CASMED
2008 Annual Report

Better care
Better outcomes

Welcome to a new era in patient monitoring.

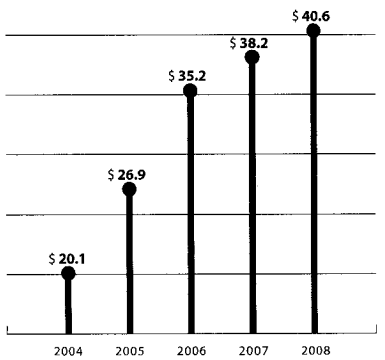
Financial Highlights

Amounts in thousands except per share data

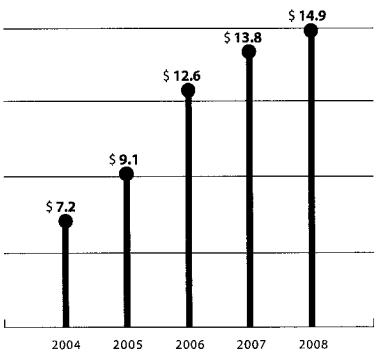
For Year Ended	2008	2007	2006	2005[2]	2004
Revenues	$ 40,649	$ 38,232	$ 35,202	$ 26,884	$ 20,059
Net (Loss) Income	(388)	306	1,747	1,815	1,205
Net (Loss) Income per Diluted Common Share[1]	($ 0.04)	$ 0.03	$ 0.14	$ 0.15	$ 0.11
Diluted Shares Outstanding	11,032	12,212	12,147	11,729	11,128
At Year End					
Working Capital	$ 10,819	$ 10,388	$ 9,096	$ 7,482	$ 5,369
Bank Debt Obligations	4,317	5,149	4,416	4,990	1,093
Total Assets	23,685	23,888	21,443	17,918	10,993
Shareholders' Equity	$ 14,900	$ 13,751	$ 12,625	$ 9,117	$ 7,156

(1) The Company adopted FAS-123R - Share-Based Payment, as of January 1, 2006. Operating (loss) income reduced $410, $303 and $390 for 2008, 2007 and 2006, respectively, from stock compensation expense. Net (loss) income reduced by $0.03, $0.02 and $0.03 per diluted share for 2008, 2007 and 2006, respectively.
(2) 2005 pre-tax income includes $401 credit from curtailment gain of post-retirement benefit plan. 2005 reflects the acquisition of Statcorp, Inc. on May 15, 2005.

Revenues
($mils)



Shareholders' Equity
($mils)



Monitoring what's vital

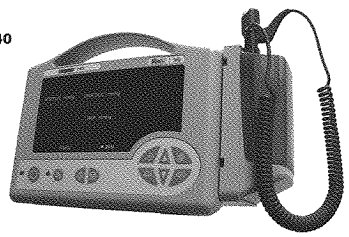
CAS Medical Systems, Inc. (CASMED) is dedicated to the development and manufacture of innovative, non-invasive monitoring solutions vital to patient care.

Advanced bedside monitoring

CASMED's core businesses in technology and accessories for bedside monitoring continue to provide the foundation for the business.

Vital signs monitors

CASMED outpaces the worldwide growth rate of the configured vital signs monitoring marketplace. Using best-in-class technologies, the Model 740, 750 and LIFEGARD® monitors are ideal for bedside monitoring of non-invasive blood pressure, pulse oximetry, ECG, temperature, end-tidal capnography, and non-invasive cardiac output. These monitors are available as CASMED-branded or private-label products with multiple combinations of capabilities. Solutions for the requirement to communicate with central stations and electronic medical records are being added to make CASMED monitors the most complete and affordable product line available.



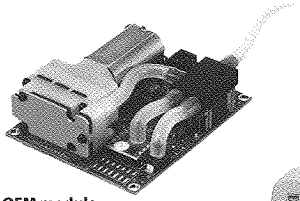
Model 740

VUE

Model 750

OEM NIBP technology

Sold for use in other manufacturers' multi-parameter patient monitors for a wide range of clinical applications, CASMED's MAXNIBP® is the most advanced non-invasive blood pressure measurement technology available in the world. More accurate, reliable and faster than other systems, MAXNIBP performs even in high-motion environments. The added ability to synchronize the measurement with a host monitor's ECG signal can improve the MAXNIBP technology's ability to filter and reject motion artifact. This is a growing area of CASMED's business, with strong, long-term partnerships with some of the world's leaders in vital signs monitoring.



OEM module

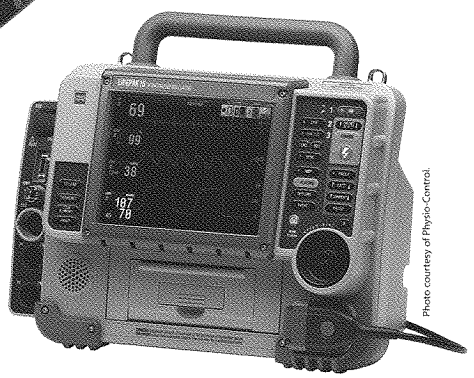


Photo courtesy of Physio-Control.

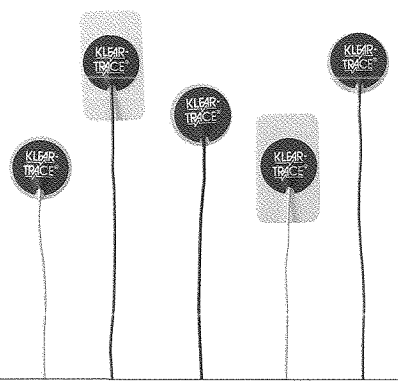
Physio-Control LP15

Blood pressure cuffs

CASMED offers a full line of disposable and reusable blood pressure cuffs in a variety of materials for every monitoring situation. A variety of fittings enable use of UltraCheck® and SoftCheck® cuffs with any monitor already in use, for simple hospital standardization. The diversity of the product line makes it ideal for private-label customers.

NICU supplies

These specialty products are designed for premature infants and their unique sensitive skin requirements. Includes electrodes, skin temperature probes, and adhesive reflectors.



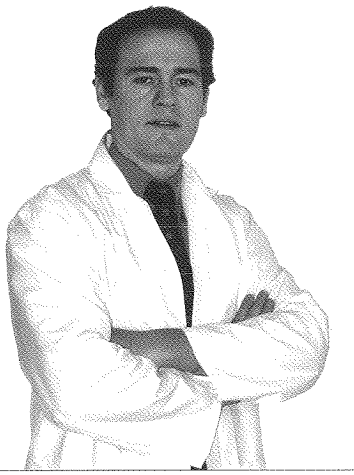
Absolute clinical evidence

Why is an **absolute** measurement important? FORE-SIGHT absolute measurements correlate closely to invasive co-oximetry readings used to assess patient condition. FORE-SIGHT technology provides the accuracy of these measurements plus the added benefit of being both non-invasive and continuous.

In critical care areas such as operating rooms and intensive care units where cerebral oximetry is most often used, having precise, absolute measurements becomes even more important. An absolute measurement enables immediate feedback on patient condition. FORE-SIGHT's sensors can be placed on the patient at any time during care – even when the patient is transported to different departments pre-, during, and post-surgery – and the values can be directly compared.

Another important benefit of absolute measurement is the ability to correlate patient outcomes to defined cerebral saturation thresholds, and adjust interventions and therapies based on these thresholds. In the NICU environment – where small, fragile patients cannot tolerate invasive blood sampling due to very low blood volume – reliable, non-invasive, precise measurements are critical.

In the adult cardiac population, recent studies presented at the Society of Cardiovascular Anesthesiologists annual meeting confirm the link between FORE-SIGHT cerebral tissue oxygen saturation measurements and short- and long-term patient outcomes. One study, conducted at the Mt. Sinai School of Medicine in NY, associated FORE-SIGHT $SctO_2$ saturation measurements below specific thresholds with short-term outcomes including time to remove the patient from ventilation and length of stay in the ICU following aortic surgery. Another study, conducted at Duke University Medical Center in NC, positively associated FORE-SIGHT $SctO_2$ values below particular thresholds with long-term post-operative cognitive decline. Aside from the benefits to the patient, the ability to affect these outcomes can significantly reduce hospital costs.



"Cognitive dysfunction might result from cerebral desaturations; detecting them is the first step to avoiding them."

