consolidated financial statements.

## REVENUE RECOGNITION

Prior to 2000, the Company generally recognized revenues upon shipment of its products. During the fourth quarter of 2000, effective as of January 2, 2000, the Company adopted Securities and Exchange Commission (SEC) Staff Accounting Bulletin (SAB) No. 101, "Revenue Recognition in Financial Statements." Under SAB No. 101, when the terms of sale include customer acceptance provisions, and compliance with those provisions can not be demonstrated until customer use, revenues are recognized upon acceptance. Furthermore, revenues for products that require installation for which the installation is essential to functionality or is not deemed inconsequential or perfunctory are recognized upon completion of installation. Revenues for products sold where installation is not essential to functionality and is deemed inconsequential or perfunctory are recognized upon shipment with estimated installation and warranty costs accrued. The adoption of SAB No. 101 had no impact on the Company's previously recorded revenue.

Applying the requirements of SAB No. 101 to future sales arrangements used in the Company's thermal processing equipment sales may result in the deferral of the revenue for some equipment sales. The Company continues to evaluate the impact that SAB No. 101 might have on its sales transactions. However, there will be no impact on the Company's cash flows from operations as a result of any change.

The Company also has certain sales transactions for projects, which are not completed within the normal operating cycle of the business. These contracts are accounted for on a percentage completion basis. Under the percentage completion method, revenues are recognized based upon the ratio of costs incurred to the total estimated costs. Revisions in costs and profit estimates are reflected in the period in which the facts causing the revision become known. Provisions for total estimated losses on uncompleted contracts are made in the period in which such losses are determined. For the year ended December 31, 2001, \$3.4 million of revenue was recognized using the percentage of completion method for systems not yet shipped. For the years ended December 31, 2000 and 1999 there was no revenue recognized using the percentage of completion method for systems not yet shipped. Revenue recognized on the percentage of completion method included in net sales, as a percent of net sales, during each year was 14.1% for 2001, 1.0% for 2000 and 2.3% for 1999.

Amounts billed to customers for shipping and handling costs have been reclassified as revenues with the associated costs reported as selling costs. Previously, amounts billed to customers for shipping and handling had generally been reported as an offset to the related cost. This is in compliance with Emerging Issues Task Force (EITF) issued 00-10 "Accounting for Shipping and Handling Fees and Cost".

## RESEARCH, DEVELOPMENT AND ENGINEERING

Research, development and engineering costs are charged to expense as incurred.

EARNINGS PER SHARE INFORMATION

Basic Earnings Per Share (EPS) is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted EPS is computed using the weighted average number of common and dilutive potential common shares outstanding during the period, using the treasury stock method. Options outstanding that were not included in the determination of diluted EPS, because they were antidilutive, were 1,050,812 in 2001, 2,271 in 2000 and 289,778 in 1999.

RECENT ACCOUNTING DEVELOPMENTS

In July 2001, the Financial Accounting Standards Board ("FASB") issued SFAS No. 141, "Accounting for Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." These statements modify accounting for business combinations after September 30, 2001 and will affect the Company's treatment of goodwill and other intangible assets at the start of the year 2002, and for acquisitions consummated after June 30, 2001. The statements require that goodwill existing at the date of adoption be reviewed for possible impairment and that impairment tests be periodically repeated, with impaired assets written down to fair value. Additionally, existing goodwill and intangible assets must be assessed and classified with the statement's criteria. Intangible assets with estimated useful lives will continue to be amortized over those periods. Amortization of goodwill and intangible assets with indeterminable lives will cease. The Company does not expect the adoption of this statement to have a material impact on its results of operations because the Company currently does not have any goodwill.

In June 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations." SFAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. This statement applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or the normal operation of a long-lived asset, except for certain obligations of lessees. This statement does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. This statement is effective for financial statements issued for fiscal years beginning after June 15, 2002. The Company does not expect the adoption of this statement to have a material impact on its results of operations.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement requires that a long-lived asset to be abandoned, exchanged for a similar productive asset, or distributed to owners in a spin-off be considered held and used until it is disposed of. The changes in this statement require that one accounting model be used for long-lived assets to be disposed of by sale, whether previously held and used or newly acquired, and by broadening the presentation of discontinued operations to include more disposal transactions. The provisions of this statement are effective for financial statements issued for fiscal years beginning after December 15, 2001 and interim periods within those fiscal years, with early application encouraged. The provisions of this statement generally are to be applied prospectively. The Company does not expect the adoption of this statement to have a material impact on its results of operations.

RECLASSIFICATION

Certain prior year financial statement information has been reclassified to conform with the current year presentation.

