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HOLOGIC INC
Form 424B4
December 14, 2001

PROSPECTUS SUPPLEMENT
(to Prospectus dated December 14, 2001)

Filed pursuant to Rule 424(b) (4)
Registration No. 333-73596

2,610,000 Shares

[HOLOGIC LOGO]

Common Stock

We are offering 2,610,000 shares of our common stock. Our common stock is traded on the Nasdaq National Market under the symbol "HOLX." On December 13, 2001, the last reported sale price for our common stock on the Nasdaq National Market was \$9.77 per share.

Investing in our common stock involves risks. See "Risk Factors" beginning on page 2 of the accompanying prospectus.

| | Per Share | Total |
|--|-----------|--------------|
| Public Price..... | \$9.00 | \$23,490,000 |
| Underwriting Discount..... | \$0.54 | \$ 1,409,400 |
| Proceeds, before expenses, to Hologic..... | \$8.46 | \$22,080,600 |

We have granted the underwriters the right to purchase up to an additional 390,000 shares of our common stock to cover over-allotments.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. It is illegal for any person to tell you otherwise.

Needham & Company, Inc.

Stephens Inc.

The date of this prospectus supplement is December 14, 2001.

Hologic: Women's Health and Imaging Systems

[HOLOGIC LOGO]

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Osteoporosis Assessment
Delphi(TM) Bone Densitometer
[PICTURE OF DELPHI BONE DENSITOMETER]

[LORAD LOGO]

Breast Imaging
M-IV Series Mammography Systems

[PICTURE OF M-IV MAMMOGRAPHY SYSTEM]

[DIRECT RADIOGRAPHY LOGO]

Direct-to-Digital X-ray Technology
DirectRay(R) Digital Detector

[PICTURE OF DIRECTRAY DIGITAL DETECTOR]

[HOLOGIC LOGO]

Digital Radiography Systems
EPEX(TM) for General Radiography

[PICTURE OF EPEX GENERAL RADIOGRAPHY SYSTEM]

[FLUOROSCAN]
C-arm Imaging
Premier C-arm System for Orthopedic Procedures

[PICTURE OF PREMIER MINI C-ARM SYSTEM]

[HOLOGIC LOGO]

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You should rely only on the information contained in this document or to which we have referred you. We have not authorized anyone to provide you with information that is different. This document may be used only where it is legal to sell these securities. The information in this document may only be accurate on the date of this document.

The Hologic logo is one of our service marks. QDR, ACCLAIM, Sahara, EPEX, RADEX, StereoLoc and Lorad are our registered trademarks. Affinity, QDR 4000, QDR 4500, QDR 4500A, QDR 4500SL, QDR 4500W, QDR 4500C, Delphi, Fluoroscan, Premier, OfficeMate, Fluoroscan Imaging Systems, DirectRay, DR 1000C, Elite, MultiCare, HTC, Automatic Internal Reference System, Instant Vertebral Assessment, Direct Radiography and Omniflex are other trademarks that we own. This prospectus supplement may also include the trade names and trademarks of companies other than us whose mention herein is with due recognition of and without intent to misappropriate their marks.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements contained in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference, are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. These statements involve known and unknown risks, uncertainties and other factors which may cause our or our industry's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to statements regarding:

- . our goal of returning to profitability;
- . our goal of expanding our market positions;
- . the development of new competitive technologies and products;
- . regulatory approval and clearances for our products;
- . production schedules for our products;
- . market acceptance of new products;
- . business strategies;
- . dependence on significant suppliers;
- . dependence on significant distributors and customers;
- . the availability of debt and equity financing;

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- . general economic conditions;
- . the impact of our cost-savings initiatives; and
- . our financial condition or results of operations.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading "Risk Factors" in the accompanying Prospectus. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this prospectus supplement.

You should read this prospectus supplement, the accompanying prospectus and the documents that we incorporate by reference completely and with the understanding that our actual future results may be materially different from what we expect. We may not update these forward-looking statements, even though our situation may change in the future. We qualify all of our forward-looking statements by these cautionary statements.

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SUMMARY

This summary provides an overview of selected information and may not contain all of the information that is important to you. You should read the entire prospectus supplement and the accompanying prospectus carefully, including the financial data, related notes and the information we have incorporated by reference before making an investment decision. Unless otherwise indicated, all information in this prospectus supplement assumes that the underwriters do not exercise their over-allotment option.

Unless otherwise indicated or unless the context otherwise requires, all references in this prospectus supplement to "we," "us," or similar references mean Hologic, Inc. and its subsidiaries.

Hologic Overview

We are a leading developer, manufacturer and supplier of diagnostic and medical imaging systems primarily serving the healthcare needs of women. We focus our resources on developing systems and subsystems offering superior image quality and diagnostic accuracy, which has enabled us to capture significant market shares and customer loyalty, despite the presence of large competitors. Our core women's healthcare business units are focused on bone densitometry, mammography and breast biopsy and on developing a direct-to-digital X-ray mammography system. Our bone densitometry product line and our Lorad line of mammography systems are premier brands in their markets. In addition, we develop, manufacture and supply other X-ray based imaging systems, such as general purpose direct-to-digital X-ray equipment and mini c-arm imaging products. Our customers are hospitals, imaging clinics and private practices and include many of the leading healthcare organizations in the world. Our customers are also major pharmaceutical companies who use our products in conducting clinical trials.

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We were founded on and remain committed to the principle of applying superior technology to medical imaging challenges. We achieved our first market and technology position shortly after the first commercial shipment of our initial product targeting bone densitometry in 1987. Our patented technology remains a leading bone densitometry assessment tool, offering superior, cost-effective accuracy and reliability. Starting in 1996, we embarked on an acquisition program intended to expand and diversify our business. In 1996 we acquired Fluoroscans Imaging Systems, a market leader for low intensity, real-time mini c-arm X-ray imaging devices that address the trend towards minimally invasive surgery. We have long identified mammography as an attractive growth opportunity where superior imaging technology could significantly improve diagnosis. With this goal in mind, in June 1999, we acquired Direct Radiography Corporation, or DRC, from Sterling Diagnostics and have continued to invest in the development of their direct-to-digital X-ray technology, DirectRay, targeting mammography as well as general radiography applications. While we originally intended to internally develop mammography systems based on DirectRay, in September 2000 we significantly expedited our entry into the mammography market by acquiring the U.S. assets of Trex Medical Corporation, which included the Lorad product line of mammography and minimally invasive breast biopsy systems used to detect breast cancer. We estimate that we have sold over 9,500 mammography systems worldwide, and our products are known within the industry for superior image quality and technological innovation. We plan on integrating our DirectRay technology into the Lorad mammography product line, selling both digital upgrades to our existing installed base and new digital systems to potential customers.

As a result of these acquisitions and our commitment to develop digital radiography, particularly for mammography systems, we generated losses in fiscal 1999, 2000 and 2001. Following the death in June 2001 of S. David Ellenbogen, our co-founder, Chairman and Chief Executive Officer, John W. Cumming was named our Chief Executive Officer and President. In August 2001, we implemented an extensive restructuring plan focused on returning to profitability and strengthening our competitive position in the women's health and emerging digital imaging markets. This restructuring plan included a company-wide cost savings initiative, which we estimate will result in annual cost savings in excess of \$10 million. Cost savings initiatives which

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have been effected include a reduction of our workforce, reduction of operating expenses in each of our four business units and the phase-out of non-core and unprofitable units. The second element of our restructuring plan focuses on long-term revenue growth through new marketing programs, expanded distribution channels, and development of strategic business relationships. Consistent with the plan, we announced in November 2001 that we have entered into a non-exclusive distribution agreement with Siemens Medical Solutions, a unit of Siemens AG, for the sale of our X-ray bone densitometers throughout the United States. We also announced the closure of our conventional X-ray equipment manufacturing facility located in Littleton, Massachusetts, acquired through our acquisition of the U.S. assets of Trex Medical. This business incurred significant losses during fiscal 2001. We intend to relocate some of the Littleton product lines and sales and service support personnel to our corporate headquarters in Bedford, Massachusetts. Including the reduction in workforce being implemented in connection with the closure of our Littleton facility, since the beginning of fiscal 2001, we will have reduced our workforce by approximately 25%.

We are focused on returning to profitability, expanding our market position in bone densitometry and mammography, and leading the field of digital mammography. We are evaluating new marketing programs designed to expand market share in our core markets, assessing new distribution channels for our product

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portfolio and pursuing business relationships that would allow us to further leverage our state-of-the-art technology base.

Our Markets and Products

Our core women's healthcare business units are focused on bone densitometry, mammography and breast biopsy and developing a direct-to-digital X-ray mammography system. In addition, we develop, manufacture and supply general purpose direct-to-digital X-ray equipment, and other X-ray based imaging systems, such as c-arm imaging products.

Bone Densitometry

Bone densitometry is the precise measurement of bone density to assist in the diagnosis and monitoring of osteoporosis and other metabolic bone diseases that can lead to debilitating bone fractures, often of the spine and hip. The National Osteoporosis Foundation estimates that osteoporosis is a major public health threat for approximately 28 million Americans and 250 million people worldwide, the majority of whom are women. Each year osteoporosis contributes to more than 1.5 million new hip, spine and other fractures. In August 2000, the National Institutes of Health estimated that the burden of healthcare costs for osteoporotic and associated fractures were between \$10 billion and \$15 billion per year. A significant boost for our bone assessment business was the 1995 introduction of drug therapies to treat and prevent osteoporosis. We believe that the introduction of new drug therapies, the aging of the population, and an increased focus on women's health issues and preventive medical practices has created a growing awareness among patients and physicians that osteoporosis is treatable. As a result, more women than ever are seeking bone assessment for osteoporosis. We believe that the demand for our bone densitometry systems will continue to be driven by an increase in the number of available therapies to treat osteoporosis, the increase in the at-risk population, and broader reimbursement coverage for bone density testing. In fiscal 2001, we shipped more than 750 dual-energy X-ray bone densitometry systems worldwide which we believe represents at least 50% of the worldwide market in fiscal 2001 for these systems.

