ARRHYTHMIA RESEARCH TECHNOLOGY INC /DE/
Form S-B
November 20, 2007
Table of Contents

As filed with the Securities and Exchange Commission on November 20, 2007,
Registration No. 333-120329

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 TO
FORM S-8
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ARRHYTHMIA RESEARCH TECHNOLOGY, INC.
(Exact name of registrant as specified in its charter)

Delaware	72-0925679
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

25 Sawyer Passway, Fitchburg, MA 01420; (978) 345-5000
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

ARRHYTHMIA RESEARCH TECHNOLOGY, INC. 2001 STOCK OPTION PLAN
(Full title of the plan)

David A. Garrison
Chief Financial Officer
Arrhythmia Research Technology, Inc.
25 Sawyer Passway
Fitchburg, MA 01420
(Name and address of agent for service)

(978) 345-5000
(Telephone number, including area code, of agent for service)

Copies to:

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Ellenoff Grossman & Schole, LLP
1627 K St. NW, Suite 1000
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CALCULATION OF REGISTRATION FEE

Title of Securities	**Amount To**	**Proposed Maximum**	**Proposed Maximum**	**Amount of**

To Be Registered	Be Registered	Offering Price Per Share	Aggregate Offering Price	Registration Fee
Common Stock, $.01 par value	200,000 shares [1]	$8.77[2]	$ 1,754,000 [2]	$53.82
Common Stock, $.01 par value	200,000 shares [3]	(3)	(3)	(4)

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, an indeterminate amount of additional shares of common stock, which may become issuable pursuant to the anti-dilution provisions of the 2001 Stock Option Plan, as amended (the "Plan") are also being registered hereunder. The shares being registered consist of the following shares, which may be reoffered and resold from time to time: (a) an aggregate of 200,000 shares pursuant to amendment of the 2001 Stock Option Plan on May 11, 2007, and (b) an aggregate of 197,000 shares registered on Form S-8 (File No. 333-111326) which registration statement is incorporated herein by reference.

(2) Estimated solely for the purpose of calculating the registration fee, pursuant to Rule 457(c) and (h)(1) under the Securities Act of 1933, as amended. The price per share and aggregate offering price are based on the average of the high and low prices of Registrant's common stock as reported on the American Stock Exchange on November 15, 2007.

(3) Represents the same shares described in the line above, which may be resold by the holder.

(4) Pursuant to Rule 457(h)(3), no additional fee is payable since the shares, which may be offered for resale, are the same shares being registered hereby upon their initial issuance pursuant to the Plan.

EXPLANATORY NOTE

This registration statement is being filed pursuant to General Instruction E to Form S-8 to reflect that the Board of Directors and majority of the stockholders of Arrhythmia Research Technology, Inc. (the "Company") have amended the Company's 2001 Stock Option Plan (as amended, the "Plan"). This amendment increased the number of shares included in the Plan by 200,000 shares of common stock issuable upon exercise of options, which may be granted pursuant to the Plan. The Company hereby incorporates by reference the contents of its registration statement on Form S-8, File No. 333-111326, as to 197,000 shares issuable pursuant to options granted or to be granted under the Plan.

This Post Effective Amendment No. 1 contains several parts. Immediately following Part I is a "Reoffer Prospectus," which has been prepared in accordance with the requirements of Part I of Form S-3 (as required by Section C.1 of the General Instructions to Form S-8). The Reoffer Prospectus will be used for reoffers and resales by control persons or affiliates of the Company of shares of common stock of the Company to be issued upon exercise of options granted or to be granted pursuant to the Plan. The next part contains information required in the registration statement pursuant to Part II of Form S-8.

Pursuant to the introductory note to Part I of Form S-8, the plan information, which constitutes part of the "Plan Prospectus," is not being filed with the Securities and Exchange Commission.

PART I

ITEM 1. PLAN INFORMATION

The Company will send or give document(s) containing the information specified in Part I to participants as specified by Rule 428(b)(1). These documents are not required to be filed as part of this Registration Statement.

ITEM 2. REGISTRANT INFORMATION AND EMPLOYEE PLAN ANNUAL INFORMATION

Upon written or oral request by a participant in the 2001 Stock Option Plan, as amended, the Company will provide any of the documents incorporated by reference into the Section 10(a) prospectus, without charge. Any document required to be delivered to the participants pursuant to Rule 428(b) will also be delivered without charge.

PROSPECTUS

ARRYTHMIA RESEARCH TECHNOLOGY, INC.

397,000 Shares of Common Stock

This prospectus is being used in connection with the offering from time to time by certain selling stockholders of Arrhythmia Research Technology, Inc. (the "Company") or their successors in interest of shares of the common stock which may be acquired upon the exercise of stock options issued or to be issued pursuant to the Company's 2001 Stock Option Plan, as amended (the "Plan").

The common stock may be sold from time to time by the selling stockholders or by their pledgees, donees, transferees or other successors in interest. Such sales may be made on a stock exchange, in the over-the-counter market or otherwise at prices and at terms then prevailing or at prices related to the then current market price, or in negotiated transactions. The common stock may be sold by one or more of the following: (a) block trades in which the broker or dealer so engaged will attempt to sell the shares as agent but may position and resell portions of the block as principal to facilitate the transaction; (b) purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this prospectus; (c) an exchange distribution in accordance with the rules of such exchange; and (d) ordinary brokerage transactions and transactions in which the broker solicits purchases. In effecting sales, brokers or dealers engaged by the selling stockholders may arrange for other brokers or dealers to participate. Brokers or dealers will receive commissions or discounts from selling stockholders in amounts to be negotiated immediately prior to the sale. Such brokers or dealers and any other participating brokers or dealers may be deemed to be "underwriters" within the meaning of the Securities Act of 1933, as amended (the "Act") in connection with such sales. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus. We will not receive any of the proceeds from the sale of these shares, but we will receive proceeds to the extent that currently outstanding options are exercised. We have paid the expenses of preparing this prospectus and the related registration statement.

The closing sales price of our common stock, trading under the symbol "HRT", on November 14, 2007 as reported by the American Stock Exchange ("AMEX") was $ 8.79.

Investing in any of our securities involves risks. Please read carefully the section entitled "Risk Factors" beginning on page 9 of this prospectus.

These securities have not been approved or disapproved by the Securities and Exchange Commission or any state securities commission now has the Commission or any state securities commission passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is November 19, 2007.

TABLE OF CONTENTS

No person has been authorized to give any information or to make any representations, other than those contained in this prospectus, in connection with the offering made hereby, and, if given or made, such information or representation must not be relied upon as having been authorized by the Company or any other person. Neither the delivery of this prospectus nor any sale made hereunder shall under any circumstances create any implication that there has been no change in the affairs of the Company since the date hereof.

Forward-Looking Statements

Some of the statements set forth in this prospectus are forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause our or our industry's 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 forward-looking statements. Such factors include, among other things, those listed under "Risk Factors" and elsewhere in this prospectus.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expects," "plan "anticipates," "believes," "estimates," "predicts," "potential," "proposed," "intended," or "continue" or the negative of these other comparable terminology. You should read statements that contain these words carefully, because they discuss our expectations about our future operating results or our future financial condition or state other "forward-looking" information. There may be events in the future that we are not able to accurately predict or control. Before you invest in our securities, you should be aware that the occurrence of any of the events described in these risk factors and elsewhere in this prospectus could substantially harm our business, results of operations and financial condition, and that upon the occurrence of any of these events, the trading price of our securities could decline and you could lose all or part of your investment. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, growth rates, levels of activity, performance or achievements. We are under no duty to update any of the forward-looking statements after the date of this prospectus to conform these statements to actual results.