(2) ACCRUED EXPENSES

Accrued expenses at December 31, 2001 and 2000 consisted of the following (in thousands):

|                           | 2001     | 2000    |
|---------------------------|----------|---------|
| Accrued commissions.....  | \$ 1,065 | \$2,449 |
| Accrued warranty.....     | 853      | 972     |
| Accrued income taxes..... | 110      | 1,186   |
| Accrued bonus.....        | 15       | 562     |
| Other.....                | 375      | 1,334   |
|                           | -----    | -----   |
|                           | \$ 2,418 | \$6,503 |
|                           | =====    | =====   |

(3) DEBT, CAPITAL LEASES, COMMITMENTS AND CONTINGENCIES

Debt at December 31, 2001 and 2000 consisted of the following (in thousands):

|                                                                                                                                             | 2001     | 2000    |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|
| Mortgage note payable.....                                                                                                                  | \$ 4,560 | \$4,847 |
| Capital lease obligations, interest rates ranging from 10.2% to 10.3%, net of interest of \$21 and \$28 in 2001 and 2000, respectively..... | 84       | 107     |
|                                                                                                                                             | 4,644    | 4,954   |
| Less current maturities.....                                                                                                                | 297      | 286     |
|                                                                                                                                             | \$ 4,347 | \$4,668 |

The mortgage note payable is secured by the Company's land and building and requires monthly payments of \$53,922, including interest at 8.125%. This mortgage note payable has a balloon payment of \$3,825,000 due at maturity on July 1, 2004.

The capital lease obligations relate to various equipment leases used in the operation of the business. Under the terms of the debt, the minimum repayments of long-term debt and capital lease obligations by year are as follows (in thousands):

|           | 8.125%<br>MORTGAGE | CAPITAL<br>LEASES | TOTAL   |
|-----------|--------------------|-------------------|---------|
| 2002..... | \$ 262             | \$ 35             | \$ 297  |
| 2003..... | 309                | 20                | 329     |
| 2004..... | 3,989              | 19                | 4,008   |
| 2005..... | 0                  | 10                | 10      |
|           | \$ 4,560           | \$ 84             | \$4,644 |

At December 31, 2001, the Company has an unsecured revolving line of credit with a US bank, which allows for aggregate borrowings and/or letters of credit of up to \$14,000,000. Borrowings are available to the Company at either the Bank's base rate or a Eurodollar rate, as elected by the Company. This loan facility is available to the Company until April 30, 2004, subject to compliance with certain financial covenants. As of December 31, 2001, no amounts were outstanding under this unsecured revolving line of credit. At December 31, 2001, the Company was not in compliance with certain financial covenants of this agreement. The bank and the Company have agreed on revised financial covenants requiring an amendment to the loan facility, which is in process.

The Company conducts its UK operations in a facility that is under a long-term operating lease expiring in 2010. Rent expense under this lease was approximately \$260,000 in 2001, \$310,000 in 2000 and \$143,000 in 1999. In 1995, the Company sublet a portion of this leased space for a period of five years, this sublet ended during 2000, therefore increasing the rent expense to the Company in 2000. The Company has entered into a new lease assignment that the Company will assign approximately \$185,000 in rent expense per year starting July 2001 through March 2010. As of December 31, 2001, the future minimum lease commitment for this facility is \$1,308,000, payable as follows: \$157,000 for the year 2002 through 2009, \$52,000 for 2010.

The Company is a party to various claims arising in the normal course of business. Management believes the resolution of these matters will not have a material impact on the Company's results of operations or financial condition.

(4) FOREIGN OPERATIONS

The following table shows the amounts and percentages of the Company's revenues by geographic region, for the last three years:

|                     | 2001      |     | 2000      |     | 1999      |     |
|---------------------|-----------|-----|-----------|-----|-----------|-----|
| United States.....  | \$ 19,294 | 41% | \$ 33,828 | 34% | \$ 22,803 | 32% |
| Europe.....         | 11,764    | 25  | 26,863    | 27  | 18,528    | 26  |
| Asia Pacific.....   | 13,176    | 28  | 31,838    | 32  | 21,378    | 30  |
| Other Americas..... | 2,823     | 6   | 6,965     | 7   | 8,551     | 12  |

(5) CONCENTRATION OF CREDIT RISK AND SIGNIFICANT CUSTOMERS

Statement of Financial Accounting Standards No. 105, "Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk," requires disclosure of any significant off-balance-sheet and credit risk concentrations. The Company has no significant off-balance-sheet concentrations such as foreign exchange contracts, option contracts or other foreign hedging arrangements. The Company maintains the majority of its cash and cash equivalent balances with one financial institution.

One customer represented 15% of revenue in 2001, 23% of revenue in 2000 and 18% of revenue in 1999.

