



To the Stockholders of Arrhythmia Research Technology, Inc.:

You are cordially invited to attend the Annual Meeting of Stockholders of Arrhythmia Research Technology, Inc. on Friday, May 20, 2011. The Annual Meeting will begin at 10:00 a.m. local time at 1st Floor Conference Room, Four Radnor Corporate Center, 100 Matsonford Road, Radnor, Pennsylvania.

We are pleased to be again using the U.S. Securities and Exchange Commission rule that allows us to furnish our proxy materials and annual report over the Internet. As a result, we are mailing to our stockholders a Notice of Internet Availability ("Notice") instead of paper copies of our Proxy Statement and 2010 Annual Report on Form 10-K. The Notice contains instructions on how to access these documents via the Internet. The Notice also contains instructions on how you can receive a paper copy of our proxy materials, including this Proxy Statement, our 2010 Annual Report on Form 10-K and a proxy card. Stockholders who request paper copies of proxy materials will receive them by mail. This process will conserve natural resources and reduce the costs of printing and distributing our proxy materials to our stockholders. Because it is important that your shares be voted at the Annual Meeting, we urge you to complete, date and sign a proxy card and return it as promptly as possible, whether or not you plan to attend in person. If you are a stockholder of record and do attend the meeting and wish to vote your shares in person, even after returning your proxy, you still may do so.

We appreciate your continued support of and interest in Arrhythmia Research Technology, Inc. and are working hard to build a company that we are all proud to own.

We look forward to seeing you in Radnor on May 20, 2011.

Very truly yours,  
By: /s/ E.P. Marinos  
E. P. Marinos  
Chairman of the Board

March 25, 2011

**ARRHYTHMIA RESEARCH TECHNOLOGY, INC.  
25 Sawyer Passway  
Fitchburg, MA 01420**

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS**

**To be held Friday, May 20, 2011**

TO THE STOCKHOLDERS OF ARRHYTHMIA RESEARCH TECHNOLOGY, INC.:

NOTICE IS HEREBY GIVEN that the 2011 Annual Meeting of Stockholders of Arrhythmia Research Technology, Inc., a Delaware corporation (the “**Company**”), will be held at 1st Floor Conference Room, Four Radnor Corporate Center, 100 Matsonford Road, Radnor, Pennsylvania, on Friday, May 20, 2011, at 10:00 a.m., local time, for the following purposes, as described in our Proxy Statement:

1. To re-elect two Class I directors to hold office for three years until the 2014 annual meeting, to elect one Class II director to hold office for one year until the 2012 annual meeting, and one Class III director to hold office for two years until the 2013 annual meeting and until their successors are duly elected and qualified.
2. To ratify the appointment of CCR LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2011.
3. To consider and vote on a proposal to authorize the Board of Directors to adjourn the Annual Meeting to a later date or dates, if necessary, to allow time for further solicitation of proxies, in the event there are insufficient votes present in person or represented by proxy at the Annual Meeting to approve the proposals.
4. To transact any other business which properly may be brought before the Annual Meeting or any adjournment or postponement thereof.

All stockholders are cordially invited to attend the Annual Meeting of Stockholders. Only stockholders of record of the Company at the close of business on March 24, 2011 are entitled to notice of and to vote at the Annual Meeting or any adjournment or postponement thereof. A complete list of these stockholders will be open for the examination of any stockholder of record at the Company's principal executive offices located at 25 Sawyer Passway, Fitchburg, Massachusetts for a period of ten days prior to the Annual Meeting. The list will also be available for the examination of any stockholder of record present at the Annual Meeting.

If you are a holder of record and plan to attend the Annual Meeting in person, please bring photo identification. If your shares are held in the name of a broker, bank or other nominee, please bring with you photo identification and a letter from the broker or other nominee confirming your ownership as of the record date. If you wish to vote your shares at the meeting, the broker, bank or other nominee must provide you with a proxy or power of attorney.

Your vote is important. Your prompt response will also help reduce proxy costs and will help you avoid receiving follow-up telephone calls or mailings. Please vote as soon as possible. Also, the Company has elected to take advantage of the Securities and Exchange Commission rules that allow the Company to furnish proxy materials to you and other shareholders on the Internet.

By Order of the Board of Directors,  
ARRHYTHMIA RESEARCH TECHNOLOGY, INC.  
/s/ E.P. Marinos  
E. P. Marinos  
Secretary

Fitchburg, Massachusetts  
March 25, 2011

**IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON May 20, 2011, THE PROXY STATEMENT AND ANNUAL REPORT ARE AVAILABLE AT [WWW.CSTPROXY.COM/ARTHRT/2011](http://WWW.CSTPROXY.COM/ARTHRT/2011).**

## **TABLE OF CONTENTS**

### INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Why did you furnish me this proxy statement?  
Why are you making these materials available over the Internet rather than mailing them?  
How can I have printed copies of the proxy materials mailed to me?  
What proposals will be addressed at the Annual Meeting?  
Who may vote on these proposals?  
How many votes do I have?  
What is the quorum requirement?  
Why would the annual meeting be postponed?  
How do I vote by proxy?  
How do I vote in person?  
May I revoke my proxy?  
What vote is required to approve each proposal?  
Are there any dissenters' rights of appraisal?  
Who bears the cost of soliciting proxies?  
Where are the Company's principal executive offices?  
How can I obtain additional information about the Company?

### SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

### INFORMATION ABOUT DIRECTORS AND EXECUTIVE OFFICERS

### CORPORATE GOVERNANCE

### REPORT OF THE AUDIT COMMITTEE

### COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS

### CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

### PROPOSALS RECOMMENDED FOR CONSIDERATION BY STOCKHOLDERS

PROPOSAL 1

PROPOSAL 2

PROPOSAL 3

### ADDITIONAL INFORMATION

APPENDIX I : Proxy Card

**ARRHYTHMIA RESEARCH TECHNOLOGY, INC.**

**PROXY STATEMENT**

**FOR**

**ANNUAL MEETING OF STOCKHOLDERS**

**To be held May 20, 2011**

**INFORMATION ABOUT THE ANNUAL MEETING AND VOTING**

**WHY DID YOU FURNISH ME THIS PROXY STATEMENT?**

This proxy statement is furnished in connection with the solicitation of proxies by the Board of Directors of Arrhythmia Research Technology, Inc., a Delaware corporation (the "**Company**"), for use at the Annual Meeting of the Company's stockholders to be held at 1st Floor Conference Room, Four Radnor Corporate Center, 100 Matsonford Road, Radnor, Pennsylvania, on May 20, 2011 at 10:00 a.m., local time, and at any adjournments or postponements of the Annual Meeting. This proxy statement summarizes the information you need to make an informed vote on the proposals to be considered at the Annual Meeting. However, you do not need to attend the Annual Meeting to vote your shares. Instead, you may simply complete, sign and return a proxy card.

**WHY ARE YOU MAKING THESE MATERIALS AVAILABLE OVER THE INTERNET RATHER THAN MAILING THEM?**

Under the "Notice and Access Rule" that the Securities and Exchange Commission (the "**SEC**"), has adopted, we are again this year furnishing proxy materials to our stockholders on the Internet rather than mailing printed copies of those materials to each stockholder. This will help us conserve natural resources and it will save postage, printing and processing costs. If you received a Notice of Internet Availability of Proxy Materials by mail, you will not receive a printed copy of our proxy materials unless you specifically request one. Instead, the Notice of Internet Availability will instruct you about how you may (1) access and review our proxy materials on the Internet and (2) access your proxy card to vote on the Internet. We anticipate that we will mail the Notice of Internet Availability to our stockholders on or about April 4, 2011.

**The Proxy Materials are available at [www.CSTPROXY.COM/ARTHRT/2011](http://www.CSTPROXY.COM/ARTHRT/2011). Enter the 12-digit control number located on the Notice of Internet Availability or proxy card.**

**HOW CAN I HAVE PRINTED COPIES OF THE PROXY MATERIALS MAILED TO ME?**

Instructions for requesting a paper copy of the proxy materials are set forth on the Notice of Internet Availability.

**WHAT PROPOSALS WILL BE ADDRESSED AT THE ANNUAL MEETING?**

We will address the following proposals at the Annual Meeting:

1. The re-election of two nominees for Class I directors serve for three years, and the election of one Class II director to hold office for one year until the 2012 annual meeting, and one Class III director to hold office for two years until the 2013 annual meeting, each as identified below;
2. The ratification of the appointment of CCR LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2011;
3. The authorization to adjourn the Annual Meeting to a later date or dates if there are insufficient votes to approve the proposals; and
4. Transaction of such other business as may properly come before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

Our Board of Directors has taken unanimous affirmative action with respect to each of the foregoing proposals and recommends that the stockholders vote in favor of each of the proposals.