Thomas M Hemmerling, MD, DEAA, Department of Anesthesiology – McGill University, Institut de Genie Biomedical – Université de Montréal, Montreal, Canada

Preserving cognitive integrity

The brain is one of the organs most vulnerable to oxygen deprivation. Research shows that cerebral hypoxia (lack of oxygen to the brain) is a cause of neurological injuries and occurs in many surgical and clinical situations. Studies demonstrate that a decline in cerebral tissue oxygen saturation is associated with cognitive problems, short- and long-term brain damage, irreversible disabilities or death. Being able to monitor $SctO_2$ levels in the brain can be of vital importance, allowing clinicians to intervene and potentially avoid injury.

"More closely corresponds to quantitative data…more consistent with venous blood sampling data."

David P.V. Bichell, MD, Professor-Cardiac Surgery, Chief-Pediatric Cardiac Surgery, Vanderbilt University, Monroe Carell Jr. Children's Hospital, Nashville, TN

3 Times Greater Precision Compared to Jugular Bulb

MacLeod D, Ikeda K, Vacchiano C. Simultaneous Comparison of FORE-SIGHT and INVOS Cerebral Oximeters to Jugular Bulb and Arterial Co-Oximetry Measurements in Healthy Volunteers. Society of Cardiovascular Anesthesiologists meeting; April 2009.

Learn more at www.cerebraloximetry.com

Small (Neonatal) sensors are designed for the special needs of neonatal/infant patients. FORE-SIGHT technology allows sensors to remain on the patient when transferred between patient care areas such as the neonatal ICU and the neonatal cardiovascular OR, with no need for baseline or measurement calibration. Fiber-optic laser light technology (COOL-LIGHT™) does not generate harmful heat at the patient contact site like LEDs can. And the Small sensors now have a non-adhesive option using a unique headband system and hydrogel adhesive – the same used on our premium Klear-Trace® electrodes – for cerebral oximetry monitoring without compromising skin integrity.

In the increasingly complicated surgical and intensive care environments, clinicians now require physiologic data from various monitoring products be displayed on a single screen. Able to interface with the world-leading Philips Healthcare patient monitoring systems using a VueLink module, FORE-SIGHT $SctO_2$ values and alarm messages can be displayed on Philips IntelliVue monitors installed worldwide. This integrates FORE-SIGHT data with information from additional physiological parameters, ventilators, anesthesia machines and infusion devices – providing a comprehensive picture of patient status.

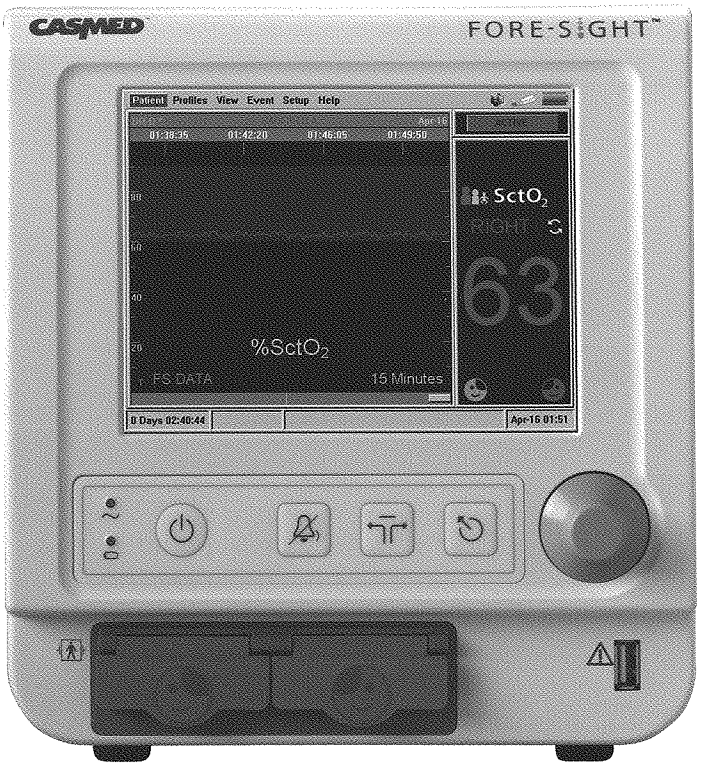
Detecting life-threatening events on every critical patient

A higher level of care

The FORE-SIGHT® Absolute Cerebral Oximeter is the world's first monitor that delivers absolute measurement of cerebral tissue oxygen status. Using two sensors placed on the sides of the patient's forehead, FORE-SIGHT's LASER-SIGHT® optical technology projects harmless near-infrared light through the scalp and skull to reach the gray matter of the brain. Using data from these sensors, a CASMED-patented algorithm calculates real-time, continuous, absolute measurement of cerebral tissue oxygen saturation ($SctO_2$). Having this information available as a standard of care can decrease ICU length of stay and improve hospital risk management.

There is large market potential for FORE-SIGHT in adult, pediatric and neonatal applications. CASMED is using a targeted approach to enter major hospital centers in these markets, and is expanding clinical usage of the product through research on several new applications in a number of sites around the world.

The volume of clinical evidence supporting the use of the FORE-SIGHT system is growing. Recent and soon-to-be-published studies validate the importance of cerebral oximetry measurements during cardiac surgery, neonatal extracorporeal membrane oxygenation (ECMO), cardiopulmonary bypass, single-lung ventilation, carotid endarterectomy, craniotomy, shoulder arthroscopy and pediatric cardiac catheterization, among others.

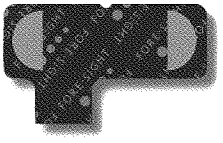


" Cerebral oximetry brings a new level of vigilance to my practice. Using the FORE-SIGHT allows me to individualize patient management changes with the confidence that I'm doing all that I can to optimize perioperative outcome."

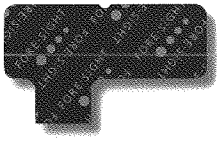
Hilary P. Grocott, MD, FRCPC, FASE, Professor of Anesthesia and Surgery, University of Manitoba Adjunct Professor of Anesthesiology, Duke University I.H. Asper Clinical Research Institute, Winnipeg, Manitoba, Canada

Support for the entire patient spectrum

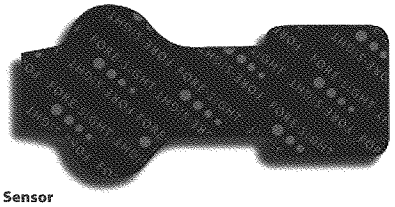
The FORE-SIGHT system has FDA clearance for the non-invasive, continuous measurement of absolute cerebral tissue oxygen saturation for neonates, infants, children and adults.



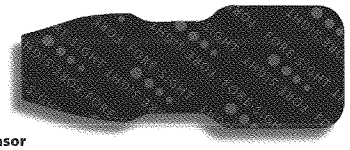
Non-Adhesive Small Sensor
2.20" x 0.75"



Small Sensor
2.20" x 0.75"



Large Sensor
3.625" x 1.5"

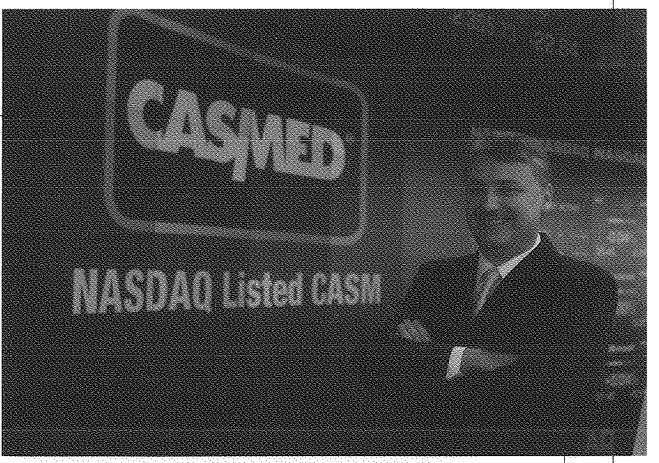


Medium Sensor
3.15" x 1.20"

The Large (Adult) sensor can be used for a variety of procedures including cardiac, vascular, thoracic and orthopedic procedures.