We introduced our first product serving the bone densitometry market in 1986, began commercial shipments in 1987, and quickly gained recognition for our superior technology. Our patented dual-energy X-ray technology remains a leading bone densitometry assessment tool, offering superior, cost-effective accuracy and reliability. In 1999, we introduced our next-generation densitometer, Delphi QDR, which incorporates our patented fan beam imaging technology and Instant Vertebral Assessment, or IVA, technology. These dual technologies enable physicians to simultaneously measure bone density and visually assess vertebral status in a clinical setting. The ability to conduct these two diagnostic procedures with one system enables doctors to cost-

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effectively improve fracture risk assessment and to capture greater reimbursement fees. In May 2001, we received the 2001 Frost & Sullivan Technology Innovation Award in the osteoporosis diagnostics market, given for technical superiority within the industry.

We began commercial shipments of our base models of the Delphi series in March 2000 and introduced more advanced systems, which perform lateral, side-to-side scans of the lower spine without patient repositioning, in November 2000. In our quarter ended September 29, 2001, our high-end Delphi systems represented approximately 70% of our revenue from shipments of X-ray bone densitometry systems, and our bone densitometry revenues in the quarter were the highest for any quarter in the last two fiscal years. Over 500 Delphi

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systems have been installed to date. In addition to sales of new Delphi systems, we also offer upgrade opportunities to purchasers of many of our earlier generation systems in order to incorporate the technology advantages of Delphi. Worldwide, approximately 3,900 of our previously installed densitometry systems can be upgraded with Delphi capabilities. Through September 29, 2001, over 170 previously installed systems have been upgraded.

In November 2001, we announced a non-exclusive distribution agreement with Siemens Medical Solutions, a unit of Siemens AG, for the sale of our X-ray bone densitometers throughout the United States. Siemens is a global leader in medical imaging technologies and we view this partnership as a first step in forging a long-term relationship with Siemens. With the Siemens relationship, we hope to increase sales of our bone densitometry line to the Siemens customer base and increase our presence in the hospital market.

Mammography and Breast Biopsy

According to the American Cancer Society, breast cancer is the second most common cancer among women, and an estimated 192,000 new invasive cases of breast cancer are expected to occur among women in the United States during 2001. Breast cancer ranks as the second leading cause of cancer-related deaths among women, causing an estimated 40,000 deaths in 2001. A leading industry analyst estimates that the mammography imaging equipment market was approximately \$293 million in 1999 and expects that it may grow to \$567 million by 2007. When we acquired the U.S. assets of Trex Medical in September 2000, we immediately gained a significant market share in the mammography and breast biopsy systems market and a leading market share in the high-end segment of the mammography systems market in which we primarily compete. In fiscal 2001 we shipped 585 mammography systems worldwide.

Our Lorad division offers a broad product line of breast imaging products, including a range of mammography systems and breast biopsy systems. Currently our highest-end Lorad system, the M-IV, is considered a technology leader in the mammography marketplace. The M-IV incorporates our High Transmission Cellular Imaging System, HTC, recognized by Frost & Sullivan in connection with Lorad's receipt of the 2001 Frost & Sullivan Technology Innovation Award, as one of the most effective contrast improvements in 20 years of breast imaging. The patented HTC technology reduces X-ray scatter in two dimensions, delivering superior contrast and resolution without an increase in radiation dose. In addition, we recently received marketing clearance from the FDA for our Lorad Affinity mammography system, which is a high-performance screen-film mammography system specifically developed to fill a market need for a cost-effective product, with performance characteristics similar to high-end systems. We expect to begin full commercial production of these systems in the first fiscal quarter of 2002.

Digital Radiography

We have made a strategic commitment to digital radiography. We believe that the advantages of digital radiography over conventional film technology create a market with significant growth potential in general and in our core mammography systems market in particular. Digital image capture offers speed, eliminates film storage issues and provides for almost instantaneous image preview, modification and re-take when required. Diagnostic images captured in an outpatient setting can be delivered electronically for interpretation throughout

a provider's computer network and can enable hospitals to share patient data and allow radiologists to confer more easily regarding diagnoses. In spite of

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their high acquisition cost, we believe that digital radiography systems are cost effective in the long-term when considering increased throughput, savings in film-related expenses, image storage and transfer costs as well as the benefits of enhanced diagnostic convenience.

We believe that a significant factor in the market's acceptance of digital technology is the current transition within the healthcare industry from conventional X-ray film archiving to Picture, Archive and Communication Systems, known as PACS, to store X-ray images electronically. We believe that only a limited number of hospitals have adopted the PACS environment to date. We expect this adoption rate to accelerate over the next several years as hospitals realize the value and cost savings of a filmless infrastructure. Industry analysts estimate that the worldwide replacement market for installed X-ray units is approximately 11,000 systems per year, and, while not all facilities in which X-ray units are installed will migrate to digital technology, we believe many large facilities will, particularly those in the U.S. where PACS is an important initiative.

According to an industry analyst, in 2000 there were approximately 300,000 general radiographic X-ray units installed worldwide. Although the market for general radiography products is mature, we expect the market for digital X-ray systems to grow substantially over the next several years. By 2005, a leading industry analyst projects that the market for digital radiography products will reach \$1.0 billion annually.

Digital radiography can be implemented with a number of technologies, involving the direct or indirect conversion of X-ray energy captured by a detector into electronic signals. The different digital technologies are principally differentiated by their image resolution, X-ray dosage requirement, cost and field of view. First-generation digital radiography systems use indirect-conversion detectors where the X-ray energy is first converted into light, through the use of a fluorescent screen or other device, and then into electronic signals. Second-generation systems utilize a direct conversion method wherein the X-rays are absorbed and the electric signals are created in one step. We believe that amorphous selenium is currently the only commercially available direct conversion technology.

Selenium is particularly well-suited for high-quality digital imaging because it has high X-ray absorption efficiency, very high intrinsic resolution and low noise. We believe that amorphous selenium technology results in the highest quality digital image across a wide range of general radiographic applications and is particularly valuable for mammography which has high resolution requirements.

We have developed two digital technologies. Our first-generation digital technology, developed by Lorad, is an indirect conversion technology involving charged coupled devices, or CCDs, to detect the light emitted by a fluorescent screen. Our second-generation digital technology is DirectRay, developed by DRC, which is a selenium-based direct-conversion technology. While we have no exclusivity on the use of amorphous selenium in detector plates, we hold 34 patents related to our DirectRay technology, and we believe that our amorphous selenium development efforts are the most advanced in the industry. As the only commercially available, FDA-cleared, direct-conversion selenium detector, we believe that our DirectRay technology has the potential to gain industry acceptance as a standard for direct-to-digital conversion technology.

We currently offer the DirectRay digital technology in several forms for general radiographic applications, including as fully integrated radiographic systems, such as our EPEX and RADEX systems and our Digital Chest imaging systems, as an image capture upgrade to existing X-ray equipment, and as a digital component for original equipment manufacturers, OEMs, to incorporate into their own equipment. As of the close of our fourth quarter of 2001, we had

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a record backlog of 26 systems, or greater than \$8.0 million, due to increasing orders for our EPEX, RADEX and Digital Chest imaging systems. These orders may be cancelled or rescheduled without significant penalty. We supply our amorphous selenium flat panels to Agfa Corporation for non-destructive imaging applications as well as to Analogic Corporation which incorporates our panels into systems which it supplies to Eastman Kodak.

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Digital Mammography

We expect digital technology to bring particularly important benefits to mammography. In addition to speed and convenience, digital technology and high-resolution detector plates have the potential for greater image accuracy than conventional films, a critical factor in mammography. While digital mammography systems are presently several times more expensive than conventional systems, we believe they can provide long-term savings as they eliminate the recurring film costs and reduce the cost of image manipulation.

We have pursued digital mammography with both our CCD-based and our DirectRay technologies. In October 2001, we received an approvable letter from the FDA for our Lorad Full Field Digital Mammography system. The Lorad Full Field Digital Mammography system utilizes our first-generation CCD-based technology. Final marketing clearance for the Lorad Full Field Digital Mammography System is subject to labeling discussions, the agreement on criteria on the use of the product and successful completion of a Good Manufacturing Practices audit by the FDA of our manufacturing facilities in Bedford, Massachusetts and Danbury, Connecticut. We are also in the advanced stages of development of a second-generation digital mammography system that incorporates our proprietary amorphous selenium DirectRay direct-to-digital technology. This system will require regulatory review by the FDA. We are currently collecting clinical data for this system as part of a premarket approval application which we expect to submit to the FDA in the first half of 2002. To our knowledge, no other company has filed a premarket approval application for a direct-to-digital mammography system. We believe our DirectRay technology to be superior to currently available technologies and expect that the experience gained through our CCD development will enhance our ability to transition to the selenium technology and to gain FDA approval for use of DirectRay in mammography.

We expect that our DirectRay direct-to-digital mammography product line under development, if and when approved by the FDA, will position us to expand our share of the mammography market. With the improved imaging of our direct-to-digital amorphous selenium technology, we believe our Lorad mammography systems will offer women one of the most advanced tools available for early detection of breast cancer.

General Electric Medical Systems and Fischer Imaging Corporation received FDA approval to commercialize their own indirect conversion digital mammography systems in January 2000 and September 2001, respectively. In the short time since these systems became available, we believe that approximately 250 full field digital mammography systems have been installed worldwide. We believe that growth of the digital mammography market will accelerate as product offerings improve image quality over existing systems. We believe that, when and if approved, our DirectRay product line could be the first direct-to-digital FDA approved mammography system. We believe that it will provide excellent image quality, offering women one of the most advanced tools available for early detection of breast cancer, and therefore will receive market acceptance. We intend to offer DirectRay to our existing customer base through upgrades or replacement systems. We estimate that we have sold over

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9,500 mammography systems worldwide. We will also seek to expand our market beyond our historic customer base with expansion of our sales force or co-distribution arrangements.

We recently entered into a letter of intent with Siemens AG to enter into a strategic alliance focused on the development of direct-to-digital mammography systems. Through this alliance we intend to combine our proprietary amorphous selenium direct-to-digital technology with Siemens' proprietary software for a dedicated physician's workstation to bring to market direct-to-digital mammography systems. The launch of this strategic alliance is subject to several conditions, including the negotiation and execution of definitive agreements which we expect will occur over the next several months. We cannot assure that any definitive agreement with Siemens will be reached.