(6) INCOME TAXES

The components of (loss) income before (benefit) provision for income taxes are as follows (in thousands):

|               | YEARS ENDED DECEMBER 31, |                |                |
|---------------|--------------------------|----------------|----------------|
|               | 2001                     | 2000           | 1999           |
| Domestic..... | \$ (5,912)               | \$5,636        | \$2,163        |
| Foreign.....  | (36)                     | 2,711          | 1,610          |
| Total.....    | <u>\$ (5,948)</u>        | <u>\$8,347</u> | <u>\$3,773</u> |

For the years ended December 31, 2001, 2000 and 1999, the Company's (benefit) provisions for income taxes were as shown below (in thousands):

|                   | FEDERAL           | STATE          | FOREIGN      | TOTAL             |
|-------------------|-------------------|----------------|--------------|-------------------|
| December 31, 2001 |                   |                |              |                   |
| Current.....      | \$ (148)          | \$ 38          | \$ 39        | \$ (71)           |
| Deferred.....     | (2,013)           | (117)          | 0            | (2,130)           |
|                   | <u>\$ (2,161)</u> | <u>\$ (79)</u> | <u>\$ 39</u> | <u>\$ (2,201)</u> |
| December 31, 2000 |                   |                |              |                   |
| Current.....      | \$ 2,699          | \$ 427         | \$925        | \$ 4,051          |
| Deferred.....     | (829)             | (297)          | 0            | (1,126)           |
|                   | <u>\$ 1,870</u>   | <u>\$ 130</u>  | <u>\$925</u> | <u>\$ 2,925</u>   |
| December 31, 1999 |                   |                |              |                   |
| Current.....      | \$ 662            | \$ 177         | \$ 55        | \$ 894            |
| Deferred.....     | 85                | (44)           | 0            | 41                |
|                   | <u>\$ 747</u>     | <u>\$ 133</u>  | <u>\$ 55</u> | <u>\$ 935</u>     |

The differences between the statutory United States federal income tax rate of 34% and the Company's effective tax rate are as follows (in thousands):

|                                                             | YEARS ENDED DECEMBER 31, |                 |               |
|-------------------------------------------------------------|--------------------------|-----------------|---------------|
|                                                             | 2001                     | 2000            | 1999          |
| Tax (benefit) provision at United States statutory rate.... | \$ (2,009)               | \$ 2,838        | \$1,283       |
| State and foreign income taxes, net of federal benefit....  | (234)                    | 351             | 142           |
| FSC benefit.....                                            | 0                        | (244)           | (143)         |
| Utilization of foreign net operating loss carryforwards ... | 0                        | 0               | (439)         |
| Non-deductible and other.....                               | 42                       | (20)            | 92            |
| Total provision.....                                        | <u>\$ (2,201)</u>        | <u>\$ 2,925</u> | <u>\$ 935</u> |

Deferred income taxes and prepaid income taxes are comprised of the following at December 31, 2001 and 2000 (in thousands):

|                                                       | 2001            | 2000              |
|-------------------------------------------------------|-----------------|-------------------|
| Revenues recognized for books not tax.....            | \$ (953)        | \$ (1,907)        |
| Accelerated tax depreciation.....                     | 39              | 0                 |
| Other.....                                            | 0               | (116)             |
| <b>Total deferred liabilities.....</b>                | <b>\$ (914)</b> | <b>\$ (2,023)</b> |
| Inventory reserves.....                               | 268             | 379               |
| Inventory capitalization.....                         | 0               | 98                |
| Accruals and other.....                               | 599             | 734               |
| Foreign net operating loss carryforward.....          | 0               | 0                 |
| Accelerated tax depreciation.....                     | 0               | 71                |
| Federal tax credit carryforwards.....                 | 81              | 70                |
| Federal net operating loss carryforward.....          | 1,425           | 0                 |
| <b>Total deferred assets.....</b>                     | <b>2,373</b>    | <b>1,352</b>      |
| <b>Net deferred income tax asset (liability).....</b> | <b>\$ 1,459</b> | <b>\$ (671)</b>   |

#### (7) EMPLOYEE BENEFITS

The Company has management incentive and profit sharing plans for its executives and all of its employees. These plans provide for bonuses upon the attainment of certain financial targets. Under these plans, \$15,000, \$1,052,000, and \$688,000 was expensed in 2001, 2000 and 1999, respectively.

The Company has a deferred 401(k) contribution plan that is available to cover all domestic employees of the Company who have met certain length of service requirements. Subject to non-discriminatory restrictions on highly compensated employees, participants can voluntarily contribute up to 17% of their compensation to the plan, and the Company, at its discretion, may match this contribution up to a stipulated percentage. The Company's expense under the plan was \$243,000, \$233,000, and \$206,000 for the years ended December 31, 2001, 2000 and 1999, respectively.