## **WHO MAY VOTE ON THESE PROPOSALS?**

Stockholders who owned shares of the Company's voting stock at the close of business on March 24, 2011 (the "**Record Date**") are entitled to vote at the Annual Meeting on all matters properly brought before the Annual Meeting.

On the Record Date, the Company had 2,790,514 shares of issued and outstanding common stock, par value \$0.01 per share ("**Common Stock**").

## **HOW MANY VOTES DO I HAVE?**

Each share of Common Stock is entitled to one vote on each matter presented at the Annual Meeting.

## **WHAT IS THE QUORUM REQUIREMENT?**

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if at least a majority of the outstanding shares are represented by stockholders present at the Annual Meeting or by proxy. On the record date, there were 2,790,514 shares outstanding and entitled to vote. Thus, 1,395,258 shares must be represented by stockholders present at the meeting or by proxy to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the Annual Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the chairman of the meeting or a majority of the votes present at the meeting may adjourn the meeting to another date.

## **WHY WOULD THE ANNUAL MEETING BE ADJOURNED?**

The Annual Meeting may be adjourned if a quorum is not present or to allow time for further solicitation of proxies in the event there are insufficient votes present in person or represented by proxy to approve the proposals.

For purposes of determining whether the stockholders have approved matters other than the election of directors, abstentions are treated as shares present or represented and voting, so abstaining has the same effect as a negative vote. Shares held by brokers who do not have discretionary authority to vote on a particular matter and who have not received voting instructions from their customers are not counted or deemed to be present or represented for the purpose of determining whether stockholders have approved that matter, but they are counted as present for the purpose of determining the existence of a quorum at the Annual Meeting.

## **HOW DO I VOTE BY PROXY?**

Whether you hold shares directly as the stockholder of record or beneficially in street name, you may direct how your shares are voted without attending the Annual Meeting. Stockholders may deliver their proxies either:

- (1) Electronically over the Internet as outlined in the Notice of Internet Availability; or
- (2) By requesting, completing and submitting a properly signed paper proxy card as outlined in the Notice of Internet Availability.

Returning the proxy card will not affect your right to attend the Annual Meeting and vote in person as described elsewhere herein.

If you properly fill in your proxy card and send it to us in time to vote, your proxy (one of the individuals named on your proxy card) will vote your shares as you have directed. If you sign the proxy card but do not make specific choices, your proxy will vote your shares as recommended by the Board of Directors as follows:

1. **FOR** the two nominees to serve as Class I directors identified below, the nominee to serve as Class II director identified below and the nominee to serve as Class III director identified below;
2. **FOR** the ratification of the appointment of CCR LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2011; and
3. **FOR** the authorization to adjourn the Annual Meeting to a later date or dates if there are insufficient votes present in person or represented by proxy at the Annual Meeting to approve the proposals.

If any other matters are presented, your proxy will vote in accordance with his or her best judgment. At the time this proxy statement went to press, we knew of no matters that needed to be acted on at the Annual Meeting other than those discussed in this proxy statement.

### **HOW DO I VOTE IN PERSON?**

If you are a stockholder of record (i.e., you own the shares directly in your name) and plan to attend the Annual Meeting, you may attend and vote in person on May 20, 2011, or at a later date if the meeting is adjourned or postponed to a later date, as long as you present valid proof of identification at the meeting. We will give you a ballot when you arrive. However, if your shares are held in the name of your broker, bank or other nominee, in addition to identification, you must bring proof of beneficial ownership in order to attend the meeting, which generally can be obtained from the record holder. You must also obtain a proxy or a power of attorney executed by the broker, bank or other nominee that owns the shares of record for your benefit and authorizing you to vote the shares at the meeting.

### **MAY I REVOKE MY PROXY?**

If you give a proxy, you may revoke it at any time before it is exercised. You may revoke your proxy in three ways:

1. You may send in another proxy with a later date.
2. You may notify the Company in writing (by you or your attorney authorized in writing, or if the stockholder is a corporation, under its corporate seal, by an officer or attorney of the corporation) at our principal executive offices before the Annual Meeting, that you are revoking your proxy.
3. You may vote in person at the Annual Meeting.

### **WHAT VOTE IS REQUIRED TO APPROVE EACH PROPOSAL?**

**Proposal 1:** Election of Directors.

A plurality of the eligible votes cast is required to elect a director nominee. A nominee who receives a plurality means he has received more votes than any other nominee for the same director's seat. Shares not represented in person or by proxy at the Annual Meeting and broker non-votes will have no effect on the election of directors.

**Proposal 2:** Ratification of independent registered public accounting firm.

The approval of Proposal 2, the ratification of the appointment of our independent registered public accounting firm, requires the affirmative vote of the majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote thereon.

**Proposal 3:** Adjournment of the Annual Meeting.

The approval of Proposal 3, the adjournment of the Annual Meeting, requires the affirmative vote of the majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote thereon.

Abstentions will be counted toward the tabulation of votes present or represented on Proposals 2 and 3 and will have the same effect as votes "Against" these proposals. New York Stock Exchange rules prohibit brokers from voting on Proposal 1 without receiving instructions from the beneficial owner of the shares. In the absence of instructions, shares subject to such broker non-votes will not be counted as voted or as present or represented on those proposals and so will have no effect on the vote. **Please note that the rules regarding how brokers may vote your shares have changed. Brokers may no longer vote your shares**

**on the election of directors in the absence of your specific instructions as to how to vote so we encourage you to provide instructions to your broker regarding the voting of your shares.**

**ARE THERE ANY DISSENTERS' RIGHTS OF APPRAISAL?**

The Board of Directors is not proposing any action for which the laws of the State of Delaware, the Company's Certificate of Incorporation or the By-Laws provide a right of a stockholder to dissent and obtain appraisal of or payment for such stockholder's shares.

**WHO BEARS THE COST OF SOLICITING PROXIES?**

The Company will bear the cost of soliciting proxies in the accompanying form and will reimburse brokerage firms and others for expenses involved in forwarding proxy materials to beneficial owners or soliciting their execution.

**WHERE ARE THE COMPANY'S PRINCIPAL EXECUTIVE OFFICES?**

The Company's principal executive offices are located at 25 Sawyer Passway, Fitchburg, Massachusetts and our telephone number is (978) 345-5000.

**HOW CAN I OBTAIN ADDITIONAL INFORMATION ABOUT THE COMPANY?**

The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2010 has been made available on the Internet to all stockholders entitled to vote at the Annual Meeting and who received the Notice of Internet Availability. Additional copies will be furnished without charge to stockholders upon written request. Exhibits to the Form 10-K will be provided upon written request and payment of an appropriate fee. All written requests should be directed to Arrhythmia Research Technology, Inc., 25 Sawyer Passway, Fitchburg, Massachusetts 01420.

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**") which requires that the Company file reports, proxy statements and other information with the Securities and Exchange Commission ("**SEC**"). The SEC maintains a website on the Internet that contains reports, proxy and information statements and other information regarding registrants, including the Company, that file electronically with the SEC. The SEC's website address is <http://www.sec.gov>. In addition, the Company's Exchange Act filings may be inspected and copied at the public reference facilities of the SEC located at Room 1580, 100 F Street, N.E., Washington, DC 20549, on official business days during the hours of 10:00 am to 3:00 pm. You may obtain information about the operation of the public reference room by calling the SEC at 1-800-SEC-0330.

**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS  
AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

**Beneficial Owners of at Least Five Percent of our Common Stock**

The following table shows, as of the Record Date and to the best of our knowledge, all persons we know to be beneficial owners of five percent or more of the voting securities of the Company as of the Record Date.

Name and Address of Beneficial Owner	Common Stock Beneficially Owned <sup>(1)</sup>	Percent of Class <sup>(1)</sup>
Chambers Medical Foundation Edwin K. Hunter, Trustee 1807 Lake Street Lake Charles, LA 70601	276,268 <sup>(2)</sup>	9.9%
FMR LLC Fidelity Management & Research Co. 82 Devonshire Street Boston, MA 02109	271,041 <sup>(3)</sup>	9.7%

- 
- (1) Unless otherwise noted in these footnotes, 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.
- (2) Based on information included in a Schedule 13D/A filed with the SEC on March 9, 2007 and a Form 4 filed with the SEC on April 5, 2007 by the Chambers Medical Foundation.
- (3) Based on information included in a Schedule 13G/A filed with the SEC on April 9, 2009.

**Security Ownership of Directors and Executive Officers**

The following table shows, as of the Record Date, the securities owned by each director and director nominee, the Named Executive Officers as defined below, and by all of the present executive officers and directors as a group.