The Medium (Pediatric) sensors can be used on children and small adults. Target areas for the medium sensor include pediatric intensive care, pediatric cardiovascular OR and cardiovascular intensive care.

President's Message



Dear Shareholder:

I'm pleased to announce that 2008 is our twelfth consecutive year of record revenues. Our increased revenues resulted from the continued steady performance of our core business, a four-fold increase in sales of FORE-SIGHT® and a double digit climb in OEM technology sales. In addition, expanded FDA clearance is launching us into new markets with strong growth potential.

Our core bedside monitoring businesses continue to perform well and provide solid profitability and positive cash flow. However, we are not immune to the difficult realities facing the national and world economies. As an example, our vital signs monitoring products have experienced some delays in hospital purchasing due to the downturn in the global economy, and this new reality makes it even more important than ever to strengthen the value of our product offerings and to better capitalize on available opportunities.

Sales of consumable products – blood pressure cuffs and neonatal supplies – continued to do well, even during this challenging business climate. Our non-invasive blood pressure technology, which is used in other manufacturers' multi-parameter monitoring systems, showed a 33% increase in sales over the last year, making this business segment a significant contributor to our profits and an area of promise for our future.

2008 was an important year for our innovative FORE-SIGHT Absolute Cerebral Oximeter. This device delivers true absolute measurement of cerebral tissue oxygen saturation levels, a vital indicator that when monitored can help avert brain damage, other serious complications or death during surgery. In its first full year of sales, FORE-SIGHT's installed base of monitors increased four-fold, expanded into Europe, and was successfully launched into the neonatal/infant marketplace, generating annualized sales of disposable sensors in excess of $2M. To accelerate revenue growth in this marketplace, we invested in the expansion of our sales and marketing team, asking them to work with key thought leaders and institutions, and to educate the marketplace on the importance of cerebral oximetry and the superiority of FORE-SIGHT's absolute measurement technology.

One of our goals is to make FORE-SIGHT cerebral oximetry a standard of care. We firmly believe we can achieve this by showcasing objective, clinical proof of FORE-SIGHT's technological superiority and improved patient outcomes. Recent studies published in such journals as the *Journal of Perinatology*, the *British Journal of Anesthesia*, and *Seminars in Cardiothoracic* and *Vascular Anesthesia* contribute to the volume of clinical evidence supporting FORE-SIGHT's substantial predictive value, and its importance to quality care. For example, in April 2009, studies presented at the Society of Cardiovascular Anesthesiologists provided evidence for the relationship between decreased cerebral tissue oxygen saturation and longer term post-operative cognitive decline, major post-operative complications, prolonged extubation times, and increased ICU length-of-stay.

During the coming year, we will focus on FORE-SIGHT's growth in the neonatal and pediatric surgery and intensive care marketplaces. Our recent introduction of a pediatric sensor – along with our non-adhesive neonatal sensor – will expand our product breadth and usage. With almost 20,000 neonatal and pediatric beds in the U.S. alone, coupled with the need for cerebral oximetry monitoring before, during, and after surgery, we see enormous growth potential in this market. We believe establishing a beachhead in key children's institutions is important to success in this market, and we have already sold FORE-SIGHT to two of the nation's leading children's hospitals.

In respect to operations, it is important to note that we have made measurable progress on a number of important initiatives in 2008 that strengthen our financial position. For example, we finished the year with positive cash flow from operations, lowered inventory levels, reduced debt and secured an extension of our line of credit through 2010.

For 2009 our priorities are to maximize our potential in the cerebral oximetry marketplace, derive the utmost value from our well-established core businesses, and continue to manage operations efficiently and creatively. Invariably, the current economy will present challenges, but we remain confident in our basic strengths, our new products, the dedication of our loyal employees, and the fact that we are firmly positioned and ready to execute on the opportunities ahead. Our enduring commitment to build and maintain strong customer relationships will continue to differentiate us and propel us forward in today's increasingly competitive markets.

I would like to thank all of our employees, shareholders, partners and customers for their continued support of CASMED. We look forward to keeping you updated with news of our progress throughout the year.

Andrew E. Kersey
President & Chief Executive Officer

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934
For the Fiscal Year ended December 31, 2008

Commission File Number 0-13839

CAS MEDICAL SYSTEMS, INC.
(Exact name of registrant as specified in its charter)

Delaware	06-1123096
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

44 East Industrial Road, Branford, Connecticut 06405
(Address of principal executive offices, including zip code)

(203) 488-6056
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $.004 par value	The NASDAQ Global Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ___ No X

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ___ No X

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.
Yes X No ___

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ___	Accelerated filer ___
Non-accelerated filer ___	Smaller reporting company X
(Do not check if a smaller reporting company)	

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ___ No X

As of June 30, 2008, which is the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was $26,674,000 based on the closing price as reported on the NASDAQ Global Market. This calculation does not reflect a determination that persons are affiliates for any other purpose.

As of March 31, 2009, there were 11,356,662 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement for its Annual Meeting of Stockholders to be held on June 10, 2009 are incorporated by reference in Part III of this Report. Except as expressly incorporated by reference, the Registrant's Proxy Statement shall not be deemed to be part of this Form 10-K.

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PART I

This report may contain information that includes or is based on forward-looking statements within the meaning of the federal securities laws that are subject to risks and uncertainties. These statements may be identified by the use of words such as "anticipates," "expects," "estimates," "projects," "intends" and "believes" and variations thereof and other terms of similar meaning. Factors that could cause the Company's actual results and financial condition to differ from the Company's expectations include, but are not limited to: potential liquidity constraints; price and product competition; rapid technological changes; dependence on new product development; failure to introduce new products effectively or on a timely basis; the mix of products sold; supply and prices of raw materials and products; customer demand for the Company's products; regulatory actions; changes in reimbursement levels from third-party payors; product liability or other litigation claims; changes in economic conditions that adversely affect the level of demand for the Company's products; changes in foreign exchange markets; changes in financial markets; changes in the competitive environment; and other risks described in Item 1A of this filing. While the Company believes that the assumptions underlying such forward-looking statements are reasonable, there can be no assurance that future events or developments will not cause such statements to be inaccurate. All forward-looking statements contained in this report are qualified in their entirety by this cautionary statement.

Unless the context indicates otherwise, as used in this report, the terms "CAS," "CASMED," the "Company," "we," "us" and "our" refer to CAS Medical Systems, Inc.

Item 1. Business

Overview

We develop, manufacture and market medical devices for non-invasive patient monitoring. Our products include cerebral oximeters and sensors, bedside monitoring products, blood pressure measurement technology, blood pressure cuffs and neonatal supplies. These products are designed to improve the quality of patient care by providing accurate non-invasive measurements that improve patient outcomes.

Our products have well established brand recognition in the markets we serve. Our most recent addition is the FORE-SIGHT cerebral oximeter. This device is designed to measure absolute levels of brain oxygenation in the most critically ill patients, including pediatric and neonatal intensive care patients and adults undergoing cardiac bypass surgery. Use of the FORE-SIGHT system enables the clinician to significantly reduce potentially serious negative outcomes in these settings by providing real-time non-invasive measurement of the level of oxygen in the brain, allowing the clinician to intervene before brain damage occurs. The brain is the organ least tolerant of oxygen deprivation. Without sufficient oxygen, brain damage may occur within minutes, which can result in stroke, paralysis, other disabilities or death. Reliable measurement of absolute levels of brain oxygen is therefore important to clinicians, especially in critical care situations where there is a high risk of the brain getting less oxygen than it needs.

Description of Products and Services

The Company has several categories of products and services. The combined categories represent one reportable business unit. Categories of products and services are as follows:

- Critical care monitoring – includes sales of the FORE-SIGHT cerebral oximeter monitors, sensors and accessories.

- Bedside monitoring– includes sales of the Company's vital signs monitors and accessories incorporating various combinations of measurement parameters for both human and veterinary use. Parameters found in these monitors include pulse oximetry, electro-cardiography, temperature, non-invasive blood pressure, and capnography. Also included in the bedside monitoring category are products developed and manufactured by Analogic Corporation, or otherwise supplied through Analogic, including vital signs monitors utilizing parameters as described above and additional monitors which measure non-invasive cardiac output and hemodynamic status, and maternal/fetal monitors. These vital signs monitors allow for connectivity to a central station. Additionally, the Company's cardio-respiratory monitors and accessories used to monitor apnea in home-based and hospital settings are also included in this category.