#### (8) STOCK OPTION AND PURCHASE PLANS

The Company has three stock option plans. The 1989 Stock Plan for Directors (1989 Plan) provides for stock options to certain directors of the Company. The 1993 Equity Incentive Plan (1993 Plan) provides for stock options for employees and the Company's non-employee directors. Under the terms of the 1993 Plan, other stock awards can also be granted at the discretion of the Company's Board of Directors. The 1998 Stock Option Plan for Non-Employee Directors (1998 Plan) provides for stock options to non-employee directors of the Company.

Under each plan, the exercise price of the options is not less than fair market value at the date of the grants. The 1989 Plan options expire over seven years and the 1993 Plan options expire over periods not to exceed 10 years. The 1998 Plan options expire over a period not to exceed seven years. In June 2000 the shareholders approved the addition of 750,000 shares available to be awarded under the 1993 Plan. Shares available for future stock option grants, pursuant to these plans, were 547,679 at December 31, 2001, 676,703 at December 31, 2000, and 174,041 at December 31, 1999.

During 2001, the Company granted 20,000 shares of restricted stock to an employee. This stock vests over a two year term. The Company has recorded a compensation charge of \$46,000 in 2001 related to this grant. At December 31, 2001, the unvested portion of this award was \$76,000.

A summary of all stock option activity for the years ended December 31, 2001, 2000 and 1999 is as follows:

|                                         | 2001                   |                                           | 2000                   |                                           | 1999                   |                                           |
|-----------------------------------------|------------------------|-------------------------------------------|------------------------|-------------------------------------------|------------------------|-------------------------------------------|
|                                         | NUMBER<br>OF<br>SHARES | WEIGHTED<br>AVERAGE<br>PRICE PER<br>SHARE | NUMBER<br>OF<br>SHARES | WEIGHTED<br>AVERAGE<br>PRICE PER<br>SHARE | NUMBER<br>OF<br>SHARES | WEIGHTED<br>AVERAGE<br>PRICE PER<br>SHARE |
| Outstanding at beginning of year.....   | 944,460                | \$ 5.58                                   | 819,007                | \$ 3.64                                   | 632,040                | \$ 2.92                                   |
| Granted.....                            | 330,809                | 3.23                                      | 320,271                | 9.23                                      | 280,112                | 4.92                                      |
| Exercised.....                          | (22,172)               | 3.41                                      | (121,885)              | 3.17                                      | (49,885)               | 2.36                                      |
| Forfeited.....                          | (202,285)              | 5.87                                      | (72,933)               | 3.80                                      | (43,260)               | 2.93                                      |
| Outstanding at end of year.....         | 1,050,812              | \$ 4.83                                   | 944,460                | \$ 5.58                                   | 819,007                | \$ 3.64                                   |
| Options exercisable at end of year..... | 377,103                | \$ 4.48                                   | 244,940                | \$ 3.47                                   | 166,043                | \$ 3.05                                   |



At December 31, 2001 the outstanding options have exercise prices ranging from \$2.69 to \$13.63 and a weighted average remaining contractual life of 3.4 years.

The following table summarizes information for options outstanding and exercisable at December 31, 2001:

| RANGE OF PRICES | OPTIONS OUTSTANDING |                                 |                                 | OPTIONS EXERCISABLE |                                 |
|-----------------|---------------------|---------------------------------|---------------------------------|---------------------|---------------------------------|
|                 | NUMBER              | WEIGHTED AVERAGE REMAINING LIFE | WEIGHTED AVERAGE EXERCISE PRICE | NUMBER              | WEIGHTED AVERAGE EXERCISE PRICE |
| \$ 2.69 - 3.00  | 289,904             | 2.0 yrs                         | \$ 2.87                         | 217,529             | \$ 2.88                         |
| 3.01 - 4.00     | 322,559             | 4.6 yrs                         | 3.12                            | 3,750               | 3.88                            |
| 4.01 - 5.50     | 191,978             | 2.9 yrs                         | 5.02                            | 95,028              | 4.99                            |
| 5.51 - 13.63    | 246,371             | 4.0 yrs                         | 9.23                            | 60,796              | 9.45                            |
|                 | 1,050,812           | 3.4 yrs                         | \$ 4.83                         | 377,103             | \$ 4.48                         |

The Company has an Employee Stock Purchase Plan. Under the terms of the plan, employees are entitled to purchase shares of common stock at the lower of 85% of fair market value at the beginning or the end of each six-month option period. A total of 500,000 shares have been reserved for issuance under this plan, of which 185,414 remain available at December 31, 2001. During 2001, a total of 18,163 shares were purchased at prices ranging from \$3.69 to \$5.19 per share.