Mini C-arm Technology

Another of our wholly-owned subsidiaries, Fluoroscan Imaging Systems, is a market leader for low intensity, real time mini c-arm X-ray imaging devices that address the trend towards minimally invasive

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surgery. These systems provide surgeons with high-resolution images at radiation levels and at a cost well below those of conventional X-ray and fluoroscopic equipment.

Our Strategy

We are committed to returning to profitability and creating shareholder value. Following implementation of our announced restructuring plan, we believe we have made significant progress in streamlining our operations. We expect this restructuring to result in annual savings in excess of \$10 million. We believe that the breadth of our product line, recent new product introductions as well as planned new product introductions position us to once again achieve sustainable growth and profitability by providing superior diagnostic and imaging systems.

Key elements of our strategy include:

Maintaining and expanding our technology leadership. Historically, we have been recognized for our technology leadership in bone densitometry assessment. We have furthered this leadership with the introduction of our Delphi product line which enables doctors to improve fracture risk assessment. In the mammography area, our Lorad M-IV is already recognized as a technology leader because of its High Transmission Cellular Imaging System, which reduces X-ray scatter, delivering superior contrast and resolution without an increase in X-ray dose. We are in the advanced stages of development of our DirectRay direct-to-digital mammography system. We expect this system to have superior capabilities when compared to current generation mammography systems.

Accelerating sales and market acceptance of our DirectRay, direct-to-digital technology. We have several strategies that address our plan to leverage our direct-to-digital X-ray technology. In addition to our focus on developing DirectRay technology for use in our Lorad product line, we plan to accelerate market acceptance of our direct-to-digital technology by selling our own general radiography systems, the EPEX, RADEX and chest imaging systems, as well as offering our selenium plates as upgrades to X-ray systems developed by other OEMs.

Continuing to seek partnerships, alliances and joint ventures. We intend to

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pursue alliances, joint ventures and other business relationships that would allow us to expand our distribution channels either for our core products outside of our established distribution network or for our less established products beyond our core markets. In addition, in connection with our DirectRay technology we intend to explore alliances, joint ventures and other business relationships that would enable us to raise capital or share ongoing research and development costs, thereby leveraging our technology base.

We were incorporated in Massachusetts in October 1985 and reincorporated in Delaware in March 1990. Our principal executive offices are located at 35 Crosby Drive, Bedford, Massachusetts 01730-1401. Our telephone number is (781) 999-7300.

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The Offering

| | |
|---|---|
| Common stock offered by Hologic..... | 2,610,000 shares |
| Common stock to be outstanding after the offering..... | 18,449,600 shares |
| Use of proceeds..... | For continued development of our DirectRay direct-to-digital mammography system, to fund research and development of our other products under development, and for general corporate purposes and working capital. See "Use of Proceeds." |
| Nasdaq National Market symbol..... | HOLX |

The number of shares of our common stock to be outstanding immediately after this offering is based on the number of shares outstanding as of November 30, 2001. It does not include as of that date:

- . 3,894,969 shares of common stock issuable upon exercise of stock options outstanding, at a weighted average exercise price of \$7.81 per share;
- . 229,124 shares of common stock reserved for issuance pursuant to our employee stock purchase plan; and
- . 829,809 shares of common stock reserved for issuance pursuant to stock options not yet granted under all of our stock option plans.

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Summary Consolidated Financial Data

The following selected financial information should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes to those statements incorporated by reference into this prospectus supplement. The consolidated statement of operations data for each of the three years in the period ended September 29, 2001 and the consolidated balance sheet data as of September 29, 2001 are derived from our audited financial statements

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incorporated by reference into this prospectus supplement. The consolidated statement of operations data for the years ended September 27, 1997 and September 26, 1998 are derived from our audited financial statements not included in this prospectus supplement.

| | Fiscal Year Ended | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | September 27, 1997 | September 26, 1998 | September 25, 1999 | September 30, 2000 | September 29, 2001 |
| (in thousands, except per share data) | | | | | |
| Consolidated Statement of Operations | | | | | |
| Data: | | | | | |
| Revenues: | | | | | |
| Product sales..... | \$102,781 | \$111,498 | \$81,737 | \$ 90,864 | \$175,908 |
| Other revenue..... | 3,908 | 4,066 | 2,403 | 2,882 | 2,583 |
| | ----- | ----- | ----- | ----- | ----- |
| | 106,689 | 115,564 | 84,140 | 93,746 | 178,491 |
| Costs and expenses: | | | | | |
| Cost of product sales.. | 47,492 | 55,891 | 50,333 | 63,604 | 116,177 |
| Research and development..... | 8,527 | 9,778 | 12,664 | 22,178 | 23,328 |
| Selling and marketing.. | 19,448 | 28,589 | 19,658 | 23,882 | 20,852 |
| General and administrative..... | 8,827 | 10,452 | 10,963 | 16,441 | 35,422 |
| Restructuring and nonrecurring charges.. | -- | -- | -- | -- | 1,518 |
| | ----- | ----- | ----- | ----- | ----- |
| Income (loss) from operations | 22,395 | 10,854 | (9,478) | (32,359) | (18,806) |
| | ----- | ----- | ----- | ----- | ----- |
| Other income (expense): | | | | | |
| Interest income..... | 5,346 | 5,998 | 4,204 | 3,567 | 1,027 |
| Interest/other expense. | (172) | (664) | (548) | (227) | (2,902) |
| | ----- | ----- | ----- | ----- | ----- |
| Income (loss) before provision (benefit) for income taxes..... | 27,569 | 16,188 | (5,822) | (29,019) | (20,681) |
| Provision (benefit) for income taxes..... | 9,840 | 5,800 | (2,075) | (10,400) | 169 |
| | ----- | ----- | ----- | ----- | ----- |
| Net income (loss)..... | \$ 17,729 | \$ 10,388 | \$ (3,747) | \$ (18,619) | \$ (20,850) |
| | ===== | ===== | ===== | ===== | ===== |
| Net income (loss) per common share: | | | | | |
| Basic..... | \$ 1.37 | \$ 0.78 | \$ (0.27) | \$ (1.22) | \$ (1.35) |
| | ===== | ===== | ===== | ===== | ===== |
| Diluted..... | \$ 1.30 | \$ 0.75 | \$ (0.27) | \$ (1.22) | \$ (1.35) |
| | ===== | ===== | ===== | ===== | ===== |
| Weighted average number of common shares outstanding: | | | | | |
| Basic..... | 12,986 | 13,259 | 13,950 | 15,320 | 15,475 |
| | ===== | ===== | ===== | ===== | ===== |
| Diluted..... | 13,672 | 13,766 | 13,950 | 15,320 | 15,475 |
| | ===== | ===== | ===== | ===== | ===== |

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The consolidated balance sheet data under the as adjusted column at September 29, 2001 set forth in the table below reflects the sale by us of 2,610,000 shares of our common stock in this offering after deducting the underwriting discount and estimated offering expenses payable by us, as if it occurred as of September 29, 2001.

| | As of September 29, 2001 | |
|--|-----------------------------|-------------|
| | Actual | As Adjusted |
| | (In thousands) | |
| Consolidated Balance Sheet Data: | | |
| Cash and cash equivalents..... | \$ 12,754 | \$ 34,485 |
| Working capital..... | 44,679 | 66,410 |
| Total assets..... | 195,119 | 216,850 |
| Line of credit..... | 1,998 | 1,998 |
| Current portion of note payable..... | 485 | 485 |
| Notes payable, net of current portion..... | 28,416 | 28,416 |
| Total stockholders' equity..... | 111,807 | 133,538 |

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RISK FACTORS

The common stock that is offered with this prospectus supplement involves a high degree of risk. In addition to other information in this prospectus supplement and the accompanying prospectus, you should carefully consider the risk factors in the accompanying prospectus when determining whether or not to purchase the common stock offered under this prospectus supplement. If any of those risks actually occurs, our business, financial condition or results of operations could be materially and adversely affected. In this case, the trading price of our common stock could decline, and you could lose all or part of your investment.

This prospectus supplement also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described in the accompanying prospectus and elsewhere in this prospectus supplement and the accompanying prospectus.

PRICE RANGE OF COMMON STOCK

Our common stock is traded on the Nasdaq National Market under the symbol "HOLX." The following table sets forth, for the periods indicated, the high and low sales prices per share of common stock, as reported by the Nasdaq National Market.

| | High | Low |
|--|-------|-------|
| | ----- | ----- |

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| | | |
|--|---------|--------|
| Fiscal Year Ended September 30, 2000 | | |
| First Quarter..... | \$ 6.75 | \$3.06 |
| Second Quarter..... | 9.81 | 5.69 |
| Third Quarter..... | 7.81 | 5.56 |
| Fourth Quarter..... | 8.88 | 6.88 |
| Fiscal Year Ended September 29, 2001 | | |
| First Quarter..... | \$ 7.06 | \$4.66 |
| Second Quarter..... | 7.19 | 4.00 |
| Third Quarter..... | 6.80 | 4.00 |
| Fourth Quarter..... | 6.60 | 4.62 |
| Fiscal Year Ending September 30, 2002 | | |
| First Quarter (through December 13, 2001)..... | \$11.44 | \$5.00 |

The last reported sale price of our common stock on the Nasdaq National Market on December 13, 2001 was \$9.77 per share. As of December 12, 2001, there were approximately 1,898 holders of record of our common stock.

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USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the 2,610,000 shares of common stock we are offering will be approximately \$21.7 million. If the underwriters fully exercise the over-allotment option, the net proceeds to us will be approximately \$25.0 million. "Net proceeds" is what we expect to receive after we pay the underwriting discount and other estimated expenses for this offering.

We expect to use the net proceeds of this offering to fund the continued development of our DirectRay direct-to-digital mammography system, including conducting clinical trials and working toward regulatory approvals, as well as to fund research and development of other products and for general corporate purposes and working capital. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses we will have for the net proceeds upon completion of this offering. Accordingly, our management will have broad discretion in the application of the net proceeds.

Pending these uses, we intend to invest the net proceeds in interest-bearing, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States.