Name and Address of Beneficial Owner	Common Stock Beneficially Owned <sup>(1)</sup>	Percent of Class <sup>(1)</sup>
Julius Tabin, Ph.D.	124,324 <sup>(2)</sup>	4.4%
Paul F. Walter, M.D.	79,555 <sup>(2)</sup>	2.8%
E. P. Marinos	69,448 <sup>(2)</sup>	2.5%
Jason R. Chambers	66,749 <sup>(3)(4)</sup>	2.4%
James E. Rouse	22,200 <sup>(5)</sup>	*
David A. Garrison	23,500 <sup>(6)</sup>	*
Michael S. Gunter	400	*
Patrick L. Muldoon	-	*
All Executive Officers and Directors as a Group (6 Persons)	404,176	14%

---

\* Less than 1%

- (1) Unless otherwise noted in these footnotes, 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 27,500 shares issuable upon exercise of options, but excludes options to acquire 10,000 shares which are not currently exercisable but which vest and will be exercisable as to an additional 2,000 shares on January 2, 2012 and 1,500 shares on January 4, 2012 and each anniversary thereafter until fully vested.
- (3) 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.
- (4) Includes options to acquire 27,500 shares but excludes options to acquire 12,000 shares which are not currently exercisable but which vest and will be exercisable as to an additional 2,000 shares on or after August 4, 2011 and January 2, 2012, and 1,500 shares on January 4, 2012, respectively, and each anniversary thereafter until fully vested.
- (5) Includes options to acquire 17,000 shares but excludes options to acquire 9,800 options which are not currently exercisable but which vest and will be exercisable as to 1,900 shares on January 2, 2012 and 1,500 shares on January 4, 2012 and each anniversary thereafter until fully vested.
- (6) Represents 20,500 shares issuable upon exercise of options; excludes options to acquire an additional 7,000 shares which are not currently exercisable, but which options vest and will be exercisable as to an additional 1,500 shares on or after January 2, 2010 and 1,000 shares on January 4, 2011 and each anniversary thereafter until fully vested.

### **Interest of Directors and Executive Officers in the Matters to be Acted Upon**

James E. Rouse and Jason R. Chambers have been nominated for re-election as Class I directors, Michael S. Gunter, and Patrick L. Muldoon have each been nominated for election as Class II and Class III directors; therefore each has an interest in the outcome of Proposal 1.

### **Section 16(a) Beneficial Ownership Reporting Requirements**

Section 16(a) of the Exchange Act requires our executive officers and directors, and persons who own more than ten percent of any publicly traded class of our equity securities, to file reports of ownership and changes in ownership of equity securities of the Company with the SEC and the New York Stock Exchange. Officers, directors, and greater-than-ten-percent stockholders are required by the SEC's regulations to furnish the Company with copies of all Section 16(a) forms that they file.

Based solely upon a review of Forms 3 and Forms 4 furnished to the Company during the most recent fiscal year, and Forms 5 with respect to its most recent fiscal year, we believe that all such forms required to be filed pursuant to Section 16(a) of the Exchange Act were timely filed, as necessary, by the officers, directors, and security holders required to file the same during the fiscal year ended December 31, 2010.

## INFORMATION ABOUT DIRECTORS AND EXECUTIVE OFFICERS

### Directors and Executive Officers

The directors and executive officers of the Company are as follows:

Name	Age	Title
E. P. Marinos	69	Chairman of the Board <sup>(1)</sup>
James E. Rouse	56	President, Chief Executive Officer and Director
David A. Garrison	42	Executive Vice President of Finance and Chief Financial Officer
Jason R. Chambers	33	Director <sup>(1)</sup>
Julius Tabin, Ph.D.	91	Director <sup>(1)</sup>
Paul F. Walter, M.D.	73	Director <sup>(1)</sup>

---

<sup>(1)</sup> E. P. Marinos, Dr. Julius Tabin, and Jason R. Chambers serve as members of the Audit Committee and, together with Dr. Paul F. Walter, serve as independent directors.

Set forth below are descriptions of the backgrounds of the executive officers and directors of the Company and their principal occupations for the past five years.

*E. P. Marinos.* Mr. Marinos has served as a director of the Company since 1994. Mr. Marinos has been Chief Executive Officer of AMT/EPM Associates, a consulting firm, since June 1, 2001. Mr. Marinos was President and Chief Executive Officer of Midcoast Interstate Transmission, Inc. (MIT), an interstate pipeline company, from June 1997 until June 2001. He also became Corporate Vice President of Administration for Midcoast Energy Resources, Inc. (MRS), MIT's parent company, in June 1999 and President and Chief Executive Officer of Kansas Pipeline Co. in December 1999, a subsidiary of MRS, and held those positions until MRS was sold in June 2001. From March 1995 until June 1997, he was President and Chief Executive Officer of the Company. Since August 2009 he has served as a director of the Bay Area Houston Ballet & Theatre, a non-profit organization. He is a graduate of Wayne State University (B.S. in Business Administration with majors in Finance and Accounting, 1964) and a member of the AICPA.

Mr. Marinos brings upwards of 18 years prior experience with a "Big 8" accounting firm, including years of experience providing audit and advisory services to a variety of industries including medical, engineering, banking and energy. His prior service as president and CEO of the Company as well as CEO and CFO of other publicly traded companies expand his breadth of knowledge of business and management. His advanced degree in business administration including majors in finance and accounting, as well as prior experience, qualify him to serve as a member of the Company's Audit Committee.

*James E. Rouse.* Mr. Rouse was appointed President and Chief Executive Officer of the Company in October 2002 after serving in the capacity of President and Chief Operating Officer since October of 2001. Previously he had served as Vice President and General Manager of the Company from December 2000 to October 2001. Mr. Rouse has also served as President, Chief Executive Officer and Chief Operating Officer of the Company's subsidiary, Micron Products, since December 2000, Vice President and General Manager from July 2000 to December 2000 and Plant Operations Manager from December 1996 to July 2000. Prior to joining Micron Products Mr. Rouse held the position of Operations Manager from December 1995 to December 1996 for Jarvis Surgical, Inc., a manufacturer of medical devices. He served in positions of Biomedical Product Manager and Director of Quality Assurance during his employment at KomTeK, Inc., a subsidiary of Kervick Enterprises, Inc., a manufacturer of close tolerance forgings and investment castings, from 1983 to 1995. He is a graduate of the University of Massachusetts (Amherst) (B.A. Political Science, 1977) and Worcester Polytechnic Institute, School of Industrial Management (1997).

As the only management representative on the Company's Board, Mr. Rouse provides an insider's perspective in Board discussions about the business and strategic direction of the Company. In addition, he has experience in all aspects of the Company's business as well as advanced studies in industrial management. Mr. Rouse is also active in local organizations and his contacts in the Fitchburg, Massachusetts, business and educational community afford him the opportunity to have a working relationship with the local leaders.

*David A. Garrison.* Mr. Garrison was appointed Executive Vice President of Finance of the Company in December 2004 and has served as Chief Financial Officer since November 2002. He joined the Company as Corporate Controller in September of 2002 after nine years as Controller and Chief Financial Officer of H & R 1871, Inc., a privately held manufacturer of consumer products. He is a graduate of Miami University (B.S. in Finance, 1990) and Boston University (Masters in Business Administration, 2001).

*Jason R. Chambers.* Mr. Chambers has served as a director of the Company since April 2006. Mr. Chambers has served as President of Mountain Brook Water, a water bottling and distribution company, from June 14, 2002 to the present, and from August 2001 to the present has served as a consultant assisting The Chambers Medical Foundation, a private foundation, in assessing medical grant applications. The Foundation beneficially owns approximately 10% of the Company's outstanding common stock. Mr. Chambers holds a Bachelor of Science degree from Vanderbilt University School of Engineering and a Masters of Business Administration degree from Owen Graduate School of Management, Vanderbilt University with a concentration in finance and marketing. Mr. Chambers is also a Dana-Farber Cancer Institute Hematologic Oncology visiting committee member and a board member of Global Health Action, a non-profit organization focused on providing health professionals with leadership, management and project planning training.

Mr. Chambers brings over 8 years practical business and finance experience as the president of a growing enterprise along with knowledge of and relationships with the medical community through his non-profit activities. His advanced degree in business administration and finance experience qualify him to serve on the Audit Committee.

*Julius Tabin, Ph.D.* Dr. Tabin has served as a director of the Company since its founding in 1982. Prior to his retirement in June 2006, Dr. Tabin was a partner in the law firm of Fitch, Even, Tabin & Flannery. His practice focused on client counseling, litigation, and licensing in the areas of patents, trademarks, copyrights, trade secrets, related contract, and antitrust law. He is a graduate of the University of Chicago (B.S., 1940; Ph.D. Physics, 1946) and Harvard Law School (LL.B., 1949).

Dr. Tabin has over 27 years experience on the Company's Board and, as a result, has a depth of experience with the Company's injection molding business. His prior experience as director of other companies has expanded his breadth of knowledge of business and management. His advanced degrees in physics and law as well as his more than 50 years experience counseling clients on intellectual property matters enable him to provide valuable insights into processes and potential pitfalls.