- Blood pressure measurement technology – includes sales to Original Equipment Manufacturers ("OEM") of the Company's proprietary non-invasive blood pressure technology (MAXNIBP), blood pressure cuffs and accessories for the OEM market, and related license fees.

- Supplies and service – includes sales of blood pressure cuffs and rapid infusor cuffs, neonatal intensive care supplies including electrodes and skin temperature probes, and service repair revenues.

Critical Care Monitoring

The FORE-SIGHT Cerebral Oximeter non-invasively and continuously measures absolute brain tissue oxygen levels, enabling clinicians to identify and quickly react to instances of lowered brain oxygen levels before the situation becomes critical. With one or two single-use disposable sensors placed on the patient's forehead, FORE-SIGHT utilizes the Company's LASER-SIGHT Optical Technology to project near infrared light into the brain to provide an absolute measurement indicating cerebral tissue oxygen saturation.

Unlike readings obtained from a trend-only monitor, absolute cerebral tissue oxygen saturation readings have stand-alone clinical significance because individual measurements have a direct correlation to the standard invasive measurements with which clinicians are familiar. Several studies have been published showing that the use of cerebral oximetry during cardiac surgery can significantly reduce adverse clinical outcomes due to neurological complications, including permanent stroke. Other published studies have shown decreased length of stay and decreased post operative ventilator time when cerebral oximetry is used. Use of cerebral oximetry can lead to improved patient outcomes and significant cost savings to hospitals.

In February 2008, the Company received 510(k) clearance expanding the indications for use of its FORE-SIGHT infant sensor to include the neonatal patient population above 2,500 grams of weight. Measuring cerebral oxygen saturation is significant for a variety of neonatal patients, including those born with congenital heart defects that affect the ability of the heart to supply oxygenated blood to the brain. Approximately 550 hospitals in the U.S. contain Neonatal Intensive Care Units ("NICU") with 13,000 high acuity Level 3 beds. Approximately four million births occur in the U.S. each year of which approximately 4% are babies with a birth defect and about 12% are preterm births (defined as less than 37 weeks from gestation).

The Company began marketing the neonatal/infant FORE-SIGHT oximeter sensor in the second half of 2008, primarily targeting the hospital market for use in the Neonatal/Infant cardiovascular operating room, the Cardiac Intensive Care Unit and the NICU. The FORE-SIGHT product accurately detects low cerebral oxygen saturation events during critical periods, thereby allowing clinicians to intervene and reverse potentially life threatening events before they become critical. In neonates in particular, the issue is compounded by the lack of physiological reserve mechanisms that the body can use to regulate blood flow and protect the brain from low oxygen levels. CASMED is the only company in the marketplace to have received FDA regulatory clearance with labeling for use of absolute cerebral oximetry in neonatal and infant populations.

Additionally, in March 2009 we received 510(k) clearance from the Food and Drug Administration ("FDA") for a medium size FORE-SIGHT sensor to complement the large and small sensor offerings. We expect to begin marketing this sensor, targeted at the pediatric patient population, during mid-2009, thus completing our cerebral oximeter sensor offerings. In addition, during 2009 we expect to pursue additional FDA 510(k) clearance for other expanded uses including additional non-cerebral sensors and features.

We are sponsoring and evaluating sponsorship of clinical trials which may allow us to more actively target the sale of the FORE-SIGHT System for use in high risk neonatal and pediatric patient populations.

In January 2009, a review paper published in the Journal of Perinatology and authored by JC Fenik and K. Rais-Bahrami titled *"Neonatal cerebral oximetry monitoring during ECMO cannulation"*, detailed the benefits of absolute cerebral oximetry in neonatal patients undergoing extracorporeal membrane oxygenation (ECMO) therapy, including its ability to reliably measure brain oxygen levels during CPR when conventional technologies such as pulse oximetry have failed.

Additional studies targeted at the pediatric and neonatal populations are underway including the use of monitoring absolute cerebral oximetry on pediatric patients undergoing cardiac catheterization, neonatal pain management, peri-operative monitoring of congenital heart patients, as well as auto-regulation response.

The Company believes that there is also an opportunity for establishment of FORE-SIGHT Absolute Cerebral Oximetry as a standard of care in all cardiac surgical procedures, where nearly 700,000 procedures are performed annually in the U.S. Several clinical studies have already been published demonstrating the importance and effectiveness of monitoring changes in cerebral oximetry during cardiac surgery. Examples of these published studies include –

- In September 2004 a retrospective, blinded intervention 2,279-patient published as Scott Goldman, M.D., et al., "*Optimizing Intraoperative Cerebral Oxygen Delivery Using Noninvasive Cerebral Oximetry Decreases the Incidence of Stroke for Cardiac Surgical Patients*", in the Heart Surgery Forum #2004-1062 showed a significant reduction in permanent stroke when information from cerebral oximetry was used to help manage regional brain blood oxygen saturation in cardiac surgery patients.

- In January 2007, a 200-patient study, published as John M. Murkin, M.D., et al., *"Monitoring Brain Oxygen Saturation During Coronary Bypass Surgery: A Randomized, Prospective Study"*, in Anesthesia and Analgesia showed a statistically significant reduction in incidences of major organ dysfunction when cerebral oximetry was used to provide information to help manage regional brain blood oxygen saturation in coronary artery bypass surgery patients.

- In March 2008, a review paper published as Gregory W. Fischer, M.D., Co-Director of Cardiac Anesthesia at Mount Sinai Medical Center in New York *"Recent Advances in the Application of Cerebral Oximetry in Adult Cardiovascular Surgery"*, in Seminars in Cardiothoracic and Vascular Anesthesia detailed the benefits of absolute cerebral oximetry in patients undergoing Deep Hypothermic Cardiac Arrest ("DHCA") aortic arch surgery.

- In June 2008, a paper published as Thomas Hemmerling M.D., et al., *"Cerebral desaturation during single lung ventilation correlates with postoperative morbidity"*, in Canadian Journal of Anesthesia Supplement detailed the benefits of monitoring absolute cerebral oximetry in patients undergoing single lung ventilation (SLV) and showed a positive correlation between the decrease of SctO2 during SLV and postoperative non-pulmonary organ failure.

Additional cardiac and thoracic surgery studies are underway in the U.S and Europe with results from these studies expected to be published during 2009.

The Company is actively supporting several on-going clinical studies throughout North America and Europe, specifically designed to expand the available market by highlighting the benefits of absolute cerebral oximetry. These studies include –

- An NIH-funded major multi-center study researching cognitive decline and delirium in elderly patients undergoing major general surgery. The study, which began in 2008, involves seven key medical institutions throughout the U.S. Approximately five million elderly patients have surgery in the U.S. each year. These surgeries are generally considered high risk due to a variety of factors. The Company believes that monitoring cerebral oximetry using FORE-SIGHT can also significantly benefit this population of patients.

- Two studies to show the benefit of absolute cerebral oximetry monitoring during shoulder surgery in the sitting or "beach chair" position. In the summer of 2007, a newsletter of the Anesthesia Patient Safety Foundation ("APSF") described two patients with no significant risk factors or evidence of cerebral vascular disease who both developed permanent neurological deficits likely from global cerebral hypo-perfusion while undergoing shoulder surgery in the beach chair position. The beach chair position can cause significant hemodynamic changes, the response to which are further blocked by the combination of inhalation/intravenous drugs. The current standard of care for these patients is to measure blood pressure using a cuff laced on the opposite arm or either leg that automatically identifies oscillometric blood pressure readings. The Company believes that monitoring cerebral oximetry using FORE-SIGHT can significantly benefit patients during these procedures.

The Company continues to evaluate sponsoring other clinical studies that expand the use of FORE-SIGHT Absolute Cerebral Oximetry into other patient populations and applications.

During our fiscal year ended December 31, 2008, net sales from disposable sensors comprised approximately 4% of our overall net sales. As of December 31, 2008, 151 FORE-SIGHT monitors were installed in approximately 70 hospitals worldwide.

Bedside Monitoring

The Company offers a full line of non-invasive vital signs monitoring products for a variety of general care settings in hospitals such as outpatient medical surgical units, recovery, procedure labs, physician offices and emergency response settings. The monitors are small, lightweight, portable and easy to use with central station capabilities.