CAPITALIZATION

The following table sets forth our capitalization as of September 29, 2001, on an actual basis and as adjusted to give effect to the receipt by us of the estimated net proceeds from the sale of 2,610,000 shares of common stock after deducting the underwriting discount and estimated offering expenses.

| | |
|--|-------------|
| As of September 29, 2001 | |
| ----- | |
| Actual | As Adjusted |
| ----- | |
| (in thousands except share and per share data) | |

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| | | |
|---|-----------|-----------|
| Short-term debt..... | \$ 2,483 | \$ 2,483 |
| | ===== | ===== |
| Notes payable, net of current portion..... | 28,416 | 28,416 |
| Stockholders' equity: | | |
| Preferred stock, \$0.01 par value--1,623,000 shares authorized, none issued and outstanding..... | -- | -- |
| Common stock, \$0.01 par value--30,000,000 shares authorized, 15,670,142 shares issued and outstanding, actual and 18,280,142 shares as adjusted..... | 157 | 183 |
| Capital in excess of par value..... | 111,300 | 133,005 |
| Retained earnings..... | 2,971 | 2,971 |
| Accumulated other comprehensive loss..... | (2,157) | (2,157) |
| Treasury stock, at cost--45,000 shares..... | (464) | (464) |
| | ----- | ----- |
| Total stockholders' equity..... | 111,807 | 133,538 |
| | ----- | ----- |
| Total capitalization..... | \$140,223 | \$161,954 |
| | ===== | ===== |

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DILUTION

At September 29, 2001, we had a net tangible book value of \$77.4 million or approximately \$4.94 per share of common stock. Net tangible book value per share represents the amount of our tangible assets less our total liabilities, divided by the number of outstanding shares of our common stock. Net tangible book value dilution per share represents the difference between the amount per share paid by purchasers of shares of common stock in the offering pursuant to this prospectus supplement and the pro forma net tangible book value per share of common stock immediately after completion of the offering. After giving effect to the sale of 2,610,000 shares of common stock in this offering and the application of the estimated net proceeds therefrom (after deducting the underwriting discount and estimated offering expenses), but without taking into account any other changes in our net tangible book value after September 29, 2001, our pro forma net tangible book value as of September 29, 2001 would have been \$99.1 million, or \$5.42 per share. This represents an immediate increase in net tangible book value of \$0.48 per share to existing stockholders and an immediate dilution in net tangible book value of \$3.58 per share to purchasers of common stock in the offering, as illustrated in the table below.

| | |
|--|--------|
| Assumed public offering price per share..... | \$9.00 |
| Net tangible book value per share before the offering..... | \$4.94 |
| Increase per share attributable to new investors..... | 0.48 |
| | ----- |
| Pro forma net tangible book value per share after the offering.... | 5.42 |
| | ----- |
| Dilution per share to new investors..... | \$3.58 |
| | ===== |

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EXECUTIVE OFFICERS

The following is a list of all current executive officers of Hologic, Inc.

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| Name | Age | Position |
|-----------------------|-----|---|
| ---- | --- | ----- |
| John W. Cumming..... | 55 | Chief Executive Officer, President and Director |
| Jay A. Stein..... | 59 | Chairman of the Board and Chief Technical Officer |
| Glenn P. Muir..... | 42 | Executive Vice President, Finance and Administration, Treasurer and Director |
| Mark A. Duerst..... | 45 | Senior Vice President and General Manager, Worldwide Sales and Marketing |
| Peter C. Kershaw..... | 48 | Vice President and General Manager, Lorad |
| Peter Soltani..... | 40 | Vice President and General Manager, Direct Radiography Corp. |
| Eric von Stetten..... | 39 | Vice President and General Manager, Osteoporosis Assessment |

John W. Cumming was appointed to the position of Chief Executive Officer, President and director in July 2001 by our Board of Directors. Prior to that, Mr. Cumming held the position of Senior Vice President and President, Lorad, since joining us in August 2000. Prior to joining us, Mr. Cumming served as President and Managing Director of Health Care Markets Group, a strategic advisory and investment banking firm he founded in 1984. Prior to forming Health Care Markets Group, Mr. Cumming was Vice President/Division Manager for Elscint, Inc., a full line manufacturer of diagnostic imaging equipment. He became a member of Elscint's management team through the acquisition of Xonics Medical Systems in 1983, where he served as Director of Sales & Marketing. Mr. Cumming joined Xonics through the acquisition of Radiographic Development (medical imaging), where he served as Vice President, Sales & Marketing. Mr. Cumming currently serves on the Board of Directors of Vascular Genetics, a gene therapy company focusing on coronary artery disease, MRPnet, Inc., an internet application provider to the healthcare industry, Century Capital, an investment banking firm specializing in the biosciences field, and Health Care Markets Group.

Dr. Jay A. Stein, a co-founder and our Chief Technical Officer, has served as our Executive or Senior Vice President, Chief Technical Officer and a director since our organization in October 1985 and as Chairman of our Board of Directors since June 2001. Prior to co-founding us, Dr. Stein served as Vice President and Technical Director of Diagnostic Technology, Inc. (DTI), which he co-founded with S. David Ellenbogen in 1981. DTI, which developed an X-ray product for digital angiography, was acquired in 1982 by Advanced Technology Laboratories, Inc. (ATL), a wholly-owned subsidiary of Squibb Corporation. Dr. Stein served as Technical Director of the digital angiography group of its successor, ATL, from 1982 to 1985. Dr. Stein received a Ph.D. in Physics from The Massachusetts Institute of Technology. He is the principal author of fifteen patents involving X-ray technology. From July 1989 to January 2000, Dr. Stein was also the Senior Vice President, Technical Director and a director of Vivid Technologies, Inc. pursuant to a management agreement between us and Vivid. On January 13, 2000, PerkinElmer completed the purchase of Vivid and Dr. Stein relinquished all positions and duties with Vivid.

Glenn P. Muir, a Certified Public Accountant, was appointed to our Board of Directors in July 2001, and has held the position of Executive Vice President, Finance and Administration and Treasurer since September 2000. Prior to that, Mr. Muir served as Vice President of Finance and Treasurer since February 1992

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and Controller since joining us in October 1988. From 1986 to 1988, Mr. Muir was Vice President of Finance and Administration and Chief Financial Officer of Metallon Engineered Materials Corp., a manufacturer of composite materials. Mr. Muir received an MBA from the Harvard Graduate School of Business Administration in 1986.

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Mark Duerst was appointed to the position of Senior Vice President and General Manager, Worldwide Sales in April 2001. Prior to that, Mr. Duerst served as Senior Vice President and General Manager of International Sales from September 2000, served as Vice President of Sales from 1994 to 2000 and in other sales management positions since joining us in 1989. From 1988 to 1989, Mr. Duerst was an independent marketing and sales consultant and from 1983 to 1987, he was Director of Sales and Marketing of Lunar Corporation.

Peter C. Kershaw was appointed Vice President and General Manager, Lorad in July 2001. Prior to joining us, Mr. Kershaw was President of Bepak Medical Device Division from 1998 to 2001, and held the position of Vice President and General Manager from 1996 to 1998. From 1991 to 1996, Mr. Kershaw was Vice President of Operations at Bard Cardiology, a division of C.R. Bard and served as Director of Manufacturing from 1989 to 1991. Prior to joining Bard, Mr. Kershaw was with Johnson & Johnson Orthopedics serving in a variety of engineering and manufacturing management roles from 1982 to 1989.

Dr. Peter Soltani joined us in November 2000 as Vice President and General Manager of Direct Radiography Corp. Prior to joining us, Dr. Soltani served as General Manager, NDT Business Group, Digital Systems at AGFA Corporation from 1999 to November 2000. From 1994 to 1999, Dr. Soltani served as General Manager, Imaging Systems Division of Liberty Technologies, a division of Crane Nuclear, Inc. Prior to joining Liberty Technologies, Dr. Soltani was with Quantex Corporation, serving as Vice President, Technology from 1992 to 1994, Director, Product Development, from 1990 to 1992 and as a Senior Staff Scientist from 1986 to 1990. Dr. Soltani is the principal author or co-author of a number of patents related to digital imaging technologies and has published numerous articles on digital imaging. Dr. Soltani received a Ph.D. in Materials Engineering from the University of Maryland in 1994.

Eric von Stetten has held numerous positions with us since joining us in 1990. Dr. von Stetten was appointed to his current position of Vice President and General Manager, Osteoporosis Assessment in September 2000 and served as Scientific Director for our bone densitometry products from 1999 to 2000. Prior to being Scientific Director, Dr. von Stetten held the position of Director, Ultrasound Technologies from 1996 to 1999 and Principal Scientist from 1993 to 1996. Dr. von Stetten is the principal author or co-author of several patents related to osteoporosis testing devices and has published numerous papers on osteoporosis assessment technologies. Dr. von Stetten received a Ph.D. in Experimental Solid State Physics from Brandeis University in 1990.

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UNDERWRITING

We have entered into an underwriting agreement with the underwriters named below. Needham & Company, Inc. and Stephens Inc. are acting as representatives of the underwriters. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase from us the number of shares of common stock set forth opposite its name below.

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| Underwriter ----- | Number of Shares ----- |
|-----------------------------|------------------------------|
| Needham & Company, Inc..... | 1,696,500 |
| Stephens Inc..... | 913,500 |
| | ----- |
| Total..... | 2,610,000 ===== |

The representatives have advised us that the underwriters propose to offer the shares of common stock to the public at the public offering price per share set forth on the cover page of this prospectus supplement. The underwriters may offer shares to securities dealers, who may include the underwriters, at that public offering price less a concession of up to \$0.32 per share. The underwriters may allow, and those dealers may reallow, a concession to other securities dealers of up to \$0.10 per share. After the offering to the public, the offering price and other selling terms may be changed by the representatives.

We have granted an option to the underwriters to purchase up to 390,000 additional shares of common stock at the public offering price per share, less the underwriting discount, set forth on the cover page of this prospectus supplement. This option is exercisable during the 30-day period after the date of this prospectus supplement. The underwriters may exercise this option only to cover over-allotments made in connection with this offering. If this option is exercised, each of the underwriters will purchase approximately the same percentage of the additional shares as the number of shares of common stock to be purchased by that underwriter, as shown in the table above, bears to the total shown.

The following table shows the per share and total underwriting discount to be paid to the underwriters by us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

| | Total ----- | | |
|----------------------|----------------|-------------|---------------|
| | Per Share | No Exercise | Full Exercise |
| | ----- | ----- | ----- |
| Paid by Hologic..... | \$0.54 | \$1,409,400 | \$1,620,000 |

We estimate that the total expenses of the offering, excluding the underwriting discount, will be approximately \$350,000.