PROSPECTUS SUMMARY

The following summary contains basic information about Arrhythmia Research Technology, Inc. and this prospectus. It may not contain all of the information that is important to you. For a more complete understanding, we encourage you to read the entire prospectus and the documents incorporated by reference into this prospectus. In this prospectus, the words "ART," "Company," "we," "our" and "us" refer to Arrhythmia Research Technology, Inc. and o consolidated subsidiary.

Common stock outstanding before the offering	2,711,680 shares (1)
Common stock issuable upon exercise of options granted or to be granted which may be offered pursuant to this prospectus	397,000
AMEX symbol for common stock	HRT
Use of proceeds	We will not receive any proceeds from the sales of these shares. We will receive proceeds to the extent that currently outstanding options are exercised. We will use the exercise proceeds, if any, for working capital and general corporate purposes.
Risk factors	There are risks associated with an investment in the common stock offered by this prospectus. You should carefully consider the risk factors described in this prospectus in the "Risk Factors" section before making a decision to invest.
Executive offices	Our executive offices are located at 25 Sawyer Passway, Fitchburg, MA 01420; telephone: (978) 345-5000.

(1) As of November 14, 2007. Does not include shares of common stock issuable upon exercise of options.

Return to Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). You may read and copy, upon payment of a fee set by the SEC, any documents that we file with the SEC as its public reference room at 100 F Street, N.E., Washington, D.C. 20549. You may also call the SEC at 1-800-432-0330 for more information on the public reference rooms. Our filings are also available to the public on the Internet through the SEC's EDGAR database. You may access the EDGAR database at the SEC's website at www.sec.gov.

This prospectus is part of Registration Statement on Form S-8 that we have filed with the SEC to register the common stock offered hereby under the Act. As permitted by SEC rules, this prospectus does not contain all of the information contained in the registration statement and accompanying exhibits and schedules that we file with the SEC. You may refer to the registration statement, the exhibits and schedules for more information about us and our common stock. The registration statement, exhibits and schedules are available at the SEC's public reference rooms or through its EDGAR database on the Internet.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents, together with any amendments thereof, filed with the SEC pursuant to the Securities Exchange Act of 1934, as amended, (the "Exchange Act") are incorporated herein by reference:

(a) Annual Report on Form 10-KSB for the fiscal year ended December 31, 2006, filed with the SEC on March 29, 2007;

(b) Quarterly Report on Form 10-QSB filed with the SEC on May 16, 2007;

(c) Current Report on Form 8-K filed with the SEC on June 8, 2007;

(d) Quarterly Report on Form 10-QSB filed with the SEC on August 14, 2007;

(e) Quarterly Report on Form 10-QSB filed with the SEC on November 14, 2007;

(f) The description of our Common Stock contained in our Registration Statement on Form 8-A, filed with the SEC on February 12, 1992, including any amendment or reports filed for the purpose of updating such description; and

(g) All other reports filed by the Company pursuant to Section 13(a) and 15(d) of the Exchange Act prior to the sale of all of the shares covered by this registration statement.

Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute part of this prospectus.

We will provide without charge to each person to whom this prospectus is delivered, upon written or oral request of that person, a copy of all documents incorporated by reference into the registration statement of which this prospectus is a part, other than exhibits to those documents (unless such exhibits are specifically incorporated by reference into such documents). Requests for such documents should be directed to Secretary, Arrhythmia Research Technology, Inc., 25 Sawyer Passway, Fitchburg, MA 01420, telephone: (978) 345-5000.

Return to Table of Contents

THE COMPANY

Arrhythmia Research Technology, Inc. ("ART") was incorporated under the laws of the State of Louisiana in 1981 and reincorporated under the laws of the State of Delaware in 1987. ART is engaged in the development of medical software, which acquires data and analyzes electrical impulses of the heart to detect and aid in the treatment of potentially lethal arrhythmias. ART's patented products consist of signal-averaging electrocardiographic (SAECG) software whose proprietary Windows based version is named the Predictor® series. Rather than having a direct sales force, our current intent is to market ART's product through licensing with original equipment manufacturers. No sales of the software were recorded in 2006 or 2005.

Our SAECG product is currently used in a National Institutes for Health ("NIH") funded investigation into "Risk Stratification in MADIT II Type Patients". At the completion of this study and assuming favorable study results, we intend to establish contracts with original equipment manufacturers for this product.

Sudden cardiac death afflicts over 400,000 individuals in the United States each year. These occurrences are due to sustained ventricular tachycardia (abnormally rapid heartbeat) or ventricular fibrillation (very fast, completely irregular heartbeat), which severely affect the capability of the heart's pumping chambers or ventricles. The electric signals that emanate from the heart are used to detect the presence of Late Potentials, which indicate the risk of life-threatening ventricular arrhythmias. The SAECG processes enable Late Potentials to be amplified and enhanced, while eliminating undesired electrical noise in these tests.

ART's wholly owned subsidiary, Micron Products, Inc. ("Micron"), was incorporated in the State of Massachusetts in 1972, and is located in ART's facility in Fitchburg, Massachusetts. Micron is a manufacturer and distributor of silver plated and non-silver plated conductive resin sensors ("sensors") used in the manufacture of disposable integrated electrodes constituting a part of electrocardiographic diagnostic and monitoring instruments. Micron also acts as a distributor of metal snap fasteners ("snaps"), another component used in the manufacture of disposable electrodes. The sensors are a critical component of the signal pathway in many different types of disposable electrodes. For example, the disposable electrodes used to capture the electric impulses of the heart and enable the analysis of Late Potentials require sensors which provide for an accurate, low noise signal to be transmitted to the monitoring device. Micron also manufactures and sells or leases assembly machines to its sensor and snap customers.

Figure 1: Schematic of Integrated ECG Electrode.

Micron is the largest of a few companies providing silver / silver-chloride sensors to the medical device industry. Micron's customers manufacture monitoring and transmitting electrodes which are utilized in a variety of bio-feedback and bio-stimulation applications including, among many others, electrocardiograms (ECG's), electroencephalograms (EEG's), electro-muscular stimulation (EMS), and thermo-electrical neural stimulation (TENS). Micron also produces high volume precision plastic products. These high volume products leverage the production skills for the resin sensors while providing a diversification from the dependence on a single product line.

In 2004, Micron completed the purchase of substantially all of the operating assets of privately held Shrewsbury Molders Inc. formerly known as New England Molders, Inc. of Shrewsbury, Massachusetts forming the New England Molders ("NEM") division of Micron. This division is a custom thermoplastic injection molder that produces a wide variety of consumable medical products, medical device and equipment components, and other products for the consumer, electronic, aerospace, and defense industries. The NEM division is located at the Company's Fitchburg

complex in a renovated 100 year old brick mill building. The location provides operational synergies between Micron and NEM in manufacturing and administration. Late in 2006, construction began on a class 100,000 level clean room for precision injection molding to meet NEM's new customer requirement. This manufacturing space was fully operational in February 2007.

On January 3, 2006, Micron announced the formation of Micron Integrated Technologies, a division of Micron Products ("MIT"). This division specializes in the production of metal and plastic components and assemblies for the medical and defense industries. Leveraging the high quality manufacturing of the NEM division's plastic production capacity with a comprehensive portfolio of value-added manufacturing, design and engineering services, the division provides complete product life cycle management: from concept to product development, prototyping, volume production, and assembly. The success of the division which is located in the Mill building in the Fitchburg complex is dependent on a comprehensive network of small highly specialized manufacturing partners to produce a wide variety of component parts for the manufacture of the division's products.

Return to Table of Contents

On December 27, 2006, Micron completed the purchase of substantially all of the operating assets of privately held Leominster Tool Company, Inc. forming the Leominster Tool Division ("LTD") of Micron. This new division, which is located in Leominster Massachusetts, vertically integrates the design, manufacture, and repair of production injection molding tooling used by Micron, NEM, and MIT. The division is expected to maintain its loyal customer base in die casting, plastic blow molding as well as thermoplastic injection molding. Micron and its divisions will benefit from an in-house source for injection molding tooling as well as new capabilities in the production of metal components for the MIT division.