The Company manufactures two platforms of vital signs monitors incorporating various combinations of industry-leading measurement parameters. The product lines include options for measurement of non-invasive blood pressure using the Company's proprietary MAXNIBP technology, pulse oximetry, electro-cardiography, temperature, and capnography. CASMED monitors are ideal for a range of clinical settings (both human and veterinary) including emergency medical service, medical/surgical units, out-patient care, and procedural sedation. During 2003, the Company was awarded a multi-year, sole-source purchasing agreement by the U.S. Department of Veterans Affairs ("VA") for its vital signs monitors. This agreement expired during 2008. The VA has since issued a blanket purchase agreement in effect through June 2009 naming CASMED as an approved vendor. The Company is currently seeking an extension of the blanket purchase agreement. Management does not believe that its business with the VA will be materially affected should it not be successful in receiving such extension.

Also included in the bedside monitoring category are products developed and manufactured by Analogic Corporation, or otherwise supplied through Analogic, including vital signs monitors utilizing parameters as described above and additional monitors which measure non-invasive cardiac output and hemodynamic status, and maternal/fetal monitors. These vital signs monitors allow for connectivity to a central station.

The Company also manufactures a line of cardio-respiratory monitors used to monitor apnea in home-based and hospital settings. This niche market is primarily a replacement market. Revenues in this market have been steadily declining over the past several years. Revenues generated from this line were less than 5% of overall revenues in 2008. The Company plans to exit this market during 2009.

Blood Pressure Measurement Technology

The Company has developed a proprietary non-invasive blood pressure measurement technology, MAXNIBP. The Company believes this technology is more accurate, reliable, and able to produce a measurement result faster than its competitors. These advantages strengthen the Company's competitive position, especially in clinical situations where measurements can be difficult. The Company has entered into OEM agreements to supply its MAXNIBP technology to various companies throughout the world. This technology is used in larger monitoring systems where non-invasive blood pressure is but one measurement parameter. The Company's OEM agreements are typically multi-year arrangements.

Supplies and Service

The Company offers a complete line of disposable and reusable blood pressure cuffs that can be used with any manufacturer's monitoring equipment. The product line includes cuffs and pressure infusors manufactured by Statcorp, Inc. which was purchased by CASMED in 2005. The blood pressure cuffs, including UltraCheck and Tuff-Cuff Reusable Cuffs, and SoftCheck and Safe-Cuff Disposable Cuffs, can be used on patients from neonate through adult, as well as on veterinary patients, and complement the Company's MAXNIBP blood pressure measurement technology. The Company's Unifusor line of infusor cuffs are used to rapidly infuse intra-venous fluids into a patient. The Company has various private-label versions of both the blood pressure and infusor cuffs available for OEM partners.

The Company offers a line of specialty neonatal supplies - high quality products designed specifically to meet the unique needs of neonatal intensive care. The varied product line includes Klear-Trace ECG Electrodes, NeoGuard skin temperature probes and adhesive reflectors, and SoftCheck neonatal blood pressure cuffs.

Sales and Marketing

The Company markets its products globally, through hospital, alternate site, homecare, veterinary and emergency medical distribution channels. A number of different sales channels are utilized to maximize opportunities with the various product lines we offer.

In 2008, the Company hired a new Vice-President of Sales and Marketing and achieved several important milestones including establishing a full sales, marketing and clinical team to support future efforts in the markets for its FORE-SIGHT cerebral oximetry products.

The Company's critical care FORE-SIGHT cerebral oximeters are sold via a direct sales force and key manufacturers representatives groups within the U.S. and via distribution partners outside the U.S. In the fourth quarter of 2008 we began the hiring of a direct sales force which was supplemented by an existing base of manufacturer representative groups. As of December 31, 2008, the Company employed a team of 12 sales and clinical support specialist staff dedicated to the FORE-SIGHT product line in the U.S. market. We expect to increase the size of our U.S. direct sales team as the market opportunity expands. Outside the United States, the Company has one sales manager located in Europe focused on FORE-SIGHT sales, selling to select markets via distribution partners.

The Company's bedside monitoring products and consumable cuff products are sold via a direct sales force within the U.S., supplemented by a small group of key distribution partners, and via distribution partners outside the U.S. Within the U.S., we have six full-time field sales personnel focused primarily on sales to the Veterans Affairs hospitals for our full line of vital signs monitors. International sales are conducted through exclusive distributors in the European, African, Middle Eastern, Pacific Rim and Latin American regions and Canada, working together with regional sales consultants and one employee located outside of the United States.

The Company sells its non-invasive blood pressure technology, in the form of sub-assemblies to be joined to multi-parameter monitors, on a direct basis to various firms operating in both the domestic and international markets. The Company is in the process of pursuing additional OEM agreements.

Sales of the Company's supplies and services are primarily sold via key distribution partners in both the U.S. and International markets.

Financial Information Relating to Sales

	Year Ended December 31		
	2008	2007	2006
Domestic Sales	$ 30,031,921	$ 29,601,305	$ 27,518,584
International Sales	10,617,136	8,631,100	7,683,427
	$ 40,649,057	$ 38,232,405	$ 35,202,011

Competition

The Company competes in the medical equipment market where there are many suppliers with greater financial and personnel resources that sell a broad line of both commodity products and monitoring equipment and have a dedicated selling capability. The Company's products primarily serve various areas of the hospital market.

For our critical care monitoring products, we believe there are currently only two other companies with FDA 510(k) clearance to sell a cerebral oximeter in the U.S. We believe that in the future the market for cerebral oximetry may become highly competitive. We are aware that several companies and individuals are engaged in the research and

development of non-invasive cerebral oximeters, and we believe that there are several other potential entrants into the market. Additionally there are other companies that have FDA clearance to market somatic or tissue oximeters in the United States. Competition might cause our sales cycle to lengthen to the extent that customers take longer to make purchasing decisions. Competition might also reduce our gross margins and market share and prevent us from achieving further market penetration. Competitors might be more successful than we are in obtaining FDA clearance with broader claims in their labeling or more successful than we are in manufacturing and marketing their products and may be able to take advantage of the significant time and effort we have invested to gain medical acceptance of cerebral oximetry.

For our line of bedside monitoring products and supplies, we are in a highly competitive global market with numerous U.S. and international based medical equipment companies.

We also compete with numerous medical equipment companies and medical device integration companies for the portions of hospital budgets allocated to capital equipment. Some of these potential competitors have well-established reputations, customer relationships and extensive marketing, distribution and service networks. Some of them have substantially longer histories in the medical products industry, larger product lines and greater financial, technical, manufacturing, research and development and management resources than we do. Many of these potential competitors have long-term product supply relationships with our potential customers. These potential competitors might be able to use their resources, reputations and ability to leverage existing customer relationships to give them a competitive advantage over us, including in securing dollars from hospital capital equipment budgets to purchase their products. They might also succeed in developing products that are at least as reliable and effective as our products, perform additional measurements, are less costly than our products or provide alternatives to our products. Competitors might be more successful than we are in manufacturing and marketing their products and may be able to take advantage of the significant time and effort we have invested in developing our markets.

The Company's products maintain a high, professional standard of accuracy and quality in demanding environments such as those encountered in hospital and transport situations. We believe that our reputation for producing innovative, accurate, reliable, products that are user-friendly, manufactured in the U.S., and contain best-in-class technology are key factors in our ability to successfully compete with larger organizations in the medical equipment market. With respect to all of its products, the Company competes on the basis of price, features, product quality and promptness of delivery and overall quality of customer service.

Research and Development

During 2008, 2007 and 2006, the Company incurred expenses of approximately $2,610,000, $2,733,000, and $2,782,000 respectively, on activities related to the research and development of new products, and improvement of existing products. These amounts are before consideration of reimbursements received from the National Institutes of Health ("NIH") further explained under Grant Awards below. Net research and development ("R&D") expenses after reimbursements from the NIH approximated $2,028,000 for 2008, $2,254,000 for 2007, and $2,762,000 for 2006. Reimbursements from the NIH were approximately $582,000 for 2008, $479,000 for 2007, and $20,000 for 2006. Funding provided to the Company is recorded as a reduction in R&D expenses.