The underwriting agreement provides that we will indemnify the underwriters against some of the liabilities that may be incurred in connection with this offering, including liabilities under the Securities Act, or contribute payments that the underwriters may be required to make in respect thereof.

We have agreed not to offer, sell, contract to sell, grant options to purchase, or otherwise dispose of any shares of our common stock or securities exchangeable for or convertible into our common stock for a period of 90 days after the date of this prospectus without the prior consent of Needham & Company, Inc. This agreement does not apply to any existing employee benefit

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plans. Our directors and executive officers have agreed not to, directly or indirectly, sell, hedge, or otherwise dispose of any shares of common stock, options to acquire shares of common stock, or securities exchangeable for or convertible into shares of common stock, for a period of 90 days after the date of this prospectus without the prior written consent of Needham & Company, Inc. Needham & Company, Inc. may, in its sole discretion and at any time without notice, release all or any portion of the securities subject to these lock-up agreements.

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain, or otherwise affect the price of our common stock. Specifically, the underwriters may over-allot in connection

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with this offering by selling more shares than are set forth on the cover page of this prospectus supplement. This creates a short position in our common stock for their own account. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares over-allotted by the underwriters are not greater than the number of shares that they may purchase in the over-allotment option. In a naked short position, the number of shares involved is greater than the number of shares in the over-allotment option. To close out a short position or to stabilize the price of our common stock, the underwriters may bid for, and purchase, common stock in the open market. The underwriters may also elect to reduce any short position by exercising all or part of the over-allotment option. In determining the source of shares to close out the short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. If the underwriters sell more shares than could be covered by the over-allotment option, a naked short position, the position can only be closed out by buying shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there could be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in this offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter or dealer repays selling concessions allowed to it for distributing our common stock in this offering because the underwriters repurchase that stock in stabilizing or short covering transactions.

Finally, the underwriters may bid for, and purchase, shares of our common stock in market making transactions.

These activities may stabilize or maintain the market price of our common stock at a price that is higher than the price that might otherwise exist in the absence of these activities. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time without notice. These transactions may be effected on the Nasdaq National Market, in the over-the-counter market, or otherwise.

LEGAL MATTERS

The validity of the shares of common stock to be sold in this offering will be passed upon for us by Brown, Rudnick, Freed & Gesmer, Boston, Massachusetts. Pillsbury Winthrop LLP, San Francisco, California, is acting as counsel for the underwriters in connection with selected legal matters relating to the shares of common stock offered by this prospectus supplement.

EXPERTS

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The consolidated financial statements of Hologic, Inc., as of September 30, 2000 and September 29, 2001 and for each of the three years in the period ended September 29, 2001 incorporated by reference in this prospectus supplement and in the registration statement have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their reports with respect thereto, and are incorporated by reference in reliance upon the authority of such firm as experts in giving such reports.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. See "Where You Can Find More Information" in the accompanying prospectus for information on the documents we incorporate by reference in this prospectus supplement and the accompanying prospectus.

You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus. We have authorized no one to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus supplement and the accompanying prospectus is accurate as of any date other than the date on the front of these documents.

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PROSPECTUS

HOLOGIC, INC.

Common Stock

3,000,000 Shares

This is a public offering of shares of the common stock of Hologic, Inc. This means that from time to time:

- . we may offer and issue shares of common stock in varying amounts and at prices and on terms to be determined at the time of sale;
- . we will provide a prospectus supplement each time we sell such common stock; and
- . the prospectus supplement will describe the offering and the terms of each such sale.

We will receive all of the proceeds from such sales.

We may offer the securities directly or through agents or to or through underwriters or dealers. If any agents or underwriters are involved in the sale of the securities, their names, and any applicable purchase price, fee, commission or discount arrangement between or among them, will be set forth, or will be calculable from the information set forth, in an accompanying prospectus supplement. We can then sell the securities through agents, underwriters or dealers only with delivery of a prospectus supplement describing the method and terms of the offering of such securities. See "Plan of Distribution."

Our common stock is quoted on the Nasdaq National Market under the symbol

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"HOLX". On December 13, 2001, the last reported sale price of our common stock on the Nasdaq National Market was \$9.77 per share.

Investing in our common stock involves risks. See "Risk Factors" beginning on page 2.

The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities or determined if this prospectus is truthful or complete. It is illegal for any person to tell you otherwise.

The date of this prospectus is December 14, 2001.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements contained in this prospectus, the accompanying prospectus supplement and in the documents incorporated by reference, are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended. These statements involve known and unknown risks, uncertainties and other factors which may cause our or our industry's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to statements regarding:

- . our goal of returning to profitability;
- . our goal of expanding our market positions;
- . the development of new competitive technologies and products;
- . regulatory approval and clearances for our products;
- . production schedules for our products;
- . market acceptance of new products;
- . business strategies;
- . dependence on significant suppliers;
- . dependence on significant distributors and customers;
- . the availability of debt and equity financing;
- . general economic conditions;
- . the impact of our cost-savings initiatives; and
- . our financial condition or results of operations.

In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "expects," "plans," "anticipates," "believes," "estimates," "projects," "predicts," "potential" and similar expressions intended to identify forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by such forward-looking statements. Given these uncertainties, you should not

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place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading "Risk Factors." Also, these forward-looking statements represent our estimates and assumptions only as of the date of this prospectus.

You should read this prospectus, the accompanying prospectus supplement and the documents that we incorporate by reference completely and with the understanding that our actual future results may be materially different from what we expect. We may not update these forward-looking statements, even though our situation may change in the future. We qualify all of our forward-looking statements by these cautionary statements.

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PROSPECTUS SUMMARY

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission using a "shelf" registration or continuous offering process. We may from time to time sell the shares of common stock set forth in this prospectus in one or more offerings up to an aggregate of 3,000,000 shares of common stock.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide you with a prospectus supplement containing specific information about the terms of such sale. The prospectus supplement also may add, update or change information in this prospectus. If there is any inconsistency between the information in the prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement. You should read both this prospectus and any prospectus supplement together with additional information described under the heading "Where You Can Find More Information" beginning on page 14 of this prospectus.

Unless otherwise indicated or unless the context otherwise requires, all references in this prospectus to "we," "us," or similar references mean Hologic, Inc. and its subsidiaries.

You should rely only on the information contained in this prospectus or in an accompanying prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. We may offer to sell, and seek offers to buy, shares of our common stock only in jurisdictions where such offers and sales are permitted. The information contained in this prospectus or an accompanying prospectus supplement is accurate only as of the date of these documents, regardless of the time of delivery of this prospectus or of any sale of common stock.

About Hologic

We are a leading developer, manufacturer and supplier of diagnostic and medical imaging systems primarily serving the healthcare needs of women. We focus our resources on developing systems and subsystems offering superior image quality and diagnostic accuracy, which has enabled us to capture significant market shares and customer loyalty, despite the presence of large competitors. Our core women's healthcare business units are focused on bone densitometry, mammography and breast biopsy and on developing a direct-to-digital X-ray mammography system. Our bone densitometry product line and our Lorad line of mammography systems are premier brands in their markets. In addition, we develop, manufacture and supply other X-ray based imaging systems, such as general purpose direct-to-digital X-ray equipment and mini c-arm imaging products. Our customers are hospitals, imaging clinics and private

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practices and include many of the leading healthcare organizations in the world. Our customers are also major pharmaceutical companies who use our products in conducting clinical trials.

We were incorporated in Massachusetts in October 1985 and reincorporated in Delaware in March 1990. Our principal executive offices are located at 35 Crosby Drive, Bedford, Massachusetts 01730-1401. Our telephone number is (781) 999-7300.

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RISK FACTORS

The common stock that is offered with this prospectus involves a high degree of risk. You should carefully consider the following risk factors in addition to other information in this prospectus and the accompanying prospectus supplement before deciding to purchase the common stock. If any of the following risks actually occurs, our business, financial condition or results of operations could be materially and adversely affected. In this case, the trading price of our common stock could decline, and you could lose all or part of your investment.

This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this prospectus and the accompanying prospectus supplement.

Risks Related to Our Business and Markets

We are incurring significant losses and cannot assure that we will become profitable.

We incurred net losses of \$18.6 million in fiscal 2000 and \$20.9 million in fiscal 2001. In fiscal 2000, these losses were primarily attributable to the operations of Direct Radiography Corp. and charges incurred in connection with our acquisition of substantially all of the U.S. assets of Trex Medical in September 2000. Similarly, in fiscal 2001, these losses were primarily attributable to the operations of Direct Radiography Corp. and the general radiography operations of the acquired Trex Medical businesses. Direct Radiography Corp. has had only limited sales of its products. We intend to incur significant expenses in connection with the further development and commercialization of our direct radiography plates and systems. We cannot assure that we will become profitable or that we can maintain profitability if we attain it.

Our failure to reduce our losses or obtain additional funding could result in the delay or limitation of our research and development activities or otherwise harm our business and prospects.

We are working on the research and development of several long-term projects, with an emphasis on direct radiography plates and systems. We believe that we will require significant additional funds in order to complete the development, conduct clinical trials and achieve regulatory approvals of our direct radiography and other products under development over the next several years. Moreover, we may require additional funds for the working capital to commence the manufacture and marketing of these new products in commercial quantities, if and when approved or cleared by the regulatory authorities. If our capital requirements vary materially from those currently planned, we may

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require additional financing sooner than anticipated. As a result, we anticipate that we will be required to reduce our losses or obtain additional funding to support these efforts. We may need to raise capital in addition to what we are seeking in this offering through additional equity or debt financings, asset sales, collaborative arrangements or from other sources. This additional financing may not be available to us on a timely basis, if at all, or, may not be available on terms acceptable to us. If we fail to obtain acceptable additional financing, we may be required to reduce our planned expenditures, including our ongoing research and development expenditures. Such a reduction could result in the delay or limitation of our ongoing research and development projects and otherwise harm our business and prospects. Moreover, additional equity financing may cause dilution to existing stockholders.

If we are unable to satisfy our financial covenants under our loan agreement our loan availability may be limited or we may have to obtain alternative sources of financing.