*Paul F. Walter, M.D.* Dr. Walter has served as a director of the Company since its founding in 1982. Dr. Walter in 2010 retired from his position as an electrophysiologist and Professor of Medicine at Emory University where he served on the faculty since 1980. He specialized in cardiology and clinical electrophysiology. Dr. Walter started the arrhythmia/electrophysiology service at Emory University in 1980. He performed clinical research studies in signal averaged electrocardiography when this test was being developed in the 1980s. He is a 1961 graduate of the University of Nebraska, College of Medicine with graduate studies at the University of Michigan.

Dr. Walter has over 27 years experience on the Company's Board and brings, in addition, over 48 years experience in the medical field and community, particularly as it relates to cardiology. His position on the faculty of Emory University and depth of knowledge in and ongoing experience with electrophysiology and developments in cardiology uniquely position him to provide valuable insights into innovative products in the medical field as well as markets for such products.

Each executive officer of the Company is appointed by the Board of Directors and holds his office(s) at the pleasure and discretion of the Board.

## Director Nominees

Set forth below are descriptions of the backgrounds of the director nominees and their principal occupations for the past five years.

*Michael S. Gunter*, age 42, nominee as Class II director, has served, since its founding in 2004, as Vice President, Operations and Chief Information Officer for Primo Water Corporation, a provider of three-and five-gallon purified bottled water, self-serve filtered drinking water and water dispensers sold through major retailers nationwide, offering an environmentally friendly, economical, convenient and healthy solution for consuming purified water. As a member of the leadership team, Mr. Gunter was responsible for the establishment of the initial 1500 retail locations in 47 states within 40 days, establishing a national distribution presence. He was instrumental in developing integrated distribution, supply chain, information systems, customer service and procurement systems to build a \$50 million distribution company within four years. From 2000 to 2004, he served as Senior Director, Finance and Strategy and Director of Information Technology for Blue Rhino Corporation, a provider of propane tank exchange, gas grills and other gas powered appliances to retailers. He also has experience as manager of technical services for a large PPO network and medical management program and for a Fortune 100 global IT services company. His past experience includes service for 6 years in the U.S. Marine Corps where he attained the rank of Captain and held a Top Secret Clearance. He has served on local/community boards at the Better Business Bureau of Northwest North Carolina and the YMCA. He is the founder of the Angels Foundation, a non-profit organization that supports education in North Carolina and Virginia. He holds a BA degree from the University of Michigan (ROTC program), an MA degree in Education (Counseling) from Wake Forest University and an MBA from Duke University, Fuqua School of Business.

Mr. Gunter brings executive-level experience in operations, performance improvement, systems integration and security, strategic development and project management. His operational experience, along with his advanced degree in business administration as well as finance and acquisition experience, will enable him to provide valuable insights as well as review and integration of strategic opportunities.

*Patrick L. Muldoon*, age 56, nominee as Class III director, has served, since July 2004, as President and CEO of HealthAlliance Hospitals, Inc. and Central New England HealthAlliance, Inc. HealthAlliance Hospitals' 1600 employees provide acute, psychiatric, rehabilitation, urgent, emergent and visiting nurse services to the residents in North Central Massachusetts and southern New Hampshire. HealthAlliance Hospitals is the largest community hospital within the UMass Memorial Health Care System. In such position, Mr. Muldoon is responsible for hospital operations, strategy and long-term planning. He currently also serves on the Board of Trustees of the Massachusetts Hospital Association and recently chaired the Special Committee on Finance. He is past chair of the United Way Capital Campaign and past chair of the North Central Massachusetts Chamber of Commerce. Mr. Muldoon currently serves as Chairman of the Board of HealthAlliance with Physicians, Inc., a physician/hospital organization engaged in the management of four full risk/capitated contracts. He also currently serves on the boards of the Worker's Credit Union, Spanish American Center, the Shine Initiative of Fidelity Bank and the Regional Economic Development Institute at Fitchburg State University. In recognition of his community service, Mr. Muldoon received the Multi-Cultural Center's Distinguished Service Award in 2009 and the Community Health Champion Award from Community Health Connections in 2010. Mr. Muldoon holds a B.S. in Health Services from Providence College and an MBA in Business from Loyola University of Chicago. He is currently a Fellow of the American College of Health Care Executives.

Mr. Muldoon brings over 28 years' experience in hospital operations and the medical community. His position as the President of a large, growing health care facility and depth of knowledge in and experience with health care operations, strategy and long-term planning in the health care field position him to provide valuable insights into that market.

No director or director nominee is related to any other director, director nominee or executive officer of the Company or its subsidiaries, and there are no arrangements or understandings between a director or director nominee and any other person pursuant to which such person was elected or nominated to serve as a director.

There are no material proceedings to which any director, director nominee, executive officer or affiliate of the Company, any owner of record or beneficial interest of more than five percent of any class of voting securities of the Company, or any associate of any such director, officer, affiliate or security holder is a party adverse to the Company or any of its subsidiaries or has a material interest adverse to the Company or any of its subsidiaries.

No director, director nominee, officer or affiliate of the Company, owner of record or beneficial interest of more than five percent of any class of voting securities of the Company has, to the Company's knowledge, during the last five years (i) been convicted of any criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, United States federal or state securities laws or finding any violations with respect to such laws.

## **CORPORATE GOVERNANCE**

### **The Board of Directors**

The Board of Directors oversees the business affairs of the Company and monitors the performance of management. Pursuant to the Company's By-Laws, the Board of Directors has established that the Board of Directors shall consist of seven members. Currently the number of seats on the Board is five. The Company's By-Laws further provide that the Board of Directors be divided in three classes serving staggered three year terms with each class to be as nearly equal in number as possible. See Proposal 1.

Members of the Board of Directors discussed various business matters informally on numerous occasions throughout the year 2010. There were 13 formal Board meetings in person or by teleconference during 2010. During 2010, all directors attended at least 75% of the meetings of our Board and Board committees on which they served. Independent directors meet on a regular basis as often as necessary to fulfill their responsibilities, including at least annually in executive session without the presence of non-independent directors and management.

### **Director and Director Nominee Independence**

The Company's common stock is listed on the NYSE Amex stock exchange. The Board considers the status of its members pursuant to the independence requirements set forth in the NYSE Amex Company Guide and applicable federal securities laws. Under these requirements, the Board undertakes an annual review of director independence. During this review, the Board considers transactions and relationships between each director or any member of his immediate family and the Company and its affiliates, if any. The purpose of this review is to determine whether any such relationships or transactions exist that are inconsistent with a determination that the director is independent. Four of the Company's five current directors and the two director nominees are "independent" as defined in the NYSE Amex Company Guide. The members of the Audit Committee are also "independent" for purposes of Section 10A-3 of the Exchange Act and NYSE Amex listing requirements. The Board bases these determinations primarily on a review of the responses of the directors and executive officers to questions regarding employment and transaction history, affiliations and family and other relationships and on discussions with the directors.

### **Board Leadership Structure and Role in Risk Oversight**

The Board of Directors does not have a policy, one way or the other, on whether the same person should serve as both the chief executive officer and chairman of the board or, if the roles are separate, whether the chairman should be selected from the non-employee directors or should be an employee. The Board believes that it should have the flexibility to make these determinations at any given point in time in the way that it believes best to provide appropriate leadership for the Company at that time. The current structure is that of separate Chief Executive Officer and Chairman of the Board of Directors. Mr. James Rouse serves as the Chief Executive Officer and President and is responsible for day-to-day leadership of the Company. Mr. E.P. Marinos serves as the Chairman of the Board. The Board of Directors believes this is the most appropriate structure for the Company at this time as it recognizes the time, effort and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as the Chairman of the Board, particularly as the Board's oversight responsibilities continue to grow.

The Board, either as a whole or through its Committees, regularly discusses with management strategic and financial risks and exposures associated with the Company's annual operating budget, their potential impact on the Company and the steps taken to manage them. While the Board of Directors is ultimately responsible for risk oversight at the Company, the Board's Committees assist the Board in fulfilling its oversight responsibilities in certain areas of risk. In particular, the Audit Committee focuses on financial and enterprise risk exposures and discusses with management, the internal auditors, and the independent registered public accountants the Company's policies with respect to risk assessment and risk management, including risks related to financial reporting, tax, accounting, disclosure, internal control over financial reporting, financial policies and credit and liquidity matters. The Audit Committee also assists the Board of Directors in fulfilling its duties and oversight responsibilities relating to the Company's compliance and ethics programs, including compliance with legal and regulatory requirements. The Executive and Finance Committee regularly reviews with management the Company's financial arrangements, capital structure and strategic opportunities. The Nominating and Corporate Governance Committee annually reviews the Company's corporate governance guidelines and focuses on succession planning. Finally, the Compensation Committee assists the Board in fulfilling its oversight responsibilities with respect to the management of risks arising from the Company's compensation policies and programs.