The Company applies Accounting Principles Board Opinion No. 25 and related Interpretations in accounting for its stock option and purchase plans. Accordingly, no compensation cost has been recognized related to the plans. Had compensation cost for the plans been determined based on the fair value at the grant dates for the awards under these plans consistent with SFAS No. 123, "Accounting for Stock-Based Compensation", the Company's net income and net income per share would have been reduced to the pro forma amounts indicated below:

|                           | YEARS ENDED DECEMBER 31,              |         |         |
|---------------------------|---------------------------------------|---------|---------|
|                           | 2001                                  | 2000    | 1999    |
|                           | (IN THOUSANDS, EXCEPT PER SHARE DATA) |         |         |
| Net Income:               |                                       |         |         |
| As reported.....          | \$ (3,747)                            | \$5,422 | \$2,838 |
| Pro forma.....            | (4,429)                               | 4,782   | 2,455   |
| Income per basic share:   |                                       |         |         |
| As reported.....          | \$ (0.54)                             | \$ 0.79 | \$ 0.42 |
| Pro forma.....            | (0.64)                                | 0.70    | 0.36    |
| Income per diluted share: |                                       |         |         |
| As reported.....          | \$ (0.54)                             | \$ 0.74 | \$ 0.41 |
| Pro forma.....            | (0.64)                                | 0.66    | 0.35    |

Pro forma compensation costs were estimated using the Black-Scholes option pricing model using the following weighted average assumptions for grants in 2001, 2000 and 1999, respectively; a dividend yield rate of 0 for each year; expected lives of 5.0, 5.0 and 4.8 years; expected volatility of 68.2%, 72.1% and 64.6%; and risk free interest rates of 3.9%, 6.3% and 6.2%. The weighted average fair value of options granted during 2001, 2000 and 1999 was \$1.93, \$5.91 and \$2.91, respectively.

As the SFAS No. 123 presentation has not been applied to options granted prior to January 1, 1995, the resulting pro forma reduction in net earnings and earnings per share may not be representative of what could be expected in future years.

#### (9) RELATED PARTY TRANSACTIONS

During 2001 and 2000, transactions were made between the Company and certain related parties, all of which management believes were made at arms' length. These transactions included payments to one of the Company's directors for consulting services of \$15,000 in 2001 and 2000, respectively. The Company also had related party transactions with respect to the purchase of certain software development and components from a company, which is partially owned by one of the Company's key employees. The amount of contract software and hardware purchased from this party in the ordinary course of doing business was \$276,000 and \$1,685,000 in 2001 and 2000, respectively; as well, \$26,000 and \$184,000 is included in trade accounts payable on the Consolidated Balance Sheets as of December 31, 2001 and 2000, respectively.



(10) SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION

|                                                | FOR THE YEARS ENDED DECEMBER 31, |        |        |
|------------------------------------------------|----------------------------------|--------|--------|
|                                                | 2001                             | 2000   | 1999   |
|                                                | (IN THOUSANDS)                   |        |        |
| Cash paid during the year for:                 |                                  |        |        |
| Interest.....                                  | \$ 413                           | \$ 431 | \$ 432 |
| Income Taxes.....                              | 279                              | 2,795  | 1,172  |
| Non-cash transactions:                         |                                  |        |        |
| Capital asset and lease obligation additions.. | --                               | --     | 72     |

(11) DISCLOSURES ABOUT THE FAIR VALUE OF FINANCIAL INSTRUMENTS

The following methods and assumptions were used to estimate the fair value of each class of financial instrument for which it is practicable to estimate that value.

a. Cash and Cash Equivalents - The carrying amount of these assets on the Company's Consolidated Balance Sheets approximates their fair value because of the short maturities of these instruments.

b. Long-term Debt and Capital Lease Obligations - The fair value of long-term indebtedness as of December 31, 2001 and 2000 was approximately \$5,054,000 and \$4,820,000, respectively, based on a discounted cash flow analysis, using the prevailing cost of capital for the Company as of each date.

(12) SEGMENT REPORTING

Segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision-maker in deciding how to allocate resources and in assessing performance. The Company operates as a single business segment called thermal processing capital equipment.

The thermal processing capital equipment segment consists of the designing, manufacturing, selling and servicing of thermal processing equipment and related process controls for use in the electronics, power generation, automotive and other industries. This business segment includes the supply of solder reflow systems used for surface mount applications in printed circuit board assembly. Thermal processing equipment is used in: low temperature curing/encapsulation; hybrid integrated circuit manufacturing; integrated circuit packaging and sealing; and processing multi-chip modules. In addition, the thermal process equipment is used for sintering nuclear fuel for commercial power generation, as well as brazing and the sintering of ceramics and powdered metals, and the deposition of precise thin film coatings. The business segment's customers are multinational original equipment manufacturers and contract manufacturing companies.