Our loan agreement with Foothill Capital Corporation contains financial and other covenants. As a result of recent events, including the restructuring charges we incurred in the fourth quarter of fiscal 2001 and the additional charges we expect to incur in connection with our decision to close our Littleton facility, we were required to modify some of these covenants. Our loan availability is also limited to a maximum of \$15.0 million until we have received at least \$10.0 million in net proceeds from the sale of our common stock or other qualifying transaction, and may be further limited based upon other financial covenants and formulas. If we do not comply with our covenants, our availability under our loan agreement could be reduced or our lender could declare a default. In the event of a loan default or a substantial reduction of loan availability, we would

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be required to obtain alternative financing, which could be more expensive than our current arrangement, be dilutive to existing stockholders and divert management's time and attention. Moreover, we cannot assure that we would be able to obtain alternative financing on favorable terms and on a timely basis, if at all. At September 29, 2001 we had borrowed approximately \$2.4 million under our loan agreement. Our failure to meet any of our covenants under our loan agreement could significantly harm our liquidity and financial position.

The markets for our direct radiography products are unproven.

In 1998, our subsidiary, Direct Radiography Corp., was the first company to introduce direct-to-digital X-ray imaging products in the United States. Since that introduction, Direct Radiography Corp. has had only limited sales of its products. Moreover, the markets for these products are relatively new and remain unproven. There is a significant installed base of conventional X-ray imaging products in hospitals and radiological practices. The use of our direct-to-digital X-ray imaging products in many cases would require these potential customers to either modify or replace their existing X-ray imaging equipment. Moreover, we believe that a major factor in the market's acceptance of direct-to-digital X-ray technology is the trend toward transition by the healthcare industry from conventional film archiving systems to hospital Picture, Archive and Communication Systems, known as PACS, to store X-ray images electronically. Because the benefits of our direct-to-digital technology may not be fully realized by customers until they install a PACS platform, a large potential market for these products may not develop until PACS environments are more widely used. Because of the early stage of the markets for these products, it is likely that our evaluation of the potential markets for these products will materially vary with time. We cannot assure that any significant market will develop for our direct radiography products.

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If we fail to achieve and maintain the high manufacturing standards that our direct radiography products require, we will not be successful in developing and marketing those products.

The manufacture of our direct radiography detectors is highly complex and requires precise high quality manufacturing that is difficult to achieve. We have experienced difficulties manufacturing these detectors.

We obtain transistor plates for our direct radiography detectors from a sole contract manufacturer. Following our recent development of an improved design for our transistor plates, we experienced unacceptably high levels of defects for the newly designed plates. While the manufacturer has resolved the problem, and is now producing the plates to our satisfaction, we could again encounter production problems with future shipments. Moreover, further changes in design for our direct radiography detectors, including for our mammography detectors under development, could result in other unanticipated production problems. Our initial difficulties have led to a delay in our ability to ship our new direct radiography systems and adversely affected our anticipated revenues and results of operations from sales of those systems. Our failure, including the failure of our contract manufacturers, to achieve and maintain the required high manufacturing standards could result in further delays or failures in product testing or delivery, cost overruns, product recalls or withdrawals, or other problems that could harm our business and prospects.

Our success depends on new product development.

We have a continuing research and development program designed to develop new products and to enhance and improve our products. We are expending significant resources on the development of digital X-ray imaging products, including a digital mammography product. The successful development of our products and product enhancements are subject to numerous risks, both known and unknown, including:

- . unanticipated delays;
- . access to capital;
- . budget overruns;
- . technical problems; and
- . other difficulties that could result in the abandonment or substantial change in the design, development and commercialization of these new products, including, for example, changes requested by the FDA in connection with pre-market approval applications for our products or 510(k) notification.

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Given the uncertainties inherent with product development and introduction, we cannot assure that any of our product development efforts will be successful on a timely basis or within budget, if at all. Our failure to develop new products and product enhancements on a timely basis or within budget could harm our business and prospects.

We are undergoing a management transition, which if not successfully implemented could harm our business and prospects.

On June 21, 2001, S. David Ellenbogen, our co-founder, Chairman and Chief Executive Officer, unexpectedly passed away. On July 31, 2001, our Board of

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Directors named John W. Cumming, as our Chief Executive Officer, President and a director. Mr. Cumming joined us in August 2000 as Senior Vice President and President of Lorad, one of our divisions. Steve L. Nakashige, our former President, Chief Operating Officer and a director, left us in July 2001, and Thomas Umbel, our former Vice President, Business Development, left us in September 2001. In addition, Glenn P. Muir, an Executive Vice President and our Chief Financial Officer, has also been appointed as a director. The management transition is occurring at a challenging time, given our recent acquisitions, ongoing development activities and losses, and involves numerous other risks and uncertainties, including:

- . the diversion of management's attention;
- . the ability of continuing and new management to work together effectively;
- . the ability of new management to handle its new responsibilities and to quickly understand and develop and successfully implement effective strategies for the business; and
- . the potential loss of key employees.

The management transition, if not successful, could harm our business and prospects.

Our business could be harmed if our products contain undetected errors or defects or do not meet customer specifications.

We are continuously developing new products and improving our existing products. Newly introduced products can contain undetected errors or defects. In addition, these products may not meet their performance specifications under all conditions or for all applications. If, despite our internal testing and testing by our customers, any of our products contains errors or defects or any of our products fails to meet customer specifications, then we may be required to enhance or improve those products or technologies. We may not be able to do so on a timely basis, if at all, and may only be able to do so at considerable expense. In addition, any significant reliability problems could result in adverse customer reaction, negative publicity or legal claims and could harm our business and prospects.

The general radiography digital market is a new market which is continuing to develop and our new products for this market may not meet the needs of this market as it continues to develop.

The general radiography digital market is a new market which is continuing to develop and for which customer requirements have not been fully specified. For example, our initial specification for the first two digital products for general radiography, the EPEX and RADEX, did not fulfill all the needs of some potential customers for these systems. We have addressed these additional customer requirements through the development and release of new software for these systems. Our introduction of our EPEX and RADEX systems has also resulted in challenges to our direct sales force, which had only limited experience in marketing general radiography products. We cannot assure that we will be able to develop a successful strategy for addressing the general radiography market as it continues to develop. Our failure to do so could harm our business and prospects.

Our reliance on one or only a limited number of suppliers for some key components or subassemblies for our products could harm our business and prospects.

We rely on one or only a limited number of suppliers for some key components

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or subassemblies for our products. In particular we have only one source of supply for each of the panel and the coating of that panel for our direct radiography products. The supplier for the panel coating is Analogic Corporation, which is also a

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customer as well as a potential competitor. In addition we have only limited sources of supply for some key components used in our mini c-arm systems. Obtaining alternative sources of supply of these components could involve significant delays and other costs, and may not be available to us on reasonable terms, if at all. The failure of a component supplier or contract assembler to provide acceptable quality and timely components or assembly service at an acceptable price, or an interruption of supplies from such a supplier could harm our business and prospects. Any disruption of supplies of key components could delay or reduce shipments which could result in lost or deferred sales.

Our reliance on a customer for a significant portion of our revenues could harm our business and prospects.

Physician Sales & Service, Inc. and its affiliates, known as PSS, serve as independent distributors in the United States for many of our product lines. These distributors owed us a total of approximately \$7.0 million as of September 29, 2001 and accounted for approximately 20% of our product sales for fiscal 2001. We do not have a long term agreement with PSS obligating them to purchase products from us. A reduction or delay in orders from PSS or a delay or default in the payment of their accounts receivable could harm our business and prospects.

We may not be able to compete successfully.

A number of companies have developed, or are expected to develop, products that compete or will compete with our products. Many of these competitors offer a range of products in areas other than those in which we compete, which may make such competitors more attractive to hospitals, radiology clients, general purchasing organizations and other potential customers. In addition, many of our competitors and potential competitors are larger and have greater financial resources than we do and offer a range of products broader than our products. Some of the companies with which we now compete or may compete in the future have or may have more extensive research, marketing and manufacturing capabilities and significantly greater technical and personnel resources than we do, and may be better positioned to continue to improve their technology in order to compete in an evolving industry. Our failure to compete successfully could harm our business and prospects.

The primary competitor for our bone densitometry products is General Electric Medical Systems (GEMS). Our direct-to-digital imaging products compete with traditional X-ray systems as well as computed radiography systems, which are less expensive than our products, and other direct-to-digital systems. The larger competitors in these markets include GEMS, Siemens, Kodak, Canon and Varian. General Electric has received FDA approval to market a digital general radiography X-ray system. Another company, Fischer Imaging, recently received FDA marketing approval for its general radiography digital X-ray system. Our mammography systems compete with products offered by GEMS, Siemens, Instrumentarium and Fischer Imaging. Our minimally invasive breast biopsy systems compete with products offered by Fischer Imaging and with conventional surgical biopsy procedures. Our mini c-arm products compete directly with mini c-arms manufactured and sold by a limited number of companies including GEMS. We also compete indirectly with manufacturers of conventional c-arm image intensifiers including Siemens and GEMS.

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Our success depends upon our ability to adapt to rapid changes in technology and customer requirements.

The market for our products has been characterized by rapid technological change, frequent product introductions and evolving customer requirements. We believe that these trends will continue into the foreseeable future. Our success will depend, in part, upon our ability to enhance our existing products, successfully develop new products that meet increasing customer requirements and gain market acceptance. If we fail to do so our products may be rendered obsolete or uncompetitive by new industry standards or changing technology.

We may be unable to successfully integrate the operations of our acquisitions.

We acquired the United States business of Trex Medical in September 2000 and Direct Radiography Corp. in June 1999. Both of these acquisitions involve numerous risks generally associated with acquisitions, including:

- . the diversion of management's attention;
- . the assimilation of operations, personnel and products of the acquired businesses;

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- . the ability to manage geographically remote units; and
- . the potential loss of key employees of the acquired businesses.

We may not be able to successfully integrate the operations of Trex Medical or Direct Radiography Corp. Failure to do so would harm our business and prospects.

Our failure to manage current or future alliances or joint ventures effectively may harm our business and prospects.