PRODUCTS

The following table sets forth for the periods specified, the revenue derived from the products of ART and its subsidiary Micron (collectively the "Company"):

	Year Ended December 31,			
	2006	**%**	**2005**	**%**
Sensors	$ 10,840,418	56	$ 9,349,874	73
Other molded products	6,866,517	35	2,488,581	19
Snaps and snap machines	496,092	3	404,396	3
Other products	1,115,079	6	652,142	5
Total	$ 19,318,106	100	$ 12,894,993	100

Sensors

Micron is a manufacturer and distributor of silver-plated and non-silver plated conductive resin sensors for use in the manufacture of disposable electrodes for ECG diagnostic, monitoring and related instrumentation. The type of sensor manufactured by Micron consists of a molded plastic substrate plated with a silver / silver chloride surface, which is a highly sensitive conductor of electrical signals. Silver / silver chloride-plated disposable electrodes are utilized in coronary care units, telemetry units, and for other monitoring purposes. In addition to the traditional ECG tests, disposable electrodes incorporating Micron's sensor are used in connection with stress tests and Holter monitoring. The disposable electrode has proven to be more reliable than the reusable electrodes available in the market. Additionally, disposable electrodes are easier and less expensive to use than reusable electrodes, which require cleaning after each use.

Micron also manufactures sensors and conductive plastic studs used in the manufacture of radio translucent electrodes. The radio translucent conductive plastic studs are manufactured with uniquely engineered resin to enable electrical conductivity between the sensor and the electrophysiological instrumentation without the use of a metal snap. The radio translucent electrodes are virtually invisible to X-rays and are preferred in some applications such as nuclear medicine, catheterization laboratory or cath lab, ICU/CCU, and certain stress and Holter procedures. Micron also manufactures the mating conductive resin snaps, which replace traditional metal snap fasteners, used in the radio translucent application.

Other custom designed sensors are manufactured for specific unique applications in the EEG, EMG or TENS markets. Recent growth in the volume of highly engineered EEG sensors reflects the demand for noninvasive measuring of neurological impulses. Micron's strength in design and low cost manufacturing support enables our

customers to grow into unique niche medical applications and electrophysiological monitoring with custom designed sensors.

Other Molded Products

In 2004, Micron began selling high volume precision custom molded component parts. The Company's sales in these high volume molded products diversify our existing product lines while utilizing previously unused manufacturing capacity. The Company began shipping product and realizing sales of such high volume molded products in the fourth quarter of 2004. To defray the customer's upfront tooling costs and remain competitive with global competition, some high volume customers require the financing of a customer specific tool over several years. The cost of the tool is guaranteed by the customer and repaid over time as the molded product is shipped.

Return to Table of Contents

The incorporation of the NEM division into the Micron molding facility in 2004 increased production flexibility for both entities, and dramatically expanded the size and shape of products. From consumable medical products to medical equipment components, this division has decreased our dependence on sensor production for manufacturing growth. In order to leverage the NEM division's thermoplastic injection molding capabilities, the MIT division produces assemblies using plastic molded components assembled with outsourced metal components.

Snaps and Snap Machines

Metal Snap Fasteners

Metal snap fasteners are used as an attachment and conductive connection between the disposable electrode and the lead wires of an ECG machine. Micron purchases the metal snap fasteners for resale from multiple suppliers and performs additional quality assurance tests, repackages and stocks product for its customers who may or may not purchase the snaps in addition to Micron's sensors.

High Speed Electrode Assembly Machine

Certain manufacturers of disposable medical electrodes use the Company's attaching machines in the assembly of sensors and snaps into disposable electrodes. Manufacturing, leasing, selling, and providing replacement parts to medical sensor and snap application machines provide Micron with a complimentary product to sell to existing sensor and snap customers. As a value added service, a technician can be dispatched to troubleshoot and improve the performance of our customers' fully automated electrode assembly production lines.

Other Products

Injection Molding Tooling

The design, manufacture, and rehabilitation of injection molding tools for our customers are part of the service package provided by the NEM division. The design and manufacture of tooling is a leading indicator of future product revenue. Engineering and mold designers work with our customers' product development engineers to design and produce unique tooling for their products. The Company's expertise in cost effective manufacturing creates a sustainable partnership with our customers as prototyped parts move to full scale production.

The newly acquired Leominster Tool division's primary product is thermoplastic injection molding tooling. The division is expected to retain its pre-acquisition revenue levels from other customers for similar industrial applications, metal die casting molds, investment casting wax molds, and thermoplastic injection/extrusion blow molds. The division will provide cost savings to all aspects of the organization by vertically integrating mold making and repair into the structure of Micron's sensor business, and providing in-house services for the NEM and MIT divisions.

Signal-Averaging Electrocardiographic (SAECG) Products - Predictor® 7

The Predictor® 7 software is a Windows® compatible version of Arrhythmia Research Technology's analytical program for the detection of Late Potentials. Predictor® 7 utilizes the unique, patented Bi-directional, Four-Pole Butterworth Filtering technique defined as the "Standard" by the joint AHA/ACC/ESC task force on Signal-Averaging Electrocardiography[1]. All clinically accepted measurement criteria are provided: total QRS duration, duration of the QRS under 40 μV, the RMS voltage of the last 40 msec of the QRS and the noise level. Graphical output of the

analysis is presented both on screen and in hard copy. Predictor® 7 also incorporates additional signal processing capabilities for clinical research. The IntraSpect™ module permits detection of ventricular late potentials in patients with Bundle Branch Block. P-wave signal averaging helps predict patients at risk for atrial fibrillation and flutter. A Heart Rate Variability module can be incorporated on the Predictor platform.

The SAECG product is currently used in a National Institutes for Health ("NIH") funded investigation into "Risk Stratification in MADIT II Type Patients". The primary objectives of this study are: 1. To evaluate the predictive value of a multivariate model consisting of pre-specified clinical and ECG parameters for predicting arrhythmic events in Multicenter Automatic Defibrillator Implantation Trial II ("MADIT II") type post-infarction patients; 2. To develop a multivariate risk-stratification model, based on a broader spectrum of pre-specified clinical covariates and ECG parameters, and from it a risk-scoring algorithm identifying high-risk and low-risk patient groups; this algorithm will be validated by a cross-validation study. Such an algorithm will enable an ordering of patients who may benefit most, and benefit least, from implantable cardiac defibrillator ("ICD") therapy. At the completion of this study and assuming favorable study results, we intend to establish contracts with original equipment manufacturers for this product.

Windows® is a registered trademark of Microsoft Corporation

[1]*AHA/ACC/ESC Policy Statement: "Standards for the Analysis of Ventricular Late Potentials Using High Resolution or Signal-Averaged Electrocardiography: A Statement by a Task Force Committee of the European Society of Cardiology, the American Heart Association and the American College of Cardiology. JACC Vol. 17, No. 5, April 1991:999-1006*

Return to Table of Contents

GENERAL

Customers and Sales

During the year ended December 31, 2006, each of two major customers accounted for over 10% of the Company's sales and a loss of this base would have a material adverse effect on results. The two largest customers accounted for 29% and 20% of sales in 2006 as compared to 34% and 11% of sales for the year ended December 31, 2005. The 20% and 11% customers in 2006 and 2005 are different entities and were customers prior to 2006. The 11% concentration in 2005 decreased below 10% of total sales in 2006.