## **Attendance Policy**

All Board members are strongly encouraged to attend each meeting of the Board and committees on which they serve and be prepared to discuss the business presented. An attendance rate of at least 75% is the minimum acceptable rate of attendance at Board and committee meetings. A Board member's record of attendance will be considered with respect to recommendation of the renewal of a Board term or future assignment to a committee. Directors are strongly encouraged to attend annual meetings, and all of the directors in office at that time attended the 2010 Annual Meeting.

## **Committees of the Board of Directors**

The Board of Directors has established the following standing committees, namely, an Audit Committee, a Compensation Committee, an Executive and Finance Committee and a Nominating and Corporate Governance Committee.

*Audit Committee.* The Audit Committee assists the Board of Directors in the oversight of the audit of the Company's financial statements and the quality and integrity of its accounting, auditing and financial reporting processes. The Audit Committee also has the responsibility of reviewing the qualifications, independence and performance of the Company's independent registered public accounting firm and is responsible for the appointment, retention, oversight and, where appropriate, termination of the independent registered public accounting firm. During the fiscal year 2010, the Audit Committee held six formal meetings. Its current members are Mr. Jason Chambers (Chairman), Dr. Julius Tabin, and Mr. E.P. Marinos. The Board of Directors has determined that each of the members of the Audit Committee meets the criteria for independence under the applicable listing standards of the NYSE AMEX, and that Mr. Marinos also qualifies as an "audit committee financial expert," as defined by the rules adopted by the SEC. The Board of Directors has adopted a written charter for the Audit Committee, which is reviewed annually by the Audit Committee. The current Audit Committee Charter is available on the Company's web site, namely, <http://www.arthrt.com/investorrelations/corporategovernance/tabid/66/Default.aspx>.

*Compensation Committee.* The principal functions of the Compensation Committee are to evaluate the performance of the Company's senior executives, to consider the design and competitiveness of the Company's compensation plans, to review and recommend senior executive compensation and to administer the Company's equity-based compensation plans. Its current members are Dr. Paul F. Walter (Chairman), Mr. E.P. Marinos and Dr. Julius Tabin. During the fiscal year 2010, the Compensation Committee held two formal meetings. The current Compensation Committee Charter is available on the Company's web site, namely, <http://www.arthrt.com/investorrelations/corporategovernance/tabid/66/Default.aspx>.

*Executive and Finance Committee.* The Executive and Finance Committee is composed of three members: Mr. E. P. Marinos, Mr. James E. Rouse and Mr. Jason R. Chambers. The principal functions of the Executive and Finance Committee are reviewing and evaluating significant business and policy decisions and making recommendations to the full Board of Directors. The Executive Committee held nine formal meetings in 2010.

*Nominating and Corporate Governance Committee.* The Nominating and Corporate Governance Committee is presently composed of four members of the board: Dr. Julius Tabin (Chairman), Dr. Paul F. Walter, Mr. E.P. Marinos and Mr. Jason R. Chambers, each of whom is an independent director as independence is defined by the rules and regulations of the NYSE AMEX. The Nominating and Corporate Governance Committee assists the Board in identifying individuals qualified to be directors, oversees the composition, structure and evaluation of the Board and its committees, and develops and maintains a set of corporate governance guidelines. The Nominating and Corporate Governance Committee reviews these guidelines regularly and recommends changes as necessary or appropriate. During the fiscal year 2010, the Committee held two formal meetings. A copy of the Nominating and Corporate Governance Committee Charter is available on the Company's website, <http://www.arthrt.com/investorrelations/corporategovernance/tabid/66/Default.aspx>.

## **Nominees to the Board of Directors**

James E. Rouse and Jason R. Chambers are the Board of Director's nominees for re-election as Class I directors to the Board of Directors. In addition, Michael S. Gunter and Patrick L. Muldoon are the Board of Director's nominees for election to serve as Class II and Class III directors, respectively, to the Board of Directors. Mr. Gunter and Mr. Muldoon were recommended for consideration among an aggregate of five candidates by a nonmanagement director and our CEO, respectively, by the Nominating and Corporate Governance Committee. See "Information about Directors and Executive Officers" above for information relative to their respective business experience.

The Company's Nominating and Corporate Governance Committee identifies new director candidates through recommendations from members of the Committee, other Board members and executive officers of the Company and will consider candidates who are recommended by security holders, as described below. Although the Board does not have a formal diversity policy, the

Committee and the Board will consider such factors as it deems appropriate to assist in developing a Board and committees that are diverse in nature and comprised of experienced and seasoned advisors. These factors focus on skills, expertise or background and may include decision-making ability, judgment, personal integrity and reputation, experience with businesses and other organizations of comparable size, experience as an executive with a publicly traded company, and the extent to which the candidate would be a desirable addition to the Board and any committees of the Board.

For nominations by a stockholder to be properly brought before an annual meeting, the stockholder must have given written notice thereof, either by personal delivery or by United States mail, postage prepaid, to the Secretary of the Company, not later than 90 days nor earlier than the 120<sup>th</sup> day prior to the anniversary of the previous year's annual meeting; provided, however, that in the event that no annual meeting was held in the previous year or the annual meeting is scheduled to be held on a date more than thirty (30) days prior to or delayed by more than sixty (60) days after such anniversary date, notice by the stockholder in order to be timely must be so received not later than the later of the close of business ninety (90) days prior to the annual meeting or the tenth (10<sup>th</sup>) day following the day on which such notice of the date of the annual meeting was mailed or such public disclosure of the date of the annual meeting was made, which may include any public filing by the Company with the Securities and Exchange Commission, of the date of the annual meeting. For nominations by a stockholder to be properly brought before a special meeting of stockholders called for the purpose of electing directors, the stockholder must have given written notice thereof, either by personal delivery or by United States mail, postage prepaid, not later than the close of business on the tenth (10<sup>th</sup>) day following the day on which public announcement of the date of the special meeting is first made by the Company.

The notice must set forth the following:

- the name and record address of the stockholder and the nominee;
- a representation that the stockholder is a holder of record of stock of the Company entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business;
- a description of all arrangements or understandings between the stockholder and each proposed nominee (naming the person) pursuant to which the nomination is to be made by the stockholder;
- such other information regarding each nominee proposed by such stockholder as would be required to be included in a proxy statement filed pursuant to the proxy rules of the Securities and Exchange Commission were such nominee to be nominated by the Board of Directors; and
- consent of each proposed nominee to serve as a director of the Company if so elected.

In addition to the provisions of Section 3 of the By-laws summarized above, a stockholder shall also comply with all of the applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth herein.

The Committee will evaluate new director candidates in view of the criteria described above, as well as other factors the Committee deems to be relevant, through reviews of biographical and other information, input from others, including members of the Board and executive officers of the Company, and personal discussions with the candidate when warranted by the results of these other assessments. The Committee will evaluate any director candidates recommended by security holders under the same process. In determining whether to recommend to the Board the nomination of a director who is a member of the Board, the Committee will review the Board performance of such director and solicit feedback about the director from other Board members.

### **Communicating with the Board**

The Board desires to foster open communications with its security holders regarding issues of a legitimate business purpose affecting the Company. Each Board member is willing to accept correspondence. Communications from stockholders should be in the form of written correspondence and sent via registered mail or overnight delivery to the Company's corporate office, care of the Secretary. Electronic submissions of security holder correspondence will not be accepted. The correspondence shall include supporting documentation evidencing the security holder's stock or other holdings in the Company. The Secretary shall pass on any such communication, other than a solicitation for a product or service or a request for copies of reports filed with the Commission, to the appropriate Board member. Any security holder correspondence addressed generically to the Board of Directors will be forwarded to the Chairman of the Board.

### **Code of Conduct and Ethics**

The Company has adopted a Code of Conduct and Ethics that applies to all its employees as well as its principal executive, financial and accounting officers. A copy of the Code can be found on the Company's website at <http://www.arthrt.com/investorrelations/corporategovernance/tabid/66/Default.aspx>. The Company intends to satisfy the disclosure requirements regarding any amendments to or waivers from a provision of the Code that applies to its principal executive, financial and accounting officers by posting such information on its website at the address set forth above.

## **REPORT OF THE AUDIT COMMITTEE**

*The information contained in this Proxy Statement with respect to the Audit Committee Report and charter and the independence of the members of the Audit Committee shall not be deemed to be “soliciting material” or to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended (the “Securities Act”), or the Exchange Act, except to the extent that the Company specifically incorporates it by reference in such filing.*

The Audit Committee is directly responsible for the appointment, compensation, retention and oversight of the accounting firm that we engage as the Company’s independent registered public accounting firm. The Company’s management is responsible for the Company’s internal controls, disclosure controls and financial reporting process. The Company’s independent registered public accounting firm is responsible for performing an independent audit of the Company’s consolidated financial statements and expressing an opinion on the conformity of those financial statements with accounting principles generally accepted in the United States.