We are exploring potential alliances, joint ventures or other business relationships to expand our distribution channels, raise cash or share ongoing research and development costs. As a result of these efforts we have entered into a distribution agreement with Siemens for our bone densitometry products and a letter of intent with respect to the research and development of digital mammography products. Siemens is a competitor or potential competitor to us in some of our business segments, as well as a competitor or potential competitor to some of our customers or potential customers. Our alliance with Siemens or any other person could enhance their business to our detriment or make it more difficult for us to enter into advantageous business transactions or relationships with others. Moreover, we may not be able to:

- . identify appropriate candidates for alliances or joint ventures;
- . assure that any alliance or joint venture candidate will provide us with the support anticipated;
- . successfully negotiate an alliance or joint venture on terms that are advantageous to us; or
- . successfully manage any alliance or joint venture.

Furthermore, any alliance or joint venture may divert management time and resources. Our entering into a disadvantageous alliance or joint venture or failure to manage an alliance or joint venture effectively could harm our business and prospects.

The uncertainty of healthcare reform could harm our business and prospects.

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In recent years, the healthcare industry has undergone significant change driven by various efforts to reduce costs, including efforts at national healthcare reform, trends toward managed care, cuts in Medicare, consolidation of healthcare distribution companies and collective purchasing arrangements by office-based healthcare practitioners. Healthcare reform proposals and medical cost containment measures in the United States and in many foreign countries could:

- . limit the use of our products;
- . reduce reimbursement available for such use; or
- . adversely affect the use of new therapies for which our products may be targeted.

These reforms or cost containment measures, including the uncertainty in the medical community regarding their nature and effect, could harm our business and prospects and make it difficult for us to raise additional capital on advantageous terms, if at all.

We depend on third party reimbursement to our customers for market acceptance of our products. Failure of third party payors to provide appropriate levels of reimbursement for use of our products could harm our business and prospects.

Sales of medical products largely depend on the reimbursement of patients' medical expenses by government healthcare programs and private health insurers. The costs of our products are substantial, and market acceptance of our products depends upon our customers' ability to obtain appropriate levels of reimbursement from third-party payors for use of our products. In the United States, the Health Care Finance Administration, known as HCFA, establishes guidelines for the reimbursement of healthcare providers treating Medicare and Medicaid patients. Under current HCFA guidelines, varying reimbursement levels have been established for dual-energy X-ray and ultrasound bone density assessment, mammography and other imaging and diagnostic procedures performed by our products. The actual reimbursement amounts are determined by individual state Medicare carriers and, for non-Medicare and Medicaid patients, private insurance carriers. There are often delays between the reimbursement approvals by HCFA and by a state Medicare carrier and private insurance carriers. Moreover, states as well as private insurance carriers may choose not to follow the HCFA reimbursement guidelines. The use of our products outside the United States is similarly affected by

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reimbursement policies adopted by foreign regulatory and insurance carriers. A reduction or other adverse change in reimbursement policies for the use of our products could harm our business and prospects.

The future growth of our bone densitometry business depends in large part on the continued development and more widespread acceptance of complementary therapies.

Our bone densitometers and related products are used to assist physicians in diagnosing patients at risk for osteoporosis and other bone disorders, and to monitor the effectiveness of therapies to treat these disorders. As a result, the future growth of the market for these products and of this business will in large part be dependent upon the development and more widespread acceptance of drug therapies to prevent and to treat osteoporosis. Over the last several years, the FDA has approved a number of drug therapies to treat osteoporosis. We also understand that a number of other drug therapies are under development. While sales of our bone densitometry products have benefited from the increased availability and use of these therapies, most patients who are at risk for

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osteoporosis continue to go untreated. We cannot assure that any therapies under development or in clinical trials will prove to be effective, obtain regulatory approval, or that any approved therapy will gain wide acceptance. Even if these therapies gain widespread acceptance, we cannot assure that this acceptance will increase the sales of our products.

Reductions in revenues could harm our operating results because a high percentage of our operating expenses is relatively fixed.

A high percentage of our operating expenses is relatively fixed. We likely will not be able to reduce spending to compensate for adverse fluctuations in revenues. As a result, shortfalls in revenues are likely to harm our operating results.

Our results of operations are subject to significant quarterly variation and seasonal fluctuation.

Our results of operations have been and may continue to be subject to significant quarterly variation. The results for a particular quarter may vary due to a number of factors, including:

- . the overall state of healthcare and cost containment efforts;
- . the development status and demand for drug therapies to treat osteoporosis;
- . the development status and demand for our direct-to-digital imaging products;
- . economic conditions in our markets;
- . foreign exchange rates;
- . the timing of orders;
- . the timing of expenditures in anticipation of future sales;
- . the mix of products sold by us;
- . the introduction of new products and product enhancements by us or our competitors; and
- . pricing and other competitive conditions.

We also believe that our sales may be somewhat seasonal, with reduced orders in the summer months reflecting summer vacation schedules. Customers may also cancel or reschedule shipments. Production difficulties could also delay shipments. Any of these factors also could harm our business and prospects.

Our delay or inability to obtain any necessary United States or foreign regulatory clearances or approvals for our products could harm our business and prospects.

Our products are medical devices that are the subject of a high level of regulatory oversight. Our delay or inability to obtain any necessary United States or foreign regulatory clearances or approvals for our products

could harm our business and prospects. The process of obtaining clearances and approvals can be costly and time-consuming. There is a risk that any approvals

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or clearances, once obtained, may be withdrawn or modified. Medical devices cannot be marketed in the United States without clearance or approval by the FDA. Medical devices sold in the United States must also be manufactured in compliance with FDA Good Manufacturing Practices, which regulate the design, manufacture, packing, storage and installation of medical devices. Moreover, medical devices are required to comply with FDA regulations relating to investigational research and labeling. States may also regulate the manufacture, sale and use of medical devices, particularly those that employ X-ray technology. Our products are also subject to approval and regulation by foreign regulatory and safety agencies.

Fluctuations in the exchange rates of European currencies and the other foreign currencies in which we conduct our business, in relation to the U.S. dollar, have harmed and could continue to harm our business and prospects.

Foreign sales accounted for approximately 33% of our product sales in fiscal 2000 and 28% of our product sales in fiscal 2001. We maintain a sales and service office in Belgium and a support office in France. The expenses and sales of these offices are denominated in local currencies. We anticipate that foreign sales and sales denominated in foreign currencies will continue to account for a significant portion of our total sales. Fluctuations in the value of local currencies have caused, and are likely to continue to cause, amounts translated into U.S. dollars to fluctuate in comparison with previous periods. In particular, the strength in value of the U.S. dollar to the Euro and other European currencies has resulted in an increase in price for products denominated in those currencies. We believe that these price increases have harmed our ability to compete in these markets. Conversely, an increase in the value of the local currencies in which we have offices would likely increase our expenses relative to U.S. dollar sales and could also harm our operating results. We have hedged our foreign currency exposure by borrowing funds in local European currencies to pay the expenses of our foreign offices. There is a risk that these hedging activities will not be successful in mitigating our foreign exchange risk exposure.

We conduct our business worldwide, which exposes us to a number of difficulties in coordinating our international activities and dealing with multiple regulatory environments.

We sell our products to customers throughout the world. Our worldwide business may be harmed by:

- . difficulties in staffing and managing operations in multiple locations;
- . greater difficulties in trade accounts receivable collection;
- . possible adverse tax consequences;
- . governmental currency controls;
- . changes in various regulatory requirements;
- . political and economic changes and disruptions;
- . export/import controls; and
- . tariff regulations.

We have experienced difficulties in collecting accounts receivable in Latin America, which as of September 29, 2001 totaled \$3.3 million, including \$425,000 of long-term accounts receivable included in other assets.

Our business could be harmed if we are unable to protect our proprietary

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technology.

We rely primarily on a combination of trade secrets, patents, copyright and trademark laws and confidentiality procedures to protect our technology. Despite these precautions, unauthorized third parties may

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infringe, copy or reverse engineer portions of our technology. We do not know if current or future patent applications will be issued with the scope of the claims sought, if at all, or whether any patents issued will be challenged or invalidated. In addition, we have obtained or applied for corresponding patents and patent applications in several foreign countries for some of our patents and patent applications. There is a risk that these patent applications will not be granted or that the patent or patent application will not provide significant protection for our products and technology. Our competitors may independently develop similar technology that our patents do not cover. In addition, because patent applications in the United States are not publicly disclosed until the patent is issued, applications may have been filed which relate to our technology. Moreover, there is a risk that foreign intellectual property laws will not protect our intellectual property rights to the same extent as United States intellectual property laws. In the absence of significant patent protection, we may be vulnerable to competitors who attempt to copy our products, processes or technology.

Our business could be harmed if we infringe upon the intellectual property rights of others.

There has been substantial litigation regarding patent and other intellectual property rights in the medical device and related industries. We have been, and may be in the future, notified that we may be infringing intellectual property rights possessed by third parties. If any such claims are asserted against our intellectual property rights, we may seek to enter into royalty or licensing arrangements. There is a risk in these situations that no license will be available or that a license will not be available on reasonable terms. Alternatively, we may decide to litigate such claims or to design around the patented technology. These actions could be costly and would divert the efforts and attention of our management and technical personnel. As a result, any infringement claims by third parties or claims for indemnification by customers resulting from infringement claims, whether or not proven to be true, may harm our business and prospects.

We may be prohibited from manufacturing and selling our existing Lorad prone breast biopsy system and be required to pay significant damages if Fischer Imaging Corporation succeeds in its lawsuit against Trex Medical and us that alleges that the system infringes two Fischer Imaging patents.

In connection with our acquisition of the U.S. assets of Trex Medical, we assumed liability for a lawsuit filed by Fischer Imaging against Trex Medical alleging that the Lorad prone biopsy system infringes upon two Fischer Imaging patents, subject to indemnification from Trex Medical and its parent, Thermo Electron Corporation, for any damages and related costs, including attorneys' fees, up to our adjusted purchase price for the Trex Medical assets. In connection with this arrangement, Trex Medical is continuing to defend this lawsuit. Recently, Fischer Imaging filed lawsuits against us in the United States and France in connection with sales of this product. Fischer Imaging also announced that they have brought suit in Europe in connection with sales of this product in Germany. The lawsuits filed and announced by Fischer Imaging seek to enjoin Trex Medical, us and, as announced by Fischer Imaging, our German distributor from further violation of Fischer Imaging's patents and damages including, in the United States, damages of up to three times the

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amount found or assessed and attorneys' fees. Trex Medical and Thermo Electron have agreed to indemnify us, and to defend the recently filed United States lawsuit on the same basis as the previously existing lawsuit. If we or Trex Medical are unsuccessful in defending these lawsuits, we may be prohibited from manufacturing and selling the existing prone breast biopsy system without a license from Fischer Imaging and Fischer Imaging could be awarded significant damages. If required, a license from Fischer Imaging to manufacture or sell the existing prone breast biopsy system may not be available or may not be available on commercially reasonable terms. Moreover, if Fischer Imaging were awarded damages, indemnification from Trex Medical and Thermo Electron, if any, may be insufficient to cover the award. A significant award above the indemnification amount actually received could harm our business and prospects.