Micron manufactures its sensors against purchase orders from electrode manufacturers. The Company is aware of approximately 30 significant manufacturers of disposable snap type, radio translucent and pre-wired electrodes worldwide. Micron sells its sensors to most of these manufacturers. Sales backlog is not material to Micron's sensor business due to the method of ordering employed by its customer base in this competitive industry. Customers generally purchase on a single purchase order basis without long-term commitments.

The majority of the NEM and MIT divisions' customers for injection molded thermoplastic products are from the medical equipment, medical device and defense industries. From single use medical or defense consumable products to equipment components, the engineered production services provide quality design and production capacity which exceed our customers' manufacturing requirements. Certain customers require that an inventory of their products be maintained at all times to enable just in time delivery schedules. A commitment from customers is required by NEM and MIT to maintain the higher level of finished goods inventory and raw material required for their products. These agreements allow for a more flexible manufacturing schedule with longer more cost effective production cycles. NEM's primary target customer is a medical manufacturer or development company with a need for complex custom injection molded components. MIT's primary target customer is a defense or medical manufacturer or development company with a need for complete product life cycle management from design to full production preferably combining multiple manufacturing technologies such as plastic injection molding, metalworking, assembly, and packaging.

The following table sets forth, for the periods indicated, the approximate consolidated revenues and percentages of revenues derived from the sales of all of the Company's products in its geographic markets:

	Revenues for the Years Ended December 31,			
	2006	%	2005	%
United States	$ 9,344,815	48	$ 4,438,000	34
Canada	5,816,071	30	4,894,956	38
Europe	3,415,235	18	2,938,868	23
Pacific Rim	374,190	2	345,975	3
Other	367,795	2	277,194	2
Total	$ 19,318,106	100	$ 12,894,993	100

While some risks exist in foreign markets, the vast majority of the Company's customers are based in historically stable markets. To reduce the risks associated with foreign shipment and currency exchange fluctuations, most of our products are the responsibility of our customers when shipped, and payment is required in US Dollars.

To offset the risk from fluctuations in the market price of silver, sensor customers are subject to a silver surcharge or discount based on the market price of silver at the time of shipment. The silver surcharge has become a greater component of our product pricing as the price of silver has more than doubled over the last three years. The Company is sensitive to the impact of recent increases in silver cost, and continues to explore options with our customers to help mitigate the resulting increases in surcharges.

Return to Table of Contents

Marketing and Competition

Micron sells its sensors to manufacturers of disposable snap type and radio translucent ECG electrodes. The Company has one major domestic competitor and several minor competitors worldwide for sensors, and believes that its sales of sensors exceed those of its competition in the aggregate. The competition in the sensor and snap market is extremely price sensitive. In an effort to ensure higher volume without a firm long term purchase order, Micron offers a rebate program to customers. The rebates are typically paid to the customer after the end of the calendar year if certain volume thresholds are attained. These rebates are accrued and recorded with each sale as a reduction of gross sales. The rebates for the calendar year 2006 and 2005 were $65,263 and $56,459 respectively.

The Company markets Micron and its NEM division as a highly specialized custom injection thermoplastic molder to new and existing customers. The Company believes it competes effectively based on its expertise in low cost manufacturing of high volume precision products. The complex medical products produced by the NEM division has expanded our existing customer base and extensively diversified the product mix. It is our intention to continue these efforts to market to the expanded customer base and further diversify our product offerings. Global competition creates a highly competitive environment. To meet this challenge, the NEM and MIT divisions focus their product development efforts on complex close tolerance products not readily outsourced to offshore manufacturing.

Management is not currently pursuing licensing of the SAECG products to original equipment manufacturers for integration into existing cardio diagnostic equipment. The Company sponsored a well attended satellite session on SAECG featuring a presentation by Wojciech Zareba, MD, Associate Professor of Medicine (Cardiology) at the University of Rochester at a major scientific conference held in June 2005 in Gdansk, Poland. The SAECG product is currently used in a National Institutes for Health (“NIH”) funded investigation into “Risk Stratification in MADIT II Type Patients”. At the completion of this study and assuming favorable study results, we intend to establish contracts with original equipment manufacturers for this product.

Product Suppliers and Manufacturing

Micron manufactures its sensors at its Fitchburg, Massachusetts facility employing a proprietary non-patented multi-step process. All employees sign confidentiality agreements to protect this proprietary process. The raw materials used by Micron are plastic resins used to mold the substrates and silver / silver chloride chemical solutions for plating the molded plastic substrates. Both the resins and the chemicals involved in the silver / silver chloride process are in adequate supply from multiple commodity sources. Fluctuations in the price of silver are contractually passed to customers in the form of a surcharge or discount. As insulation against unanticipated price increases, some resins and chemicals used in the production of sensors are purchased in large quantity to lower or stabilize prices.

Resins used by the custom molding division are purchased for an individual customer order, with most increases in resin costs passed on to the customer as orders are acknowledged. Because the customer order determines the quantity of material required, customers may, and have, guaranteed the purchase of specific large quantities of product which allows the division to purchase raw material at a more favorable cost thereby lowering the final cost to the customer. The metal alloys used by the MIT division in its products are subject to the same customer order limitations, and prices are fixed as the customer guarantees an order.

Micron distributes medical grade nickel plated brass and stainless steel snap fasteners purchased from multiple domestic and international sources. Micron buys these snaps in bulk, performs additional quality assurance tests, and stocks inventory to facilitate just in time shipments to its customers.

Inventory Requirements

Our larger customers benefit from our ability to maintain an inventory of standard sensors and snaps. This inventory policy allows for predictable and planned production resulting in cost efficiencies that we are able to pass on to our customers. The rebate program discussed in the marketing and competition section above allows us to provide volume based discounts to our customers for targeted volume shipped.

While inventory quantities required to sustain the current manufacturing forecast have not changed, the significant increase in cost of silver, brass, and specific specialty engineered resins used in sensor production has caused a large increase in the value of our raw material inventories. Some of these increases are absorbed by our customers in the form of surcharges and temporary price increases.

Return to Table of Contents

Custom molded product is manufactured on an order by order basis. Finished goods inventory is product made in advance of an acknowledged sales order, part of an annual blanket order quantity, or for a specific safety stock requested by the customer.

Research and Development

ART's research and development efforts focus primarily in maintaining the software library in the SAECG product lines in a compatible platform. Our primary focus in 2006 and 2005 was to verify the integrity of the analytical algorithms, and facilitate use of the application in the previously discussed NIH study. For the fiscal years ended December 31, 2006, and 2005, ART had research and development expenses of approximately $57,200 and $40,900, respectively.

In 2006 and 2005, Micron's research and development efforts resulted in $7,100 and $7,300 of expense. Included in these efforts was a unique process improvement to eliminate certain hazardous materials from our manufacturing processes.

Patents and Proprietary Technology

As part of the purchase of substantially all the assets of Corazonix Corporation in 1993, ART acquired three patents related to time and frequency domain analysis of electrocardiogram signals. The Corazonix technologies are utilized in the current version of Predictor® 7. ART acquired U.S. Patent No. 5,117,833 entitled "*Bi-Spectral Filtering of Electrocardiogram Signals to Determine Selected QRS Potentials,"* (the "Bi-Spec Patent") which expires in 2009. ART also acquired three additional patents, which cover the spectral-temporal, mapping post-processing software packages. In March 1997, the U.S. Patent Office granted United States Patent No. 5,609,158 entitled "*Apparatus and Method for Predicting Cardiac Arrhythmia, by Detection of Micropotentials and Analysis of all ECG Segments and Intervals*" which covers a frequency domain analysis technique for SAECG data.