In the performance of the Audit Committee’s oversight function, we have reviewed and discussed with management the Company’s audited financial statements of the Company for the fiscal year ended December 31, 2010 and management’s assessment of the effectiveness of the Company’s internal control over financial reporting. We have also discussed with the Company’s independent registered public accounting firm the matters requiring discussion pursuant to Statement on Auditing Standards No. 61, as amended (Communications with Audit Committees) and as adopted by the Public Company Accounting Oversight Board in Rule 3200T and such other matters as we have deemed to be appropriate. We have also discussed with CCR LLP matters relating to its independence, and have received the written disclosures and letter from it required by the applicable requirements of the Public Company Accounting Oversight Board.

On the basis of the reviews and discussions referred to above, the Audit Committee recommended to the Board of Directors that the Company’s audited consolidated financial statements for the year ended December 31, 2010 be included in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2010 for filing with the Securities and Exchange Commission.

By the Members of the Audit Committee:

Mr. Jason R. Chambers, Chairman

Mr. E.P. Marinos

Dr. Julius Tabin

### **Audit Committee Pre-Approval of Audit and Non-Audit Services**

The Audit Committee pre-approves all audit and permissible non-audit services provided to the Company by the independent registered public accounting firm. These services may include audit services, audit-related services, tax services and other services. The Audit Committee has adopted policies and procedures for the pre-approval of services provided by the independent registered public accounting firm. Such policies and procedures provide that management and the independent registered public accounting firm shall jointly submit to the Audit Committee a schedule of audit and non-audit services for approval as part of the annual plan for each fiscal year. In addition, the policies and procedures provide that the Audit Committee may also pre-approve particular services not in the annual plan on a case-by-case basis. Management must provide a detailed description of each proposed service and the projected fees and costs (or a range of such fees and costs) for the service. The policies and procedures require management and the independent registered public accounting firm to provide quarterly updates to the Audit Committee regarding services rendered to date and services yet to be performed.

As permitted under the Sarbanes-Oxley Act of 2002, the Audit Committee may delegate pre-approval authority to one or more of its members, for audit and non-audit services to a subcommittee consisting of one or more members of the Audit Committee. Any service pre-approved by a delegatee must be reported to the Audit Committee at the next scheduled meeting.

## COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS

### Summary Compensation Table

The following table sets forth information regarding annual and long-term compensation with respect to the fiscal years ended December 31, 2010 and 2009, paid or accrued by the Company to or on behalf of those persons who were, during the fiscal year ended December 31, 2010, the Company's Chief Executive Officer and the Company's most highly compensated executive officers serving as such as of December 31, 2010 whose compensation was in excess of \$100,000 (the "Named Executive Officers").

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards (\$) <sup>(1)</sup>	Non Equity Incentive Plan Compensation (\$) <sup>(2)</sup>	Nonqualified Deferred Compensation Earnings	All Other Compensation (\$) <sup>(3)</sup>	Total (\$)
James E. Rouse <sup>(4)</sup> President and CEO	2010	262,000	-	-	7,217	-	-	-	269,217
	2009	238,000	-	-	-	-	-	-	238,000
David A. Garrison <sup>(5)</sup> EVP and CFO	2010	157,500	-	-	4,811	-	-	-	162,311
	2009	142,500	-	-	-	-	-	-	142,500

(1) Amounts reflect the aggregate grant date fair value of option awards computed in accordance with FASB ASC Topic 718. The fair value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model. Option awards were made on January 4, 2010 with a Black-Scholes value of \$0.96 per share. A more detailed discussion of the assumptions used in the valuation of option awards made in fiscal year 2010 may be found in Note 10 of the Notes to the Financial Statements in the Company's Form 10-K for the year ended December 31, 2010.

(2) The amounts shown in this column include payments made under the annual performance-based incentive plan.

(3) Includes prerequisites based on the aggregate incremental cost to the Company unless the amount of such compensation is less than \$10,000, gross-ups or other amounts reimbursed during the year for payment of taxes; accrued severance payments; contributions to defined contribution plans and the dollar value of insurance premiums paid by the Company with respect to life insurance for the benefit of the named executive officer.

(4) Mr. Rouse was appointed President and Chief Executive Officer of the Company in October 2002. He served as President and Chief Operating Officer of the Company from October 2001 to October 2002.

(5) Mr. Garrison was appointed as Executive Vice President of Finance of the Company in December 2004, and has served as Chief Financial Officer of the Company since November 2002.

### Narrative Disclosure to Summary Compensation Table

*Incentive Compensation.* The Compensation Committee reviews annually the Company's performance for the purpose of determining incentive compensation and determined that no incentive compensation was payable to the Named Executive Officers in 2010 or 2009.

*Employment Agreements.* The Company entered into an Executive Employment Agreement as of October 4, 2006 with James E. Rouse, the Company's President and Chief Executive Officer, for the five year period commencing as of October 4, 2006. The agreement replaces the prior five year employment agreement originally expiring October 4, 2006 and, as amended, extended to December 4, 2006. Under the terms of the agreement, Mr. Rouse is to receive an annual base salary commencing as of October 5, 2006 of \$230,000 subject to annual review and modification by the Board upon the recommendation of the Compensation Committee subject to minimum increases of \$10,000 as of October 5, 2007 and 2008.

The Company entered into an Executive Employment Agreement as of February 14, 2007, with David A. Garrison, the Company's Executive Vice President and Chief Financial Officer, for the five year period commencing as of January 1, 2007. Under the terms of the agreement, Mr. Garrison is to receive an annual base salary commencing as of January 1, 2007 of \$150,000.

Each of Mr. Rouse and Mr. Garrison are also entitled to participate in bonus compensation and employee benefits plans as the Company may institute from time to time at the discretion of the Compensation Committee, upon the approval of the Board of Directors. The Executive Employment Agreements each provide confidentiality, non-competition and non-solicitation restrictions following termination of employment. In the event the Company terminates either Mr. Rouse or Mr. Garrison's employment agreement without "cause" or the executive terminates the agreement for "good reason" as such terms are defined in the agreements, the Company will be required to pay the greater of the executive's then current annual base compensation for the remaining period of employment as in effect immediately prior to such termination or his then current annual base compensation for twenty-four months and will provide certain medical benefits for up to 24 months. In the event of a "change of control," including merger,

consolidation, a sale of all or substantially all of the Company's assets or a sale or transfer of the Company's voting securities resulting in a change in the ownership of a majority of the Company's voting securities, the Company may terminate the executive's employment, in which event he is entitled to the greater of his current base compensation up to the date of termination or his base compensation for a period of 24 months, as well as 24 months of medical and dental benefits.

### Outstanding Equity Awards at Fiscal Year End

Name	Option Awards					Stock Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
James E. Rouse	5,700 <sup>(1)</sup>	3,800 <sup>(1)</sup>	-	7.15	1/2/2014	-	-	-	-
	1,500 <sup>(2)</sup>	6,000 <sup>(2)</sup>	-	3.41	1/4/2016	-	-	-	-
David A. Garrison	8,000	-	-	9.86	12/19/201	-	-	-	-
	4,500 <sup>(3)</sup>	3,000 <sup>(3)</sup>	-	7.15	1/2/2014	-	-	-	-
	1,000 <sup>(4)</sup>	4,000 <sup>(4)</sup>	-	3.41	1/4/2016	-	-	-	-

<sup>(1)</sup> Exercisable as to 1,900 additional shares on 1/2/12 and each anniversary until all 9,500 options are exercisable.

<sup>(2)</sup> Exercisable as to 1,500 additional shares on 1/4/12 and each anniversary until all 7,500 options are exercisable.

<sup>(3)</sup> Exercisable as to 1,500 additional shares on 1/2/12 and each anniversary until all 7,500 options are exercisable.

<sup>(4)</sup> Exercisable as to 1,000 additional shares on 1/4/12 and each anniversary until all 5,000 options are exercisable.

### Director Compensation

For fiscal year 2010 each non-employee director received cash compensation of \$30,000, payable annually. Additionally, the chairman of the Board received an additional \$5,000 and the chairman of the audit committee received an annual fee of \$4,000. During fiscal year 2010, our current directors who were serving in such capacity in 2010 received the following fees:

Name	Fees Earned or Paid in Cash (\$) <sup>(1)</sup>	Stock Awards (\$)	Option Awards (\$) <sup>(2)</sup>	Non-Equity Incentive Plan Compensation (\$)	Change in Pension Value and Nonqualified Deferred Compensation Earnings	All Other Compensation (\$)	Total (\$)
E.P. Marinos	\$ 35,000	-	\$ 7,217	-	-	-	\$ 42,217
Julius Tabin	30,000	-	7,217	-	-	-	37,217
Paul F. Walter, M.D.	30,000	-	7,217	-	-	-	37,217
Jason R. Chambers	34,000	-	7,217	-	-	-	41,217

(1) Includes amounts earned from the annual retainer and chairperson fees.