The majority of the Company's 2008 development efforts were directed toward furthering the design and development of its patented LASER-SIGHT Near-Infrared Spectroscopy ("NIRS") technology used in the FORE-SIGHT Cerebral Oximeter. Other development efforts included enhancements to the Company's Vital Signs Monitors as well as design improvements to certain of the Company's OEM non-invasive blood pressure modules.

As of December 31, 2008, the Company employed a staff of 16 engineers and scientists focused on internal R&D activities outlined above. For 2009, we expect an increase in our research, development and engineering expenses primarily as a result of costs associated with development of additional FORE-SIGHT sensors, cost reduction programs, further enhancements to the cerebral oximeter and continued clinical research efforts to continue to expand the market opportunities for the Company's cerebral oximetry products, as well as continued advancement the Company's proprietary OEM non-invasive blood pressure technology.

Grant Awards

On September 17, 2007, the Company was awarded a three year grant totaling $2.8 million by the National Institute of Neurological Disorders ("NINDS") and Stroke of the NIH under its Small Business Innovative Research Program. The grant was awarded primarily to support advanced clinical outcome studies that focus on the Company's proprietary LASER-SIGHT technology incorporated into the FORE-SIGHT cerebral oximeter. Further clinical studies funded by this grant will be used to expand the clinical applications for FORE-SIGHT outside of the initial target market of high risk cardio-vascular surgery. As of December 31, 2008, a maximum of approximately $1.7 million remained under the 2007 grant award.

The Company has, in prior years, been awarded various grants by the NINDS under its Small Business Innovative Research Program. Grants under this program are being used to support the Company's LASER-SIGHT NIRS development. In accordance with the terms of these grants, the Company is reimbursed for certain qualifying expenditures. Such grant awards provide substantial support for the Company's clinical efforts currently being undertaken at multiple adult and neonatal sites.

Trademarks, Patents and Copyrights

Certificates of Registration have been issued to the Company by the United States Department of Commerce Patent and Trademark Office for the following marks: CAS®, CAS Express®, CASMED®, For Every Life and Breath Situation®, For What's Vital®, FORE-SIGHT®, Klear-Trace®, LASER-SIGHT®, Limboard®, MAXNIBP®, NeoGuard®, OscilloMate®, Pedisphyg®, Premie Nestie®, Safe-Cuff®, SoftCheck®, SWANK®, Tuff-Cuff®, UltraCheck®, Unifusor®, Woods Pump®, the heart shaped mark for use as a thermal reflector and the Company's corporate logo. The Company also holds trademarks for the Event-Link® monitoring system, the Edentec Assurance® monitor, Edentrend® software and the AMI® and AMI® Plus monitors.

The Company holds various patents for its blood pressure measurement technology which it believes provide it with a competitive market advantage. In addition, it has patents with respect to apnea monitoring technology. Although the Company holds such patents and has patents pending related to certain of its products, it does not believe that its business as a whole is significantly dependent upon patent protection with the exception of the FORE-SIGHT cerebral oximetry technology.

The FORE-SIGHT NIRS cerebral oximetry technology has four U.S. patents issued (U.S. 6,456,862 B2, 7,047,054, 7,072,701, and 7,313,427) and one international patent issued. In addition, the Company currently has several patents pending with U.S. and foreign patent offices. The Company believes the design concepts covered in its current patent applications and provisional patent applications are important to providing a cerebral oximeter capable of absolute brain tissue oxygen saturation measurements.

Other patents have previously been issued to third parties involving optical spectroscopy and the interaction of light with tissue, some of which relate to the use of optical spectroscopy and NIRS in the area of brain metabolism monitoring. The Company is not aware of any infringement by its products of the claims of any issued patents, and no charge of patent infringement has been asserted against the Company.

The Company also relies on trade secret, copyright and other laws and on confidentiality agreements to protect its technology. The Company has copyright protection for the software used in its blood pressure, apnea and cerebral oximeter monitors.

The Company will continue to seek patent, trademark and copyright protections as it deems advisable to protect the markets for its products and its R&D efforts. We believe that neither our patents nor our other legal rights will necessarily prevent third parties from developing or using a similar or a related technology to compete against our products.

Employees

As of December 31, 2008, the Company had 172 employees, of which 170 were full-time. The Company has no collective bargaining agreements and believes that relations with its employees are good.

Government Regulation

Medical products of the type currently being marketed and under development by the Company are subject to regulation under the Food, Drug and Cosmetic Act (the "FD&C Act") and numerous acts and amendments such as the Quality System Regulations ("QSR"), often referred to as Good Manufacturing Practices ("GMP's").

In addition, depending upon product type, the Company must also comply with those regulations governing the Conduct of Human Investigations, Pre-Market Notification Regulations and other requirements, as promulgated by the FDA. The FDA is authorized to inspect a device, its labeling and advertising, and the facilities in which it is manufactured in order to ensure that the device is not manufactured or labeled in a manner which could cause it to be in violation of the FD&C Act.

The FDA has adopted regulations which classify medical devices based upon the degree of regulation believed necessary to assure safety and efficacy. A device is classified as a Class I, II, or III device. Class I devices are subject only to general controls. Class II devices, in addition to general controls, are or will be subject to "performance standards." Most devices are also subject to the 510(k) pre-market notification provision. In addition, some Class III devices require FDA pre-market approval before they may be marketed commercially because their safety and effectiveness cannot be assured by the general controls and performance standards of Class I or II devices.

The Company's products are primarily Class I and II devices and several of them have required FDA notification under Section 510(k) of the FD&C Act.

The FDA has the authority to, among other things, deny marketing approval until all regulatory protocols are deemed acceptable, halt the shipment of defective products, and seize defective products sold to customers. Adverse publicity from the FDA, if any, could have a negative impact upon sales. In the last factory inspection of the Company there were no material non-conformities.

International Regulatory Compliance

CASMED maintains certification to ISO 13485:2003 by the accredited body, BSI Inc., in each of its manufacturing facilities. These certifications allow CASMED to use the "CE" mark on its products. The CE mark is required for medical devices to gain access to the European Union common market. The FDA, recognizing the value of this universally accepted quality system, has patterned its Quality System Regulations after ISO 9001 and ISO 13485. CASMED maintains full compliance with the FDA Quality System Regulations and has recently been recertified to ISO-13485.

Manufacturing and Quality Assurance

The Company assembles its products at its facilities in Branford, Connecticut and Jacksonville, Florida. The various components for the products, which include plastic sheeting, plastic moldings, wire, printed circuit boards, semi-conductor circuits, electronic and pneumatic components, power supplies, proprietary software and many other parts and sub-assemblies are obtained from outside vendors. The Company has not experienced any sustained interruption in production or the supply of components and does not anticipate any difficulties in obtaining the components necessary to manufacture its products.

Quality control procedures are performed by the Company at its facilities and occasionally at its suppliers' facilities to standards set forth in the FDA's "Quality System Regulations." These procedures include the inspection of components and full testing of finished goods. The Company has a controlled environment where the final assembly of single-patient-use products is conducted.

Customers

Our five largest customers accounted for approximately 31%, 26%, and 33% of revenues in 2008, 2007, and 2006, respectively. Among these customers, Medtronic, Inc., customarily the Company's largest customer, accounted for 11% of revenues during both 2008 and 2006. During 2007, no customer accounted for 10% or more of the Company's revenues. During January 2007, Medtronic announced a voluntary suspension of U.S. product shipments from its Physio-Control division. Despite strong sales to Medtronic during the latter six months of 2007, overall sales to Medtronic for 2007 decreased approximately $1,510,000 from 2006 and represented approximately 7% of overall

revenues.

Backlog

The Company's backlog includes orders pursuant to long-term OEM agreements as well as orders for products shippable on a current basis. Total backlog, therefore, is not a meaningful indicator of future sales.

Corporate Information

CAS Medical Systems, Inc. is a Delaware corporation organized in 1984. Our corporate offices are located at 44 East Industrial Road, Branford, CT 06405, and our telephone number is (203) 488-6056. Our website address is www.casmed.com. The information on, or that can be accessed through, our website is not a part of this report.

Item 1A. Risk Factors

Our business faces many risks. If any of the events or circumstances described in the following risk factors actually occurs, our business, financial condition or results of operations could suffer, and the trading price of our common stock could decline. The risks described below may not be the only risks we face. Additional risks that we do not yet know of or that we currently believe are immaterial may also impair our business operations. You should consider the following risks, as well as the other information included or incorporated by reference in this Form 10-K before deciding to invest in our common stock.