The Company believes that ART's products do not and will not infringe on patents or violate proprietary rights of others. In the event that ART's products infringe patents or proprietary rights of others, ART may be required to modify the design of its products or obtain a license. There can be no assurance that ART will be able to do so in a timely manner upon acceptable terms and conditions. In addition, there can be no assurance that ART will have the financial or other resources necessary to enforce or defend a patent infringement or proprietary rights violation action. Moreover, if ART's products infringe patents or proprietary rights of others, ART could, under certain circumstances, become liable for damages, which could have a material adverse effect on earnings.

Micron employs a highly complex, proprietary non-patented multi-step manufacturing process for its silver/silver chloride-plated sensors. To maintain our trade secrets associated with the manufacture of disposable electrode sensors, key employees are required to sign non-disclosure and/or non-competition agreements. Micron uses a patented material in the production of some sensors. Micron paid $7,100 in 2006 and $7,000 in 2005 in royalties associated with this patent.

Government Regulation

ART's software products are subject to, and ART believes currently comply with, material clearance and distribution requirements from governmental regulatory authorities, principally the U.S. FDA and the European Union (EU) equivalent agency. These agencies promulgate quality system requirements under which a medical device is to be developed, validated and manufactured. The development of the product line will be managed in accordance with applicable regulatory requirements.

Micron's sensor elements are components used in medical devices designed and manufactured by original equipment manufacturers. As such, these elements are not required to be listed with regulatory agencies and do not require regulatory clearance for distribution. However, because Micron primarily distributes sensors to manufacturers for use in finished medical devices, Micron exercises as stringent controls over its manufacturing processes and finished products as would be required if the sensors were considered medical devices.

The NEM and MIT divisions manufacture parts for invasive medical devices, components for medical equipment, patented disposable medical laboratory products, and patented military applications. Our customers own the product designs and are, therefore, subject to FDA, DOD and EU regulations. While such products are a part of a medical device or other regulated equipment, our customers are the regulated entity for the clearance of those products. NEM and MIT exercise stringent controls over all their manufacturing operations, and comply with any special controls required by their customers.

Return to Table of Contents

Environmental Regulation

Micron's operations involve use of hazardous and toxic materials, and generate hazardous, toxic and other wastes. It is subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of such materials and certain waste products. Although management believes that our safety procedures for using, handling, storing and disposing of such materials comply with these standards required by state and federal laws and regulations, we cannot completely eliminate the risk of accidental contamination or injury from these materials. An insurance policy has been purchased to mitigate this risk to the Company and the environment.

Since its inception, Micron has expended significant funds to train its personnel, install waste treatment and recovery equipment and to retain an independent environmental consulting firm to regularly review, monitor and upgrade its air and waste water treatment activities. Management continues to evaluate and test many possible technological advances that reduce or eliminate the need for and use of hazardous materials in our processes. The recent acquisition of equipment to eliminate a hazardous chemical from the process further emphasizes the commitment to the reduction and elimination of certain hazardous processes. In 2006 and 2005, the related expenditures for waste treatment were approximately $50,000. The operational costs are expected to be similar in 2007. Micron believes that the operation of its manufacturing facility is in compliance with currently applicable safety, health and environmental laws and regulations.

Employees

As of December 31, 2006, the Company had 97 full-time and 3 part-time employees including 27 administrative, sales and supervisory personnel, 15 quality control personnel and 58 production personnel. The employees of the Company are not represented by a union, and the Company believes its relationship with the employees is satisfactory.

Property

The manufacturing facility and offices of the Company are located in two buildings in an industrial area in Fitchburg, Massachusetts. The first building, which was purchased in April 1994, consists of a 22,000 square foot, six story building. The second building, which was purchased in September 1996, is over 94,000 square feet, including an antique brick three story mill building. Commencing in 2003, the 40,000 square foot "Mill" building portion of the second building underwent major renovations to preserve and create functional space from a previously unusable section of the facility. The renovations created space currently occupied by the NEM and MIT divisions. In October 2006, a third building of approximately 40,000 square feet and abutting our complex was acquired without any specific requirement for space. The Company believes the acquisition of the adjacent property positions the Company for continued growth in its current location. The Company believes our current facilities are sufficient to meet our current and future production needs through fiscal year ending December 31, 2007.

Legal Proceedings

The Company is from time to time subject to legal proceedings, threats of legal action and claims which arise in the ordinary course of our business. Management believes the resolution of these matters will not have a material adverse effect on our results of operations or financial condition.

RISK FACTORS

You should carefully consider the following risk factors and all other information contained in this prospectus before investing in our common stock. Investing in our common stock involves a high degree of risk. Any of the following risks could adversely affect our business, financial condition, results of operations, performance, achievements and industry and could result in a complete loss of one's investment. The risks and uncertainties described below are not the only ones we may face. Additional risks and uncertainties that the Company does not presently know or currently deems immaterial may also impair the Company’s business, results of operations and financial condition. See also “Forward Looking Statements.”

Return to Table of Contents

Risks Relating to Our Business

The Company's operating results may fluctuate significantly as a result of a variety of factors.

Our operating results may fluctuate significantly in the future as a result of a variety of factors, many of which are outside of our control. These factors include our ability to maintain our current pricing model and/or decrease our cost of sales; increasing sales of lower margin products; the level of demand for the products that we may develop; our ability to attract and retain personnel with the necessary strategic, technical and creative skills required for effective operations; the amount and timing of expenditures by customers; variability of customer delivery requirements, continued availability of supplies or materials used in manufacturing at current prices; the amount and timing of capital expenditures and other costs relating to the expansion of our operations; government regulation and general economic conditions. As a strategic response to changes in the competitive environment, we may from time to time make certain pricing, service, technology or marketing decisions or business or technology acquisitions that could have a material adverse effect on our quarterly and annual results. Due to all of these factors, our operating results may fall below the expectations of securities analysts, stockholders and investors in any future period.

If trade secrets are not kept confidential, the secrets may be used by others to compete against us.

Micron relies on unpatented trade secrets to protect its proprietary processes as there are no assurances that others will not independently develop or acquire substantially equivalent technologies or otherwise gain access to our proprietary process. Ultimately the meaningful protection of such unpatented proprietary technology cannot be guaranteed. The Company relies on confidentiality agreements with its employees. Remedies for any breach by a party of these confidentiality agreements may not be adequate to prevent such actions. Failure to maintain trade secret protection, for any reason, could have a material adverse effect on us.

We are dependence on a limited number of customers.

In the fiscal years 2006 and 2005, 49% and 45%, respectively, of the Company's revenues were derived from individual customers with 10% or more of the total sales. The loss of any one or more of these customers would have an immediate significant adverse effect on our financial results. In an effort to maintain this customer base, more favorable terms than might otherwise be agreed to could be granted. Currently, the Company generally does not receive purchase volume commitments extending beyond several months. Large corporations can shift focus away from a need for our product with little or no warning.

The majority of our revenues are derived from the sale of a single product.

In fiscal years 2006 and 2005, the Company derived 56% and 73%, respectively, of its income from medical electrode sensors for use in disposable electrodes. While the technology in electrode sensors has been used for many years, there is no assurance that a new patented or unpatented technology might not replace the existing market for disposable electrode sensors. Any substantial technological advance that eliminates our product will have a material adverse effect on our operating results. Margins on sensors are higher generally than our other products, and as the Company diversifies our product lines, reliance on lower margin sales may affect our results of operations.

The Company is subject to stringent environmental regulations.

The Company is subject to a variety of federal, state and local requirements governing the protection of the environment. These environmental regulations include those related to the use, storage, handling, discharge and disposal of toxic or otherwise hazardous materials used in or resulting from the Company's manufacturing processes. Failure to comply with environmental law could subject the Company to substantial liability or force us to

significantly change our manufacturing operations. In addition, under some of these laws and regulations, the Company could be held financially responsible for remedial measures if its properties are contaminated, even if it did not cause the contamination.

If the Company is unable to keep up with rapid technological changes, our processes, products or services may become obsolete and unmarketable.