The accounting policies of segment reporting are the same as those described in Note 1 "Summary of Significant Accounting Policies." The Company evaluates the performance of operating results taken as a whole.

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REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS  
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To the Shareholders and Board of Directors of BTU International, Inc.:

We have audited the accompanying consolidated balance sheets of BTU International, Inc. (a Delaware corporation) and subsidiaries (the Company) as of December 31, 2001 and 2000, and the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2001. These consolidated 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 consolidated financial position of BTU International, Inc. and subsidiaries as of December 31, 2001 and 2000, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2001 in conformity with accounting principles generally accepted in the United States.

ARTHUR ANDERSEN LLP

Boston, Massachusetts  
February 1, 2002

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

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Information relating to the executive officers of the Company is included in

Item 4A of Part I.

Information relating to the directors of the Company is included under the caption "Election of Directors" in the 2002 Proxy Statement for BTU International, Inc. and is incorporated herein by reference.

Information related to compliance with Section 16(a) of the Exchange Act is included under the caption "Section 16(a) Beneficial Ownership Reporting Compliance" in the 2002 Proxy Statement for BTU International, Inc. and is incorporated here by reference.

ITEM 11. EXECUTIVE COMPENSATION

Information relating to executive compensation is included under the caption "Executive Compensation" in the 2002 Proxy Statement for BTU International, Inc. and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Information relating to the security ownership of certain beneficial owners and management is included under the caption "Beneficial Ownership of Shares" in the 2002 Proxy Statement for BTU International, Inc. and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

None.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

- (a)1. Financial Statements. The financial statements listed in Item 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA, above are filed as part of this Annual Report on Form 10-K.
  2. Financial Statement Schedule. The financial statement schedule II - VALUATION AND QUALIFYING ACCOUNTS is filed as part of this Annual Report on Form 10-K.
  3. Exhibits. The exhibits listed in the accompanying Exhibit Index are filed as part of this Annual Report on Form 10-K.
- (b) Reports on Form 8-K

No reports on Form 8-K were filed in the fourth quarter of 2001.

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To BTU International, Inc.:

We have audited in accordance with auditing standards generally accepted in the United States, the consolidated financial statements included in BTU International, Inc.'s (the Company's) annual report to stockholders incorporated by reference in this Form 10-K, and have issued our report thereon dated February 1, 2002. Our audit was made for the purpose of forming an opinion on those consolidated financial statements taken as a whole. The schedule listed in the preceding index is the responsibility of the Company's management and is presented for purposes of complying with the Securities and Exchange Commission's rules and are not part of the basic financial statements. This schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, based on our audit, fairly states, in all material respects, the financial data required to be set forth therein in relation to the basic financial statements taken as a whole.

ARTHUR ANDERSEN LLP

Boston, Massachusetts  
February 1, 2002

BTU INTERNATIONAL, INC.  
VALUATION AND QUALIFYING ACCOUNTS  
(Dollars in Thousands)

FOR THE YEAR ENDED DECEMBER 31, 2001

| DESCRIPTION<br>-----               | BALANCE<br>AT<br>BEGINNING<br>OF PERIOD<br>----- | ADDITIONS<br>-----                              |                                             | DEDUCTIONS-<br>(A)<br>----- | BALANCE<br>AT END<br>OF PERIOD<br>----- |
|------------------------------------|--------------------------------------------------|-------------------------------------------------|---------------------------------------------|-----------------------------|-----------------------------------------|
|                                    |                                                  | CHARGED<br>TO COSTS<br>AND<br>EXPENSES<br>----- | CHARGED<br>TO OTHER<br>ACCOUNTANTS<br>----- |                             |                                         |
| Allowance for doubtful<br>Accounts | \$ 206                                           | \$24                                            | \$--                                        | \$--                        | \$ 230                                  |

FOR THE YEAR ENDED DECEMBER 31, 2000

| DESCRIPTION<br>-----            | BALANCE<br>AT<br>BEGINNING<br>OF PERIOD<br>----- | ADDITIONS<br>-----                              |                                             |                             | BALANCE<br>AT END<br>OF PERIOD<br>----- |
|---------------------------------|--------------------------------------------------|-------------------------------------------------|---------------------------------------------|-----------------------------|-----------------------------------------|
|                                 |                                                  | CHARGED<br>TO COSTS<br>AND<br>EXPENSES<br>----- | CHARGED<br>TO OTHER<br>ACCOUNTANTS<br>----- | DEDUCTIONS-<br>(A)<br>----- |                                         |
| Allowance for doubtful accounts | \$ 160                                           | \$46                                            | \$--                                        | \$--                        | \$ 206                                  |