We Are Subject To Risks Related To Future Liquidity

Our ordinary capital needs are expected to be met from a combination of cash flows from operations and borrowings under our line-of-credit agreement. Future cash flows, however, may be impacted by a number of factors, including changing market conditions, market acceptance of the FORE-SIGHT system, changes in payment terms to one or more major suppliers, loss of one or more key customers, or failure to meet financial covenants under our current or any future loan agreement.

We believe that our current levels of working capital and available debt financing are insufficient to fund major growth initiatives, such as significant increases in our sales and marketing personnel, or material acquisitions. Any major growth initiatives would require us to seek other sources or forms of debt or equity capital. There can be no assurance that we will be successful in securing such funding for major initiatives. Any issuance of equity or equity-linked securities would dilute the ownership interest of existing shareholders.

We Are a Small Company In A Highly Competitive Industry

Competition from other medical device companies, diversified healthcare companies and research and academic institutions is intense and expected to increase. Many companies engaged in the medical device sector have substantially greater financial and other resources and development capabilities than we do, and have substantially greater experience in testing of products, obtaining regulatory approvals and manufacturing and marketing medical devices. Therefore, our competitors may succeed in obtaining approval for products more rapidly than we can. Other companies may succeed in developing and commercializing products earlier than we do. In addition to competing with universities and other research institutions in the development of products, technologies and processes, the Company may compete with other companies in acquiring rights to products or technologies from universities. Also, the medical device market is experiencing increasing customer concentration, due to the emergence of large purchasing groups. We cannot assure you that we will develop products that are more effective or achieve greater market acceptance than competitive products, or that our competitors will not succeed in developing products and technologies that are more effective than those being developed by us or that would render our products and technologies less competitive or obsolete. Moreover, there can be no assurance that we will be able to successfully sell to large purchasing groups, which are increasingly looking to suppliers that can provide a broader range of products than we currently offer.

Our Business Is Impacted By Customer Concentration.

Our five largest customers accounted for approximately 31%, 26%, and 33% of revenues in 2008, 2007, and 2006, respectively. Among these customers, Medtronic, Inc., customarily the Company's largest customer, accounted for 11% of revenues during both 2008 and 2006. During 2007, no customer accounted for 10% or more of the Company's revenues. During January 2007, Medtronic announced a voluntary suspension of U.S. product shipments from its Physio-Control division. Despite strong sales to Medtronic during the latter six months of 2007, overall sales to Medtronic for 2007 decreased approximately $1,510,000 from 2006 and represented approximately 7% of overall revenues. The loss of one or more of the major customers noted above could result in a material adverse effect on the Company's financial condition, our cash flows and results of operations.

The Recent Global Economic Crisis Has Had And May Continue To Have A Negative Effect On Our Business And Operations

The recent global economic crisis has caused, among other things, lower business spending, which has had and is expected to continue to have a negative effect on our business and results of operations. Many of our customers and suppliers have been affected by the current economic turmoil. Current or potential customers and suppliers may no longer be in business, may be unable to fund purchases or determine to reduce purchases, all of which has led and is expected to continue to lead to reduced demand for our products and increased customer payment delays. Further, suppliers may not be able to supply us with needed components on a timely basis, may increase prices or go out of business, which could result in our inability to met customer demand or affect our gross margins. The timing and nature of any recovery in the economy remains uncertain, and there can be no assurance that market conditions will improve in the near future or that our results will not be materially and adversely affected. Such conditions make it very difficult to forecast operating results, make business decisions and identify and address material business risks.

We Are Devoting Substantial Resources To The Development And Marketing Of Our Cerebral Oximetry Products

We expect to devote a significant amount of resources to continue the development and marketing of our FORE-SIGHT cerebral oximetry products. We believe that substantial resources are required to further our opportunity in the markets for these products. Such investments include further research and development, including significant expenditures for clinical studies, manufacturing equipment, further expansion of a direct sales force, marketing expenditures and general working capital requirements. There can be no assurance that we will be successful in these endeavors.

The Sale Of Our Products May Result In Significant Product Liability Exposure

As a manufacturer of medical diagnostic equipment, we could face product liability claims. We maintain product liability insurance in an aggregate amount of $5 million. We cannot assure you that this insurance coverage will be adequate to cover any product liability claims that occur in the future or that product liability insurance will continue to be available at reasonable prices. We are currently a defendant in a product liability action which is scheduled for trial during mid-2009. We believe that our product liability insurance is sufficient to cover any damages and costs that are likely with respect to this matter. Any product liability judgments or settlements in excess of insurance coverage could have a material adverse effect on our business and results of operations.

Our Business Could Be Adversely Affected If We Cannot Protect Our Proprietary Technology Or If We Infringe On The Proprietary Technology Of Others.

Our proprietary technology aids our ability to compete effectively with other companies in certain markets in which we compete. Although we have been awarded, have filed applications for, or have been licensed under numerous patents, these patents may not fully protect our technology or competitive position. Further, our competitors may apply for and obtain patents that will restrict our ability to make and sell our products.

Our competitors may intentionally infringe our patents. Third parties may also assert infringement claims against us in the future. Litigation may be necessary to enforce patents issued to us, to protect our trade secrets or know-how, to defend ourselves against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. The defense and prosecution of patent suits are both costly and time-consuming, even if the outcome is favorable to us. Such proceedings can be extremely expensive and their outcome very unpredictable. An adverse outcome in the defense of a patent suit could cause us to lose proprietary rights, subject us to significant

liabilities to third parties or require us to license rights from third parties or to cease selling our products. Any of these events could have a material adverse effect on our business, operating results and financial condition. We also rely on unpatented proprietary technology that others may independently develop or otherwise obtain access to. Our inability to maintain the proprietary nature of our technologies could negatively affect our revenues and earnings.

We Are Subject To Significant Government Regulation

Our business is subject to varying degrees of governmental regulation in the countries in which we operate. In the United States, our products are subject to regulation as medical devices by the FDA, and by other federal and state agencies. These regulations pertain to the manufacturing, labeling, development and testing of our devices as well as to the maintenance of required records. An FDA regulation also requires prompt reporting by all medical device manufacturers of an event or malfunction involving a medical device where the device caused or contributed to death or serious injury or is likely to do so.

Federal law provides for several routes by which the FDA reviews medical devices before their entry into the marketplace. Medical products of the type currently being marketed and under development by us are subject to regulation under the FD&C Act and numerous acts and amendments such as the Quality System Regulations which replaced the regulations formerly called Good Manufacturing Practices. In addition, depending upon product type, we must also comply with those regulations governing the Conduct of Human Investigations, Pre-Market Regulations and other requirements, as promulgated by the FDA. The FDA is authorized to inspect a device, its labeling and advertising, and the facilities in which it is manufactured in order to ensure that the device is not manufactured or labeled in a manner which could cause it to be injurious to health.

The FDA has adopted regulations which classify medical devices based upon the degree of regulation believed necessary to assure safety and efficacy. A device is classified as a Class I, II, or III device. Class I devices are subject only to general controls. Class II devices, in addition to general controls, are or will be subject to "performance standards." Most devices are also subject to the 510(k) pre-market notification provision. In addition, some Class III devices require FDA pre-market approval before they may be marketed commercially because their safety and effectiveness cannot be assured by the general controls and performance standards of Class I or II devices. Our products are primarily Class I and II devices and several of them have required FDA notification under Section 510(k) of the FD&C Act.

Satisfaction of clearance or approval requirements may take up to several years or more and may vary substantially based upon the type, complexity and novelty of the product. The effect of government regulation may be to delay marketing of new products for a considerable or indefinite period of time, to impose costly procedures upon our activities and to furnish a competitive advantage to larger companies that compete with us. We cannot assure you that FDA or other regulatory clearance or approval for any products we develop will be granted on a timely basis, if at all, or, once granted, that clearances or approvals will not be withdrawn or other regulatory action taken which might limit our ability to market our proposed products. Any delay in obtaining or failure to obtain these clearances or approvals would adversely affect the manufacturing and marketing of our products and the ability to generate additional product revenue.