The medical device and medical software industries are characterized by technological change over time. Although the Company attempts to expand our technological capabilities in order to remain competitive, discoveries by others may make our processes or products obsolete. If the Company cannot compete effectively in the marketplace, our potential for profitability and financial position will suffer.

Return to Table of Contents

The Company could become involved in litigation over intellectual property rights.

The medical device industry has been characterized by extensive litigation regarding patents and other intellectual property rights. Litigation, which would likely result in substantial cost to us, may be necessary to enforce any patents issued or licensed to us and/or to determine the scope and validity of others' proprietary rights. In particular, our competitors and other third parties hold issued patents and are assumed to hold pending patent applications, which may result in claims of infringement against us or other patent litigation. The Company also may have to participate in interference proceedings declared by the United States Patent and Trademark Office, which could result in substantial cost, to determine the priority of inventions.

A product liability suit could adversely affect our operating results.

The testing, manufacture, marketing and sale of medical devices of our customers entail the inherent risk of liability claims or product recalls. If our customers are involved in a lawsuit, it is foreseeable that the Company would also be named. Although the Company maintains product liability insurance, coverage may not be adequate. Product liability insurance is expensive, and in the future may not be available on acceptable terms, if at all. A successful product liability claim or product recall could have a material adverse effect on our business, financial condition, and ability to market product in the future.

The Company may be exposed to potential risks relating to our internal control over financial reporting and our ability to have those controls attested to by our independent registered public accounting firm.

As directed by Section 404 of the Sarbanes-Oxley Act of 2002 (“SOX 404”), the Securities and Exchange Commission adopted rules requiring public companies to include a report of management on the company’s internal control over financial reporting in their annual reports, including Form 10-KSB. In addition, the independent registered public accounting firm auditing a company’s financial statements must also attest to and report on management’s assessment of the effectiveness of the company’s internal control over financial reporting as well as the operating effectiveness of the Company’s internal controls. The Company was not subject to these requirements for the fiscal year ended December 31, 2006. We are evaluating our internal control systems in order to allow our management to report on, and our independent auditors attest to, our internal controls, as a required part of our Annual Report on Form 10-KSB beginning with our report for the fiscal year ended December 31, 2008.

While we expect to expend significant resources beginning in the latter part of 2007 to develop the necessary documentation and testing procedures required by SOX 404, there is a risk that we will not comply with all of the requirements imposed thereby. In the event the Company no longer qualifies as a small business issuer at the end of 2007, we may be subject to more stringent requirements under SOX 404. Accordingly, there can be no assurance that the Company will receive any required attestation from the independent registered public accounting firm. In the event we identify significant deficiencies or material weaknesses in our internal controls that we cannot remediate in a timely manner or we are unable to receive an attestation from the independent registered public accounting firm with respect to our internal controls, investors and others may lose confidence in the reliability of our financial statements and our ability to obtain equity or debt financing could suffer.

Risks Relating To Acquisitions

We will encounter difficulties in identifying suitable acquisition candidates and integrating new acquisitions.

A key element of our expansion strategy is to grow through acquisitions. If we identify suitable candidates, we may not be able to make investments or acquisitions on commercially acceptable terms. Acquisitions may cause a disruption in our ongoing business, distract management, require other resources and make it difficult to maintain our

standards, controls and procedures. We may not be able to retain key employees of the acquired companies or maintain good relations with their clients or suppliers. We may be required to incur additional debt and to issue equity securities, which may be dilutive to existing stockholders, to effect and/or fund acquisitions.

We face intense competition for acquisition candidates, and we may have limited cash available for such acquisitions.

There is a high degree of competition among companies seeking to acquire interests in manufacturers such as those we may target for acquisition. We are expected to continue to be an active participant in the business of seeking business relationships with, and acquisitions of interests in, such companies. A large number of established and well-financed entities, including venture capital firms, are active in acquiring interests in companies that we may find to be desirable acquisition candidates. Many of these investment-oriented entities have significantly greater financial resources, technical expertise and managerial capabilities than we do. Consequently, we may be at a competitive disadvantage in negotiating and executing possible investments in these entities as many competitors generally have easier access to capital. Even if we are able to compete with these venture capital entities, this competition may affect the terms and conditions of potential acquisitions and, as a result, we may pay more than expected for targeted acquisitions. If we cannot acquire interests in attractive companies on reasonable terms, our strategy to build our business through acquisitions may be inhibited.

Return to Table of Contents

The Company may make acquisitions of companies, products or technologies that may disrupt the business and divert management's attention, adversely impacting our results of operations and financial condition.

The Company may make acquisitions of complementary companies, products or technologies from time to time. Any acquisitions will require the assimilation of the operations, products and personnel of the acquired businesses and the training and motivation of these individuals. Management may be unable to maintain and improve upon the uniform standards, controls, procedures and policies if the Company fails in this integration. Acquisitions may cause disruptions in operations and divert management's attention from day-to-day operations, which could impair our relationships with current employees, customers and strategic partners. The Company also may have to, or choose to, incur debt or issue equity securities to pay for any future acquisitions. The issuance of equity securities for an acquisition could be substantially dilutive to our stockholders' holdings. In addition, our profitability may suffer because of such acquisition-related costs or amortization costs for other intangible assets. If management is unable to fully integrate acquired businesses, products, technologies or personnel with existing operations, the Company may not receive the intended benefits of such acquisitions. The Company is not currently party to any agreements, written or oral, for the acquisition of any company, product or technology.

We cannot assure you that any acquisitions we make will enhance our business.

We cannot assure you that any completed acquisition will enhance our business. Since we anticipate that acquisitions could be made with both cash and our common stock, if we consummate one or more significant acquisitions, the potential impacts are:

- a substantial portion of our available cash could be used to consummate the acquisitions and/or we could incur or assume significant amounts of indebtedness;
- losses resulting from the on-going operations of these acquisitions could adversely affect our cash flow; and
- our stockholders could suffer significant dilution of their interest in our common stock.

Also, we are required to account for acquisitions under the purchase method, which would likely result in our recording significant amounts of goodwill. The inability of a subsidiary to sustain profitability may result in an impairment loss in the value of long-lived assets, principally goodwill and other tangible and intangible assets, which would adversely affect our financial statements. Additionally, we could choose to divest any acquisition that is not profitable.

Risks Relating To Our Common Stock

We may be de-listed from the AMEX if we do not meet continued listing requirements.

Our common stock commenced trading on the AMEX on March 3, 1992. If our common stock is de-listed by the AMEX, trading of our common stock would thereafter likely be conducted on the OTC Bulletin Board. In such case, the market liquidity for our common stock would likely be negatively affected, which may make it more difficult for holders of our common stock to sell their securities in the open market and we could face difficulty raising capital necessary for our continued operations.

Return to Table of Contents

The limited public market and trading market may cause possible volatility in our stock price.

There has only been a limited public market for our securities and there can be no assurance that an active trading market in our securities will be maintained. In addition, the overall market for securities in recent years has experienced extreme price and volume fluctuations that have particularly affected the market prices of many smaller companies. The trading price of our common stock is expected to be subject to significant fluctuations including, but not limited to, the following:

- quarterly variations in operating results and achievement of key business metrics;
- changes in earnings estimates by securities analysts, if any;
- any differences between reported results and securities analysts' published or unpublished expectations;
- announcements of new contracts or service offerings by us or our competitors;
- market reaction to any acquisitions, divestitures, joint ventures or strategic investments announced by us or our competitors;
- demand for our services and products;
- shares being sold pursuant to Rule 144; and
- general economic or stock market conditions unrelated to our operating performance.

These fluctuations, as well as general economic and market conditions, may have a material or adverse effect on the market price of our common stock.

Shares eligible for future sale may adversely affect the market.