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Our future success will depend on the continued services of our key personnel.

The loss of any of our key personnel, particularly our key research and development personnel, could harm our business and prospects. Our success will also depend upon our ability to attract and retain other qualified managerial and technical personnel. Competition for such personnel, particularly software engineers and other technical personnel, is intense. We may not be able to attract and retain personnel necessary for the development of our business. We do not have any key man life insurance for any of our officers or other key personnel.

There is a risk that our insurance will not be sufficient to protect us from product liability claims, or that in the future product liability insurance will not be available to us at a reasonable cost, if at all.

Our business involves the risk of product liability claims inherent to the medical device business. We maintain product liability insurance subject to deductibles and exclusions. There is a risk that our insurance will not be sufficient to protect us from product liability claims, or that product liability insurance will not be available to us at a reasonable cost, if at all. An underinsured or uninsured claim could harm our operating results or financial condition.

We use hazardous materials and products.

Our research and development involves the controlled use of hazardous materials, such as toxic and carcinogenic chemicals and various radioactive compounds. Although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by federal, state and local regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In the event of this type of accident, we could be held liable for any resulting damages, and any such liability could be extensive. We are also subject to substantial regulation relating to occupational health and safety, environmental protection, hazardous substance control, and waste management and disposal. The failure to comply with such regulations could subject us to, among other things, fines and criminal liability.

Provisions in our Certificate of Incorporation and By-laws and our stockholder rights plan may have the effect of discouraging advantageous offers for our business or common stock and limit the price that investors might be willing to pay in the future for shares of our common stock.

Our Certificate of Incorporation, By-laws and the provisions of Delaware corporate law include provisions that may have the effect of discouraging or

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preventing a change in control. In addition, we have a stockholder rights plan that may have the effect of discouraging or preventing a change in control. These provisions could limit the price that our stockholders might receive in the future for shares of our common stock.

Risks Related to this Offering

The volatility of our stock price could adversely affect your investment in our common stock.

The market price of our common stock has been, and may continue to be, highly volatile. We believe that a variety of factors could cause the price of our common stock to fluctuate, perhaps substantially, including:

- . announcements and rumors of developments related to our business or the industry in which we compete;
- . quarterly fluctuations in our actual or anticipated operating results and order levels;
- . general conditions in the worldwide economy;
- . announcements of technological innovations;
- . new products or product enhancements by us or our competitors;
- . developments in patents or other intellectual property rights and litigation; and
- . developments in our relationships with our customers and suppliers.

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In addition, in recent years the stock market in general and the markets for shares of small capitalization and "high-tech" companies in particular, have experienced extreme price fluctuations which have often been unrelated to the operating performance of affected companies. Any such fluctuations in the future could adversely affect the market price of our common stock, and the market price of our common stock may decline.

Future sales of our common stock may cause our stock price to decline.

Substantially all of our outstanding shares of common stock are freely tradable without restriction or further registration. Affiliates must sell all shares they own in compliance with the volume and other requirements of Rule 144, except for the holding period requirements. Nevertheless, sales of substantial amounts of common stock by our stockholders, including purchasers in this offering, or even the potential for such sales, may cause the market price of our common stock to decline and could impair our ability to raise capital through the sale of our equity securities.

Management will have broad discretion in how we use the proceeds of this offering, and we may not use these proceeds effectively.

Our management will have considerable discretion in the application of the net proceeds of this offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our profitability or our market value.

PROSPECTUS

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This prospectus is part of a registration statement that we filed with the SEC utilizing a "shelf" registration process. Under this shelf process, we may sell common stock in one or more offerings up to a total of 3,000,000 shares of common stock.

PROSPECTUS SUPPLEMENT

This prospectus provides you with a general description of the offerings we may make of our common stock. Each time we sell common stock, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add to or change information contained in this prospectus. If so, the prospectus supplement should be read as superseding this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading "Where You Can Find More Information."

The prospectus supplement to be attached to the front of this prospectus will describe the terms of the offering of common stock, including the offering price, the purchase price and net proceeds we will receive in such offering and the specific terms related to the offering.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock and do not plan to pay any cash dividends in the foreseeable future. Our current policy is to retain all of our earnings to finance future growth. In addition, our existing credit facility with Foothill Capital Corporation prohibits us from declaring or paying any dividends.

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USE OF PROCEEDS

We will receive all of the net proceeds from the sale of our common stock registered under the registration statement of which this prospectus is a part. We expect to use the net proceeds of this offering and any future issuances under the registration statement to fund the continued development of our DirectRay direct-to-digital mammography systems, including conducting clinical trials and working toward regulatory approvals, as well as to fund research and development of our other products and for general corporate purposes and working capital. As of the date of this prospectus, we cannot specify with certainty all of the particular uses we will have for the net proceeds upon completion of the offerings made under the registration statement. Accordingly, unless the applicable prospectus supplement states otherwise, our management will have broad discretion in the application of the net proceeds.

Pending these uses, we intend to invest the net proceeds in interest-bearing, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States.

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PLAN OF DISTRIBUTION

Needham & Company, Inc. is acting as our financial advisor in connection with this distribution. We may offer our common stock for sale in one or more transactions, including block transactions, at a fixed price or prices, which

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may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at prices determined on a negotiated or competitive bid basis. We may sell common stock directly, through agents designated from time to time, or by such other means as may be specified in the applicable prospectus supplement. Participating agents or broker-dealers in the distribution of any of the common stock may be deemed to be "underwriters" within the meaning of the Securities Act. Any discount or commission received by any underwriter and any participating agents or broker-dealers, and any profit on the resale of shares of the securities purchased by any of them may be deemed to be underwriting discounts or commissions under the Securities Act.

We may sell our common stock through a broker-dealer acting as agent or broker or to a broker-dealer acting as principal. In the latter case, the broker-dealer may then resell such common stock to the public at varying prices to be determined by the broker-dealer at the time of resale. The maximum commission or discount that may be received by any NASD member firm or independent broker-dealer will not be greater than 8% for the sale of securities offered under Rule 415 under the Securities Act.

To the extent required, the number and amount of the common stock to be sold, information relating to the underwriters, the purchase price, the public offering price, if applicable, the name of any underwriter, agent or broker-dealer, and any applicable commissions, discounts or other items constituting compensation to such underwriters, agents or broker-dealers with respect to a particular offering will be set forth in any accompanying supplement to this prospectus.

If underwriters are used in a sale, common stock will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The common stock may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. The underwriter or underwriters with respect to a particular underwritten offering of the common stock will be named in the prospectus supplement relating to that offering and, if an underwriting syndicate is used, the managing underwriter or underwriters will be stated on the cover of the prospectus supplement. Underwriters, dealers, and agents may be entitled, under agreements entered into with us, to indemnification against and contribution toward certain civil liabilities, including under the Securities Act.

Under the securities laws of some states, the common stock registered by the registration statement may be sold in those states only through registered or licensed brokers or dealers.

Any person participating in the distribution of the common stock registered under the registration statement that includes this prospectus will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, and the applicable Securities and Exchange Commission rules and regulations, including, among others, Regulation M, which may limit the timing of purchases and sales of any of our common stock by any such person. Furthermore, Regulation M may restrict the ability of any person engaged in the distribution of our common stock to engage in market-making activities with respect to our securities. These restrictions may affect the marketability of our common stock and the ability of any person or entity to engage in market-making activities with respect to our common stock.

Upon sale under the registration statement that includes this prospectus, the securities registered by the registration statement will be freely tradable in the hands of persons other than our affiliates.

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LEGAL MATTERS

The validity of the shares of common stock to be sold in this offering will be passed upon for us by Brown, Rudnick, Freed & Gesmer, Boston, Massachusetts.

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EXPERTS

The consolidated financial statements of Hologic, Inc., as of September 30, 2000 and September 29, 2001 and for each of the three years in the period ended September 29, 2001 incorporated by reference in this prospectus and in the registration statement have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their reports with respect thereto, and are incorporated by reference in reliance upon the authority of such firm as experts in giving such reports.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy these reports, proxy statements and other information at the SEC's public reference room at 450 Fifth Street, N.W., Washington, D.C. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. Our SEC filings are also available at the SEC's web site at <http://www.sec.gov>.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to common stock offered in connection with this prospectus. This prospectus does not contain all of the information set forth in the registration statement. We have omitted certain parts of the registration statement in accordance with the rules and regulations of the SEC. For further information with respect to us and our common stock, you should refer to the registration statement. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, you should refer to the copy of such contract or document filed as an exhibit to or incorporated by reference in the registration statement. Each statement as to the contents of such contract or document is qualified in all respects by such reference. You may obtain copies of the registration statement from the SEC's principal office in Washington, D.C. upon payment of the fees prescribed by the SEC, or you may examine the registration statement without charge at the offices of the SEC described above.

The SEC allows us to "incorporate by reference" information that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, until all of the common stock registered hereunder is sold:

- . Our Annual Report on Form 10-K for the year ended September 29, 2001;
- . The description of our common stock contained in our Registration Statement on Form 8-A dated January 31, 1990; and

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- . The description of our common stock purchase rights contained in our Registration Statement on Form 8-A/A dated June 14, 1999, filed with the SEC on June 18, 1999.

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You may request a copy of these filings at no cost by writing or telephoning us at the following address:

Hologic, Inc.
35 Crosby Drive
Bedford, MA 01730-1401
Attention: Investor Relations
Tel: (781) 999-7300

You should rely only on the information or representations provided in this prospectus and in the accompanying prospectus supplement. We have authorized no one to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or in any prospectus supplement is accurate as of any date other than the date on the front of these documents.

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[Hologic Logo appears here]