FOR THE YEAR ENDED DECEMBER 31, 1999

| DESCRIPTION<br>-----               | BALANCE<br>AT<br>BEGINNING<br>OF PERIOD<br>----- | ADDITIONS<br>-----                              |                                             |                             | BALANCE<br>AT END<br>OF PERIOD<br>----- |
|------------------------------------|--------------------------------------------------|-------------------------------------------------|---------------------------------------------|-----------------------------|-----------------------------------------|
|                                    |                                                  | CHARGED<br>TO COSTS<br>AND<br>EXPENSES<br>----- | CHARGED<br>TO OTHER<br>ACCOUNTANTS<br>----- | DEDUCTIONS-<br>(A)<br>----- |                                         |
| Allowance for doubtful<br>Accounts | \$ 160                                           | \$--                                            | \$--                                        | \$--                        | \$ 160                                  |

(A) Amounts indicated as deductions are for amounts charged against these reserves in the ordinary course of business.

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.

BTU INTERNATIONAL, INC.

Date: April 1, 2002

By: /s/ PAUL J. VAN DER WANSEM  
Paul J. van der Wansem President, Chief  
Executive Officer (principal executive  
officer) and Director

Date: April 1, 2002

By: /s/ THOMAS P. KEALY  
Thomas P. Kealy Vice President Corporate  
Controller and Chief Accounting Officer  
(principal financial and accounting officer)

Date: April 1, 2002

By: /s/ DR. JEFFREY CHUAN CHU  
Dr. Jeffrey Chuan Chu Director

Date: April 1, 2002

By: /s/ DAVID A.B. BROWN  
David A.B. Brown Director

Date: April 1, 2002

By: /s/ JOSEPH F. WRINN  
Joseph F. Wrinn Director

EXHIBIT INDEX

The following designated exhibits are, as indicated below, either filed herewith or have heretofore been filed with the Securities and Exchange Commission under the Securities Act of 1933 and the Securities Exchange Act of 1934 and are referred to and incorporated herein by reference to the following SEC Filings: Registration Statement Filing on Form S-1 ("33-24882"), the annual report as reported on the 1989 Form 10-K ("1989 10-K"), the annual report as reported on the 1991 Form 10-K ("1991 10-K"), the annual report as reported on the 1992 Form 10-K ("1992 10-K"), the annual report as reported on the 1993 Form 10K ("1993 10-K"), the annual report as reported on the 1994 Form 10K ("1994 10-K"), the annual report as reported on the 1999 Form 10K ("1999 10-K"), Or the quarterly report as reported on 9-28-97 Form 10Q ("9-28-97 10-Q") or the quarterly report as reported on 6-28-98 Form 10Q(6-28-98 10-Q).

|             | EXHIBIT<br>-----                                                                                                     | SEC<br>DOCKET<br>----- |
|-------------|----------------------------------------------------------------------------------------------------------------------|------------------------|
| EXHIBIT 3.  | ARTICLES OF INCORPORATION AND BY-LAWS                                                                                |                        |
|             | Incorporated herein by reference:                                                                                    |                        |
| 3.1         | Amended and Restated Certificate of Incorporation.                                                                   | 3.1 7-1-01 10-Q        |
| 3.2         | By-Laws.                                                                                                             | 3.2 33-24882           |
| EXHIBIT 4.  | INSTRUMENTS DEFINING THE RIGHTS OF SECURITY HOLDERS,<br>INCLUDING DEBENTURES                                         |                        |
|             | Incorporated herein by reference:                                                                                    |                        |
| 4.0         | Specimen Common Stock Certificate.                                                                                   | 4.0 33-24882           |
| EXHIBIT 10. | MATERIAL CONTRACTS                                                                                                   |                        |
| 10.13       | 1988 Employee Stock Purchase Plan.                                                                                   | 10.13 1999 10-K        |
| 10.15       | 1989 Stock Option Plan for Directors.                                                                                | 10.15 1999 10-K        |
| 10.37       | BTU International, Inc. 1993 Equity Incentive Plan                                                                   | 10.37 1999 10-K        |
| 10.39       | BTU(UK) Limited and RD International (UK) Limited underlease,<br>relating to Unit B15 Southwood Summit Centre        | 10.39 1994 10-K        |
| 10.42       | Mortgage note between BTU International, Inc. and John Hancock<br>Mutual Life Insurance Company, dated June 30, 1997 | 10.42 9-28-97 10-Q     |
| 10.43       | Credit Agreement between BTU International, Inc. and US Trust,<br>dated September 5, 1997                            | 10.43 9-28-97 10-Q     |
| 10.44       | Amendment to the 1993 Equity Incentive Plan                                                                          | 10.44                  |
| 10.45       | 1998 Stock Option Plan for Non-Employee Directors                                                                    | 10.45 1999 10-K        |
| 10.46       | First Amendment to Credit Agreement between<br>BTU International, Inc. and US Trust, dated December 16, 1999         | 10.46 1999 10-K        |
| 10.47       | Amendment No. 1 to 1988 Employee Stock Purchase Plan<br>dated June 15, 1989                                          | 10.47 1999 10-K        |
| 10.48       | Amendment No. 2 to 1988 Employee Stock Purchase Plan<br>dated February 20, 1991.                                     | 10.48 1999 10-K        |
| 10.49       | Amendment No. 2 to 1993 Equity Incentive Plan                                                                        | 10.49 1999 10-K        |
| EXHIBIT 11. | STATEMENT RE: COMPUTATION OF PER SHARE EARNINGS                                                                      |                        |
|             | Filed herewith:                                                                                                      |                        |
| 11.0        | Calculation of net income per common share                                                                           |                        |
| EXHIBIT 21. | SUBSIDIARIES OF THE REGISTRANT                                                                                       |                        |
|             | Filed herewith:                                                                                                      |                        |