From time to time, certain of our stockholders may be eligible to sell all or some of their shares of common stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144, promulgated under the Securities Act of 1933, subject to certain limitations. In general, pursuant to Rule 144, a stockholder (or stockholders whose shares are aggregated) who has satisfied a one-year holding period may, under certain circumstances, sell within any three-month period a number of securities which does not exceed the greater of 1% of the then outstanding shares of common stock or the average weekly trading volume of the class during the four calendar weeks prior to such sale. Rule 144 also permits, under certain circumstances, the sale of securities, without any limitation, by holders of restricted securities that are non-affiliates that have satisfied a two-year holding period. Any substantial sale of our common stock pursuant to Rule 144 or pursuant to any resale prospectus may have material adverse effect on the market price of our securities.

Director and officer liability is limited.

As permitted by Delaware law, our certificate of incorporation limits the liability of our directors for monetary damages for breach of a director's fiduciary duty except for liability in certain instances. As a result of our charter provision and Delaware law, stockholders may have limited rights to recover against directors for breach of fiduciary duty. In addition, our certificate of incorporation provides that we shall indemnify our directors and officers to the fullest extent permitted by law.

USE OF PROCEEDS

The shares which may be sold pursuant to this prospectus will be sold for the respective accounts of each of the selling stockholders. Accordingly, ART will not realize any proceeds from the sale of the shares, except that it will derive proceeds if options currently outstanding or hereafter granted are exercised. If exercised, such funds will be available to ART for working capital and general corporate purposes. No assurance can be given, however, as to when or if any or all of the options will be exercised. All expenses of the registration of the shares will be paid for by ART. See

“Selling Stockholders” and “Plan of Distribution.”

SELLING STOCKHOLDERS

The following table sets forth the name and relationship to ART of each selling stockholder, the number of shares of common stock which each selling stockholder (1) owned of record before the offering; (2) may acquire pursuant to the exercise of a previously granted option or options which hereafter may be exercisable under the Plan, all of which shares may be sold pursuant to this prospectus; and (3) the amount of common stock to be owned by each selling stockholder and the percentage of the class to be owned by such stockholder, the exercise of all options granted under the Plan, and the sale of all shares acquired upon exercise of such options.

Return to Table of Contents

The information contained in this table reflects "beneficial" ownership of common stock within the meaning of Rule 13d-3 under the Exchange Act. As of November 14, 2007 we had 2,711,680 shares of common stock outstanding. Beneficial ownership information reflected in the table includes shares issuable upon the exercise of outstanding options issued by us at their initial exercise prices.

Name	Relationship to Us Within the Past Three Years	Amount of Common Stock Beneficially Owned [1]	Amount Offered Hereby	Percentage of Common Stock to be owned after the offering[1]
Julius Tabin	Director	116,824 [2]	10,000 [2]	4.2 %
Paul F. Walter	Director	72,055 [2]	10,000 [2]	2.6 %
E.P. Marinos	Director	59,448 [2]	10,000 [2]	2.1 %
Jason Chambers	Director	45,549 [3][5]	10,000 [3]	1.6 %
James E. Rouse	Director, President and Chief Executive Officer	15,000	-	*
David A. Garrison	Executive Vice President and Treasurer	28,000 [4]	28,000 [4]	1.0 %
Michael F. Nolan	Chief Operating Officer	- [6]	- [6]	*

(*) Less than 1%.

[1] Unless otherwise noted in these notes, the Company believes that all shares referenced in this table are owned of record by each person named as beneficial owner and that each person has sole voting and dispositive power with respect to the shares of Common stock owned by each of them. In accordance with Rule 13d-3 under the Exchange Act, each person's percentage ownership is determined by assuming that the options that are held by that person, and which are exercisable within 60 days, have been exercised. The address of all persons listed above is c/o Arrhythmia Research Technology, Inc., 25 Sawyer Passway, Fitchburg, MA 01420.

[2] Includes 10,000 shares issuable upon exercise of options granted under the 2001 Stock Option Plan.

[3] Includes options granted under the 2001 Stock Option Plan to acquire 2,000 shares but excludes options to acquire 8,000 shares which are not currently exercisable but which vest and will be exercisable as to an additional 2,000 shares on or after 8/4/2008 and each anniversary until the remaining 8,000 options vest.

[4] Represents 28,000 shares issuable upon exercise of options granted under the 2001 Stock Option Plan; excludes options to acquire 5,000 shares which are not exercisable but which vest and will be exercisable July 31, 2008.

[5] Includes 35,216 shares held in the EBC Charitable Remainder Trust, for which Mr. Chambers serves as trustee and as to which an immediate family member is beneficiary. Mr. Chambers disclaims beneficial ownership of the shares held by the EBC Charitable Remainder Trust.

[6] Includes options granted under the 2001 Stock Option Plan to acquire 10,000 shares which options vest and will be exercisable as to 2000 shares on or after June 4, 2008 and to the extent of an additional one-fifth of the shares after each of the next four successive years.

PLAN OF DISTRIBUTION

In this section of the prospectus, the term "selling stockholder" means and includes: (1) the persons identified in the table above as the selling stockholders; and (2) any of their donees, pledgees, distributees, transferees or other successors in interest who may (a) receive any of the shares of our common stock offered hereby after the date of this prospectus and (b) the offer or sell those shares hereunder.

The shares of our common stock offered by this prospectus may be sold from time to time directly by the selling stockholders. Alternatively, the selling stockholders may from time to time offer such shares through underwriters, brokers, dealers, agents or other intermediaries. The selling stockholders as of the date of this prospectus have

advised us that there were no underwriting or distribution arrangements entered into with respect to the common stock offered hereby. The distribution of the common stock by the selling stockholders may be effected in one or more transactions that may take place on the AMEX (or another exchange or quotation system where the common stock may trade, such as the OTCBB) (including one or more block transaction) through customary brokerage channels, either through brokers acting as agents for the selling stockholders, or through market makers, dealers or underwriters acting as principals who may resell these shares on the AMEX (or another exchange or quotation system where the common stock may trade, such as the OTCBB); in privately-negotiated sales; by a combination of such methods; or by other means. These transactions may be effected at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at other negotiated prices. Usual and customary or specifically negotiated brokerage fees or commissions may be paid by the selling stockholders in connection with sales of our common stock.

Return to Table of Contents

The selling stockholders may enter into hedging transactions with broker-dealers in connection with distributions of the shares or otherwise. In such transactions, broker-dealers may engage in short sales of the shares of our common stock in the course of hedging the positions they assume with the selling stockholders. The selling stockholders also may sell shares short and redeliver the shares to close out such short positions. The selling stockholders may enter into option or other transactions with broker-dealers which require the delivery to the broker-dealer of shares of our common stock. The broker-dealer may then resell or otherwise transfer such shares of common stock pursuant to this prospectus.

The selling stockholders also may lend or pledge shares of our common stock to a broker-dealer. The broker-dealer may sell the shares of common stock so lent, or upon a default the broker-dealer may sell the pledged shares of common stock pursuant to this prospectus. Any securities covered by this prospectus which qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus. The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. There is no underwriter or coordinating broker acting in connection with the proposed sale of shares of common stock of the selling stockholders.

Although the shares of common stock covered by this prospectus are not currently being underwritten, the selling stockholders or their underwriters, brokers, dealers or other agents or other intermediaries, if any, that may participate with the selling security holders in any offering or distribution of common stock may be deemed “underwriters” within the meaning of the Act and any profits realized or commissions received by them may be deemed underwriting compensation thereunder.

Under applicable rules and regulations under the Exchange Act, any person engaged in a distribution of shares of the common stock offered hereby may not simultaneously engage in market making activities with respect to the common stock for a period of up to five days preceding such distribution. The selling stockholders will be subject to the applicable provisions of the Exchange Act and the rules and regulations promulgated thereunder, including without limitation Regulation M, which provisions may limit the timing of purchases and sales by the selling stockholders.