(2) Amounts reflect the aggregate grant date fair value of option awards computed in accordance with FASB ASC Topic 718. The fair value of each option award is estimated on the date of grant using the Black-Scholes option-pricing model. Option awards were made on January 4, 2010 with a Black-Scholes value of \$0.96 per share. A more detailed discussion of the assumptions used in the valuation of option awards made in fiscal year 2010 may be found in Note 10 of the Notes to the Financial Statements in the Company's Form 10-K for the year ended December 31, 2010.

## Compensation Committee Procedures

*The following information relating to the Compensation Committee is not soliciting material and as such is not deemed filed with the SEC nor incorporated by reference in any filing of the Company under the Securities Act or the Exchange Act, whether made before or after the date of this Proxy Statement and irrespective of any general incorporation language in any such filing.*

The Compensation Committee is responsible for establishing and reviewing the Company's executive compensation policies, advising the full Board of Directors on all compensation matters and administering the Company's employee benefit plans including the Stock Option Plan and Stock Award Plan. In 2010, the Committee was comprised of Dr. Paul F. Walter, Chairman, Dr. Julius Tabin, and Mr. E.P. Marinos, each of whom is an independent director.

The Compensation Committee works with management to develop relationships between pay levels, financial performance and returns to stockholders, in order to align our compensation structure with our organizational objectives. By tying compensation in part to particular goals, the Compensation Committee believes that a performance-oriented environment is created for the Company's employees and executives. All decisions of the Committee relating to compensation of the President and Chief Executive Officer and other Named Executive Officers are reviewed and approved by the other non-employee Directors.

The Company's executive compensation policies are designed to foster the Company's business goals of achieving profitable growth and premium returns to stockholders. The principal objectives of these policies are as follows: (1) to attract, motivate and retain executives of outstanding ability and character; (2) to provide rewards based on each person's individual performance and the Company's overall financial performance and growth during the prior year by placing a portion of compensation at risk; and (3) to align the interests of executives and stockholders through long-term, equity-based incentives and programs to encourage and reward stock ownership.

The Compensation Committee has the authority under its charter to engage the services of outside advisors, experts and others to assist the Compensation Committee.

*Base Salary.* Base salaries are intended to provide economic security for executive officers at a level sufficient to attract and retain talent. Initial salary levels are set based on the executive officer's experience and performance, pay levels for similar positions and negotiations with individual named executive officers. Thereafter, the Compensation Committee considers increases to base salaries each year based on its subjective assessment of our overall performance over the preceding year, internal factors involving the executive's experience, individual performance, and changes in responsibilities and equity issues relating to pay for other Company executives, as well as external factors involving competitive positioning, overall corporate performance, and general economic conditions. No specific formula is applied to determine the weight of each factor which may vary from one named executive officer to another.

*Incentive Compensation Program.* The Company's annual cash incentives are designed to provide an incentive for employees to achieve and surpass targeted performance goals. All of the Company's regular full time, salaried employees, including the executive officers, participate in this incentive. The annual bonus amount for each participant is based on one or more Company-wide performance measures. The target level for performance-based cash incentive compensation is based on the Company's internal budget targets, which are reviewed and approved by the Board. The factors that considered in evaluating the performance target include the aggressiveness of the budget target, the revenue and earnings growth included in the budget target as compared to the prior year, and any significant strategic initiatives that may impact the budget target. This is usually done through discussions with the Company's senior executives and with the Board. Upon completion of the fiscal year, the Compensation Committee reviews the performance of the Company based on the performance measures established for that year and the funding level of the cash incentive plan.

*Long-Term Incentive Compensation.* The Company also grants stock options and other equity incentives under its Stock Option and Stock Award Plans in order to link compensation to the Company's long-term growth and performance and to increase stockholder value. The Committee recommends grants to designated employees upon commencement of employment or following a significant change in an employee's responsibility or title based in part on the recommendation of the Company's executive officers. Awards are based on the employee's position in the Company, as well as the employee's current performance and anticipated future contributions. The Committee also considers the amount and terms of stock options and stock awards previously granted to the employees and executive officers. The Committee individually evaluates these factors with respect to the employees and each executive officer and then the Committee reaches a consensus on the appropriate award to be recommended for approval by the Board.

*Compensation of President and Chief Executive Officer.* James E. Rouse was named President and Chief Executive Officer of the Company in October 2002. Based in part on advice received from the consulting firm engaged by the Compensation Committee as to competitive conditions for senior executive officers at similar public companies and in part on negotiations with Mr. Rouse, a new five-year employment agreement was negotiated and implemented providing annual compensation of \$230,000 per year commencing as of October 5, 2006. A discussion of other terms and conditions of the employment agreement are set forth elsewhere herein.

### **CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

The following paragraphs set forth the reportable transactions in the last fiscal year between the Company and its executive officers, directors or affiliates. See “Compensation of Directors and Executive Officers”, “Narrative to Summary Compensation Table”, and “Employment Agreements” for descriptions of the terms of the employment agreement between the Company and the Company’s Executive Officers and “Director Compensation” for a description of terms of compensation arrangements with our directors.

#### **Transactions with Management and Others**

To date, all transactions between the Company and its officers, directors or their affiliates have been approved or ratified by a majority of the directors who did not have an interest in, and who were not employed by the Company at the time of, such transaction. The Company’s Audit Committee reviews and oversees transactions between the Company and its executive officers and directors pursuant to its charter.

## **PROPOSALS RECOMMENDED FOR CONSIDERATION BY STOCKHOLDERS**

### **PROPOSAL 1**

#### **ELECTION OF DIRECTORS**

The Company's By-Laws provide that the number of directors shall be fixed from time to time by a vote of the majority of the Board of Directors. In March 2011 the Board of Directors determined to increase the size of the Board from five members to seven members. The By-Laws further provide that the Board of Directors be divided into three classes (Class I, Class II and Class III) serving staggered three-year terms, with each class to be as nearly equal in number as possible. The Board of Directors currently consists of five members, namely, James E. Rouse and Jason R. Chambers (Class I with terms expiring at the 2011 Annual Meeting); E. P. Marinos and Julius Tabin (Class II with terms expiring at the 2012 Annual Meeting) and Paul F. Walter (Class III with term expiring at the 2013 Annual Meeting). The Board, based on the recommendation of the Nominating and Corporate Governance Committee, has nominated Michael S. Gunter to serve as an additional Class II member of the Board, to serve for one year until the 2012 Annual Meeting and nominated Patrick L. Muldoon to serve as an additional Class III member of the Board, to serve for two years until the 2014 Annual Meeting.

The Board of Directors, based on the recommendation of the Nominating Committee, has concluded that the nomination and re-election of James E. Rouse and Jason R. Chambers as Class I directors and the election of Michael S. Gunter and Patrick L. Muldoon as Class II and Class III directors, respectively, are in the best interests of the Company and recommends stockholder approval of the re-election of Mr. Rouse and Mr. Chambers, each for a three-year term (expiring at the 2014 Annual Meeting) and the election of Michael S. Gunter and Patrick L. Muldoon, to serve for one and two year terms, respectively (expiring at the 2012 and 2013 Annual Meetings, respectively) and until their respective successors have been duly elected and shall qualify.

The remaining directors will continue to serve in their positions for the remainder of their terms. Biographical information concerning Mr. Rouse, Mr. Chambers, Mr. Gunter and Mr. Muldoon as well as the other Company directors can be found under "Information About Directors and Executive Officers" above.

The persons named in the proxy will vote FOR the nominees, except where authority has been withheld as to the particular nominee.

The nominees for director receiving a plurality of the votes represented by the shares of common stock present in person or represented by proxy at the Annual Meeting and entitled to vote thereon will be elected as director. Each of the nominees has consented to being named in this Proxy Statement and to serve his term if elected. If a nominee should for any reason become unavailable for election, the Board may either nominate a substitute nominee or reduce the size of the Board. If you have submitted a proxy and a substitute nominee is selected, proxies may be voted with discretionary authority by the persons appointed as proxies for any substitute nominee designated by the Board of Directors. Alternatively, if the Board does not select a substitute nominee, the proxy may vote only for the remaining nominees, leaving a vacancy on the Board that may be filled at a later date by the Board in accordance with the Bylaws of the Company. As of the date of this Proxy Statement, the Board is not aware that any nominee is unable or will decline to serve as a director.