21.0 Subsidiaries of the Registrant.

EXHIBIT 23. CONSENTS OF EXPERTS AND COUNSEL

Filed herewith:

23.1 Consent of Arthur Andersen LLP  
99.1 Letter of Quality Assurance

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BTU INTERNATIONAL, INC.  
 CALCULATION OF NET INCOME PER COMMON SHARE  
 (Dollars in Thousands, except per share data)

|                                                        | FOR THE YEAR ENDED DECEMBER 31, |                    |                    |
|--------------------------------------------------------|---------------------------------|--------------------|--------------------|
|                                                        | 2001                            | 2000               | 1999               |
| Net (loss) income                                      | \$ (3,747)                      | \$ 5,422           | \$ 2,838           |
| Net (loss) income applicable to<br>common stockholders | \$ (3,747)<br>=====             | \$ 5,422<br>=====  | \$ 2,838<br>=====  |
| Weighted average number of shares outstanding          |                                 |                    |                    |
| Basic Shares                                           | 6,928,054                       | 6,875,793          | 6,798,735          |
| Effect of Dilutive Options                             | 0<br>-----                      | 402,107<br>-----   | 168,952<br>-----   |
| Diluted Shares                                         | 6,928,054<br>=====              | 7,277,900<br>===== | 6,967,687<br>===== |
| Earnings Per Share                                     |                                 |                    |                    |
| Basic                                                  | \$ (0.54)<br>-----              | \$ 0.79<br>-----   | \$0.42<br>-----    |
| Diluted                                                | \$ (0.54)<br>-----              | \$ 0.74<br>-----   | \$0.41<br>-----    |

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SUBSIDIARIES OF THE REGISTRANT

BTU Overseas, Limited (Fed. I.D. # 04-2757966)  
BTU Engineering FSC, Inc. (Fed. I.D. # 04-2736403)  
BTU Europe LTD  
BTU GmbH

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CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation of our report dated February 1, 2002, included in and incorporated by reference in this Form 10-K, into the Company's previously filed Registration Statements on Form S-8 File No. 33-28344, File No. 33-29113, File No. 33-41757, File No. 33-59045, File No. 33-59081, File No. 333-94713 and File No. 333-63298. It should be noted that we have not audited any financial statements or performed any audit procedures subsequent to the date of our report.

/s/ ARTHUR ANDERSEN LLP

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ARTHUR ANDERSEN LLP

Boston, Massachusetts,  
April 1, 2002

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BTU INTERNATIONAL, INC.

23 Esquire Road  
North Billerica, MA 01862

LETTER TO COMMISSION PURSUANT TO TEMPORARY NOTE 3T

April 1, 2002

Securities and Exchange Commission  
450 Fifth Street, N.W.  
Washington, D.C. 20549-0408

Ladies and Gentlemen:

Pursuant to Temporary Note 3T to Article 3 of Regulation S-X, BTU International, Inc. has obtained a letter of representation from Arthur Andersen LLP ("Andersen") stating that the December 31, 2001 audit was subject to their quality control system for the U.S. accounting and auditing practice to provide reasonable assurance that the engagement was conducted in compliance with professional standards, that there was appropriate continuity of Andersen personnel working on the audit and availability of national office consultation. Availability of personnel at foreign affiliates of Andersen is not relevant to this audit.

Very truly yours,

BTU International, Inc.

/s/ Thomas P. Kealy

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Thomas P. Kealy  
Vice President & Corporate Controller

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