In order to comply with certain state securities or blue sky laws and regulations, if applicable, the common stock offered hereby will be sold in such jurisdictions only through registered or licensed brokers or dealers. In certain states, the common stock may not be sold unless they are registered or qualified for sale in such state, or unless an exemption from registration or qualification is available and is obtained.

We will bear all costs, expenses and fees in connection with the registration of the common stock offered hereby. However, the selling stockholders will bear any brokerage or underwriting commissions and similar selling expenses, if any, attributable to the sale of the shares of common stock offered pursuant to this prospectus.

There can be no assurance that the selling stockholders will sell any or all of the securities offered by them hereby.

LEGAL MATTERS

The legality of the common stock to be offered hereby has been passed upon for us by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The audited financial statements for our company as of the year ended December 31, 2006, incorporated by reference in this prospectus are reliant on the reports of Carlin, Charron, & Rosen, LLP, independent registered public accountants, as stated in their reports therein, upon the authority of that firm as experts in auditing and accounting.

15

Return to Table of Contents

NO DEALER, SALESMAN OR ANY OTHER PERSON HAS BEEN AUTHORIZED IN CONNECTION WITH THIS OFFERING TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS. THE PROSPECTUS DOES NOT CONSTITUTE AN OFFER OR A SOLICITATION IN ANY JURISDICTION TO ANY PERSON TO WHOM IT IS UNLAWFUL TO MAKE SUCH AN OFFER OR SOLICITATION. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL, UNDER ANY CIRCUMSTANCES, CREATE AN IMPLICATION THAT THERE HAS BEEN NO CHANGE IN THE CIRCUMSTANCES OF THE COMPANY OR THE FACTS HEREIN SET FORTH SINCE THE DATE HEREOF.

Arrhythmia Research Technology, Inc.

397,000 shares of Common Stock

PROSPECTUS

November 19, 2007

TABLE OF CONTENTS

ARRHYTHMIA RESEARCH TECHNOLOGY, INC. HAS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION, WASHINGTON, D.C., A REGISTRATION STATEMENT UNDER THE SECURITIES ACT WITH RESPECT TO THE SHARES OFFERED HEREBY. THIS PROSPECTUS OMITS CERTAIN INFORMA-TION CONTAINED IN THE REGISTRATION STATEMENT. THE INFORMATION

OMITTED MAY BE OBTAINED FROM THE SECURITIES AND EXCHANGE COMMISSION UPON PAYMENT OF THE REGULAR CHARGE THEREFOR.

Return to Table of Contents

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be 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 together with any amendments thereof:

(a) Annual Report on Form 10-KSB for the fiscal year ended December 31, 2006, filed with the SEC on March 29, 2007;
(b) Current Report on Form 8-K filed with the SEC on June 8, 2007;
(c) Quarterly Report on Form 10-QSB filed with the SEC on May 16, 2007;
(d) Quarterly Report on Form 10-QSB filed with the SEC on August 14, 2007;
(e) Quarterly Report on Form 10-QSB filed with the SEC on November 14, 2007;
(f) The description of our Common Stock contained in our Registration Statement on Form 8-A, filed with the SEC on February 12, 1992, including any amendment or reports filed for the purpose of updating such description; and
(g) All other reports filed by the Company pursuant to Section 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act prior to the sale of all of the shares covered by this registration statement.

We will provide to you, without charge, upon your written or oral request, a copy of any or all of the documents that we incorporate by reference, other than exhibits to those documents. Please direct requests to: Arrhythmia Research Technology, Inc., 25 Sawyer Passway, Fitchburg, Massachusetts 01420, Attn: Corporate Secretary; (978) 345-5000.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Not applicable.

ITEM 6. INDEMNIFICATION OF OFFICERS AND DIRECTORS

Section 145 of the General Corporation Law of the State of Delaware grants each corporation organized thereunder, such as the Company, the power to indemnify its directors and officers against liability for certain of their acts. Section 102(b)(7) of the Delaware Corporation Law permits a provision in the certificate of incorporation of each corporation organized thereunder eliminating or limiting, with specified exceptions, the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. The Company's certificate of incorporation contains this provision. The foregoing statements are subject to the detailed provisions of Sections 145 and 102(b)(7) of the Delaware General Corporation Law.

Article VI of the Company's By-Laws provides that the Company will indemnify its officers, directors and employees to the fullest extent permitted by the Delaware General Corporation Law in connection with proceedings with which any such person is involved by virtue of his or her status as an officer, director, employee or agent. The Company

maintains directors' and officers' liability insurance, including a reimbursement policy in favor of the Company.

The By-Laws may require the Company, among other things, to indemnify directors or officers against certain liabilities that may arise by reason of their status or service as directors (other than liabilities resulting from willful misconduct of a culpable nature), to advance expenses to them as they are incurred, provided that they undertake to repay the amount advanced if it is ultimately determined by a court that they are not entitled to indemnification, and to obtain and maintain directors' and officers' insurance if available on reasonable terms.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, Arrhythmia has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

Return to Table of Contents

ITEM 8. EXHIBITS

Exhibit Number	Description
4. 1	Arrhythmia Research Technology, Inc. 2001 Stock Option Plan, as amended [(1)]
5. 1	Opinion of Ellenoff Grossman & Schole, LLP
23. 1	Carlin, Charron & Rosen, LLP Consent
23. 2	Ellenoff Grossman & Schole, LLP Consent (included in Exhibit 5.1)
24. 1	Power of Attorney contained on the signature page of this Registration Statement.

[(1)] Filed as exhibits to the Company's Registration Statement on Form S-8 (File No. 333-11326) incorporated herein by reference.

ITEM 9. UNDERTAKINGS

1. The undersigned registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

i. To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

ii. To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement, Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a twenty percent (20%) change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

iii. To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs 1(a)(i) and 1(a)(ii) do not apply if the registration statement is on Form S-3 or Form S-8 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference herein.

(b) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

2. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Return to Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Fitchburg, Massachusetts, on the 19th day of November, 2007.

ARRHYTHMIA RESEARCH TECHNOLOGY, INC.

By: /s/ David A. Garrison
David A. Garrison
Executive Vice President and Chief Financial Officer

POWER OF ATTORNEY

Each of the undersigned officers and directors of the Registrant whose signature appears below hereby appoints David A. Garrison and James E. Rouse, jointly and individually, as attorneys-in-fact for the undersigned with full power of substitution, to execute in his or her name and on behalf of such person, individually, and in each capacity stated below, this Registration Statement on Form S-8 and one or more amendments (including post-effective amendments) to this Registration Statement and any related registration statement under Rule 462(b) under the Securities Act of 1933 as the attorney-in-fact shall deem appropriate, and to file any such amendment (including exhibits thereto and other documents in connection herewith) to this Registration Statement on Form S-8 or Rule 462(b) registration statement with the Securities and Exchange Commission, granting unto said attorneys-in-fact, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, or either of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	**Title**	**Date**
/s/ James E. Rouse		November 19, 2007
James E. Rouse	President, Chief Executive Officer and Director (principal executive officer)	
/s/ E. P. Marinos		November 19, 2007
E. P. Marinos	Chairman of the Board and Director	
/s/ Jason R. Chambers		November 19, 2007
Jason R. Chambers	Director	
/s/ Julius Tabin		November 19, 2007
Julius Tabin	Director	

/s/ Paul F. Walter		November 19, 2007
Paul F. Walter	Director	
/s/ David A. Garrison		November 19, 2007
David A. Garrison	Executive Vice President and Chief Financial Officer (principal financial officer)	

Return to Table of Contents

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