**The Board of Directors recommends that stockholders vote FOR each of the nominees for election to the Board of Directors of the Company.**

## PROPOSAL 2

### APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee has concluded that the continued engagement of CCR LLP (“CCR”) as our independent registered public accounting firm is in the best interests of the Company. CCR, formerly known as Carlin, Charon & Rosen LLP, has served as the Company’s registered public accounting firm since February 2006.

The stockholders of the Company are being asked to ratify this appointment. The Company has been informed that neither CCR nor any of its partners have any direct financial interest or any material indirect financial interest in the Company nor have had any connection during the past three years with the Company in the capacity of promoter, underwriter, voting trustee, director, officer or employee. A representative of CCR is expected to be present at the Annual Meeting, to make a statement if so desired, and to respond to any appropriate questions.

The Audit Committee, prior to recommending the appointment of CCR in connection with the audit for the fiscal year ended December 31, 2010 and its reappointment for the fiscal year ended December 31, 2011, considered the qualifications of that firm, including its performance previously, its reputation for integrity, competence in the fields of accounting and auditing and its independence.

Fees earned by CCR for services rendered in connection with the fiscal years ended December 31, 2010 and 2009 are set forth below. All fees earned by our independent registered public accounting firm were pre-approved by the Audit Committee.

	2010	2009
Audit fees	\$ 106,400	\$ 97,500
Audit-related fees	7,500	—
Tax fees	20,500	15,200
All other fees	—	—

#### *Audit Fees*

Audit Fees for 2010 and 2009 consist of fees for the audit of the Company’s annual financial statements, the review of financial statements included in the Company’s quarterly reports, and audit services provided in connection with other statutory or regulatory requirements and amounted to \$106,400 and \$97,500 respectively.

#### *Audit-Related Fees*

There were no Audit-Related Fees for 2009. In 2010 the Company had \$7,500 in fees related to Operating Lease accounting and Purchase accounting.

#### *Tax Fees*

Tax Fees for 2010 and 2009 consist of tax service fees for compliance work, as well as tax planning and tax advice and amounted to \$20,500 and \$15,200 respectively, all of which was approved by the Audit Committee of the Board of Directors.

#### *All Other Fees*

There were no Other Fees for 2010 and 2009.

#### **Recommendation and Vote**

To be approved, Proposal 2 requires the affirmative vote of the majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote thereon.

**The Board of Directors recommends that stockholders vote FOR the ratification of the appointment of CCR LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2011.**

## PROPOSAL 3

### AUTHORIZATION TO ADJOURN THE ANNUAL MEETING

#### General

If, at the Annual Meeting, the number of shares of common stock, present in person or by proxy, is insufficient to constitute a quorum or the number or shares of common stock voting in favor is insufficient to approve any of the proposals, namely to elect the four director nominees to the Board of Directors, and to ratify the independent public accountants for the year ending December 31, 2011, management intends to move to adjourn the Annual Meeting to a later date or dates, if necessary, in order to enable the Board of Directors to solicit additional proxies. In that event, we will ask our stockholders to vote only upon the adjournment proposal and not the proposals relating to election of James E. Rouse, Jason R. Chamber, Michael S. Gunter and Patrick L. Muldoon to the Board of Directors, and the ratification of the appointment of the independent public accountants for the fiscal year ending December 31, 2011.

In this proposal, we are asking you to grant discretionary authority to the holder of any proxy solicited by the Board of Directors so that such holder can vote in favor of the proposal to adjourn the Annual Meeting to a later date or dates, if necessary, to solicit additional proxies. If our stockholders approve the adjournment proposal, we could adjourn the Annual Meeting, and any adjourned session of the Annual Meeting, and use the additional time to solicit additional proxies, including the solicitation of proxies from stockholders who have previously voted. Among other things, approval of the adjournment proposal could mean that, even if we had received proxies representing a sufficient number of votes against any of the proposals to defeat the proposal, we could adjourn the Annual Meeting without a vote on the election of directors and ratification of accountants and seek to convince the holders of those shares to change their votes in favor of the proposals.

Generally, if the Annual Meeting is adjourned, no notice of the adjourned meeting is required to be given to stockholders, other than announcement at the Annual Meeting of the place, date and time to which the meeting is adjourned. However, the Company's By-laws provide that if the adjournment or adjournments are for more than 30 days, or if after adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting will be given to each stockholder of record entitled to vote at the adjourned meeting.

#### Recommendation and Vote

To be approved, the adjournment proposal requires the affirmative vote of the holders of a majority of the shares of common stock present in person or represented by proxy at the Annual Meeting, whether or not a quorum is present. Abstentions and broker non-votes will not affect the vote on the adjournment proposal.

**The Board of Directors recommends that stockholders vote FOR the proposal to authorize the Board of Directors to adjourn the Annual Meeting of stockholders to allow time for the further solicitation of proxies to approve the election of each of James E. Rouse, Jason R. Chambers, Michael S. Gunter and Patrick L. Muldoon to the Board of Directors and the ratification of the appointment of the independent registered accounting firm for the fiscal year ending December 31, 2011.**

## ADDITIONAL INFORMATION

### **Stockholder Proposals and Submissions**

Stockholders are entitled to submit proposals on matters appropriate for stockholder action and have that proposal included in the Company's proxy statement consistent with the Company's By-Laws and the regulations of the SEC. Should a stockholder intend to present a proposal at the 2012 Annual Meeting and have that proposal included in the Company's proxy statement, it must be received by the Secretary of the Company c/o Arrhythmia Research Technology, Inc., 25 Sawyer Passway, Fitchburg, MA 01420, not later than 90 nor earlier than 120 days prior to the anniversary of the previous year's annual meeting; provided, however, that in the event that no annual meeting was held in the previous year or the annual meeting is scheduled to be held on a date more than 30 days prior to or delayed by more than 60 days after such anniversary date, notice by the stockholder in order to be timely must be received not later than the day on which such notice of the date of the annual meeting was mailed or such public disclosure of the date of the annual meeting was made including through public filings. For nominations by a stockholder relating to a special meeting of stockholders called for the purpose of electing directors, the stockholder must have given written notice, either by personal delivery or by mail not later than the close of business on the 10<sup>th</sup> day following the day on which public announcement of the date of the meeting is first made by the Company.

The notice must set forth as to each matter the stockholder proposes to bring before the annual meeting:

- a brief description of the business desired to be brought before the annual meeting, the text of the proposal or business and the reasons for conducting such business at the annual meeting; and
- any material interest of the stockholder in such business; and as to the stockholder giving the notice:
- the name and record address of the stockholder;
- A description of all arrangements or understandings between the stockholder and any other person or persons (naming the person) in connection with the proposal of such business by the stockholder and any material interest of the stockholder in such business;
- the class, series and number of shares of capital stock of the Company which are owned beneficially and of record by the stockholder and by the beneficial owner, if any, on whose behalf the proposal is made;
- a representation that the stockholder is a holder of record of stock of the Company entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business.

Any proposal of a stockholder intended to be presented at the Company's next annual meeting of stockholders and included in the proxy statement and form of proxy for that meeting must be received by the Company no later than February 1, 2012 nor earlier than January 2, 2012.

A copy of the relevant By-Law provisions containing the requirements for making stockholder proposals may be obtained by contacting the Company's Secretary at the executive offices of the Company.

### **No Incorporation by Reference**

In the Company's filings with the SEC, information is sometimes "incorporated by reference." This means that we are referring you to information that has previously been filed with the SEC and the information should be considered as part of the filing. Based on SEC regulations, the "Audit Committee Report" and the "Compensation Committee Procedures," specifically are not incorporated by reference into any other filings with the SEC. In addition, this proxy statement includes website addresses. These website addresses are intended to provide inactive, textual references only. The information on these websites is not part of this proxy statement.

### **Householding of Proxy Statements**

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

A number of brokers with account holders who are our stockholders may "household" our proxy materials. In that event, a single proxy statement will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding communications to

your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement and annual report, please notify your broker and our Secretary in writing at 25 Sawyer Passway, Fitchburg, MA 01420 or by telephone at (978) 345-5000. Stockholders who currently receive multiple copies of the proxy statement at their address and would like to request householding of their communications should contact their broker.

**Other Proposed Action**

The Board of Directors does not intend to bring any other matters before the Annual Meeting, nor does the Board of Directors know of any matters which other persons intend to bring before the Annual Meeting. If, however, other matters not mentioned in this proxy statement properly come before the Annual Meeting, the persons named in the accompanying form of proxy will vote thereon in accordance with the recommendation of the Board of Directors.

By Order of the Board of Directors,  
ARRHYTHMIA RESEARCH TECHNOLOGY, INC.  
/s/ E.P. Marinos  
E. P. Marinos, Secretary

Fitchburg, Massachusetts  
March 25, 2011