We Rely To A Significant Degree On Our Proprietary Rights

We rely on a combination of patents, trade secrets, trademarks and non-disclosure agreements to protect our proprietary rights. We cannot assure you that our patent applications will result in the issuance of patents or that any patents owned by us now or in the future will afford protection against competitors that develop similar technology. We also cannot assure you that our non-disclosure agreements will provide meaningful protection for our trade secrets or other proprietary information. Moreover, in the absence of patent protection, our business may be adversely affected by competitors who independently develop substantially equivalent or superior technology.

It is possible that we may need to acquire licenses to, or to contest the validity of, issued or pending patents of third parties relating to our technology or to products presently marketed or under development by us. In addition, we cannot assure that any license required under any patent would be made available to us on acceptable terms, if at all, or that we would prevail in any patent litigation.

We Are Party To An Arbitration Proceeding

On May 8, 2007, the Company signed an exclusive distribution agreement (the "Agreement") with Analogic Corporation ("Analogic") under which the Company obtained worldwide exclusive rights to market the Analogic Lifegard® family of non-invasive patient monitors. Under the Agreement, Analogic would co-brand the devices and reconfigure its Lifegard II monitor to include the Company's MAXNIBP branded non-invasive blood pressure and other branded technologies. Accordingly, the Company would reimburse Analogic approximately $900,000 upon meeting agreed milestone dates for such efforts. As of December 31, 2008, the Company had made payments to Analogic of $90,000.

On November 24, 2008, Analogic commenced arbitration against the Company contending that the Company breached the Agreement. Analogic is seeking damages of approximately $765,000 for costs it allegedly incurred in performing under the Agreement including winding down costs and additional remedies which may provide for relief totaling double or treble damages, in addition to attorney fees. The Company denies Analogic's claims and is asserting a counterclaim for damages in excess of those sought by Analogic. The arbitration hearing is expected to be conducted in the second quarter of 2009. There can be no assurance as to the ultimate outcome of this proceeding.

During 2008, the Company recorded sales of Analogic products of $2,173,000.

Our Products May Become Rapidly Obsolete

The areas in which we are developing, distributing, and/or licensing products involve rapidly developing technology. Others may develop products that might cause products being developed, distributed or licensed by us to become obsolete or uneconomical or result in products superior to our products.

Our international sales subject us to currency and related risks. Our international sales accounted for 26% of our total net sales for the 2008 fiscal year. We expect that international sales will continue to constitute a significant portion of our business. Although we sell our products in United States dollars and are not subject to significant currency risks, an increase in the value of the United States dollar relative to foreign currencies in our international markets could make our products less price competitive in these markets.

An Acquisition Of The Company May Be Hindered

Our Board of Directors is authorized to issue from time to time, without stockholder authorization, shares of preferred stock, in one or more designated series or classes. We are also subject to a Delaware statute regulating business combinations. These provisions could discourage, hinder or preclude an unsolicited acquisition of the Company and could make it less likely that stockholders receive a premium for their shares as a result of any takeover attempt.

Sales Of A Substantial Number Of Shares Of Our Common Stock In The Public Market Originally Issued Through The Exercise Of Options Or Warrants Could Adversely Affect The Market Price Of Our Common Stock And May Also Adversely Affect Our Ability To Raise Additional Capital

As of December 31, 2008, options and warrants for the purchase of 1,654,526 shares of our common stock were outstanding. Historically, our common stock has been thinly traded. This low trading volume may have had a significant effect on the market price of our common stock, which may not be indicative of the market price in a more liquid market.

We Depend Highly On Certain Key Management Personnel

We believe that our future success will depend to a significant extent on the efforts and abilities of our senior management, in particular, Andrew Kersey, our President and Chief Executive Officer, and Jeffery Baird, our Chief Financial Officer. The loss of the services of Messrs. Kersey or Baird could have a material adverse effect on our business and results of operations.

We Do Not Expect To Pay Cash Dividends

We have not paid cash dividends on our common stock since inception, and at this time we do not anticipate that we will pay cash dividends in the foreseeable future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company currently leases four separate operating facilities as described in further detail below.

On September 6, 2007, the Company closed the sale and leaseback of its headquarters and manufacturing facility in Branford, Connecticut (the "Property") which comprises approximately 24,000 square feet of office and manufacturing space. Net proceeds from the sale were $2,791,529 of which $928,872 was used to retire the related outstanding mortgage debt. The gain of $1,346,373 realized on the sale has been deferred and will be recognized in operations against rent expense over the initial term of the lease. The lease has an initial term of ten years expiring on September 6, 2017 and contains an option for two additional five-year periods. The lease provides for an annual base rent in years one through five of $244,800 and $268,800 in years six through ten. The Company will recognize rent expense on a straight-line basis over the ten years. Under the lease, the Company is responsible for the costs of utilities, insurance, taxes and maintenance expenses. Further, the Company is required to maintain at least $600,000 in cash and cash equivalents (increasing at 3% per annum) and net current assets of not less than $3,600,000.

In addition, the Company has a right of first offer to lease any additional space or building built by the lessor on the Property, subject to certain restrictions. The Company also has the right to require the lessor to build an addition or additional building ("Expansion Premises"), subject to certain restrictions. Upon the delivery of any Expansion Premises, the term of the Lease would extend for a ten year term. The base rent for the Expansion Premises shall be the greater of the then prevailing market rent or an amount equal to a return on actual costs of construction of the greater of 250 basis points over the rate on ten year U.S. Treasury Notes, or 8%. Upon delivery of the Expansion Premises, the lessor would assume obligations under the Company's leases of its two adjacent properties, in exchange for a payment equal to three months rent and certain unamortized costs incurred in these facilities.

The Company is also leasing two properties adjacent to its corporate facilities. Approximately 8,300 square feet of office and limited warehouse space is being leased under an agreement effective June 1, 2006, as amended, and expires on May 31, 2014. Minimum annual rental expense is approximately $78,000 excluding apportioned real estate taxes and certain utility costs. Approximately 9,600 square feet of office and warehouse space is being leased under an agreement effective July 1, 2007, as amended, and expires June 30, 2015. Minimum annual rental expense is approximately $83,000 excluding apportioned real estate taxes and certain common area maintenance charges.

The Company's subsidiary, Statcorp, is leasing approximately 17,500 square feet of warehouse and office space under an agreement, as amended, which expires March 31, 2012. Minimum annual rental expense is approximately $84,000 excluding apportioned real estate taxes and certain common area maintenance charges.

The Company believes that its premises meet its current and expected operating needs and are adequately insured.

Item 3. Legal Proceedings

The manufacture and sale of our products exposes us to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, our products or use of our products with components or systems not manufactured or sold by us. Product liability claims or product recalls, regardless of their ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages. We are currently a defendant in a product liability action which is scheduled for trial during mid 2009. We believe that our product liability insurance is sufficient to cover any damages and costs that are likely with respect to this matter. There can be no assurance however, that this will be the case with respect to any future

matters. Furthermore, we may not be able to obtain insurance in the future at satisfactory rates or in adequate amounts.

In addition, publicity pertaining to the misuse or malfunction of, or design flaws in, our products could impair our ability to successfully market and sell our products and could lead to product recalls.

On May 8, 2007, the Company signed an exclusive distribution agreement (the "Agreement") with Analogic Corporation ("Analogic") under which the Company obtained worldwide exclusive rights to market the Analogic Lifegard® family of non-invasive patient monitors. Under the Agreement, Analogic would co-brand the devices and reconfigure its Lifegard II monitor to include the Company's MAXNIBP branded non-invasive blood pressure and other branded technologies. Accordingly, the Company would reimburse Analogic approximately $900,000 upon meeting agreed milestone dates for such efforts. As of December 31, 2008, the Company had made payments to Analogic of $90,000.

On November 24, 2008, Analogic commenced arbitration against the Company contending that the Company breached the Agreement. Analogic is seeking damages of approximately $765,000 for costs it allegedly incurred in performing under the Agreement including winding down costs and additional remedies which may provide for relief totaling double or treble damages, in addition to attorney fees. The Company denies Analogic's claims and is asserting a counterclaim for damages in excess of those sought by Analogic. The arbitration hearing is expected to be conducted in the second quarter of 2009. There can be no assurance as to the ultimate outcome of this proceeding.

During 2008, the Company recorded sales of Analogic products of $2,173,000.

In addition, we may become in the normal course of our business operations a party to other legal proceedings in addition to those described in the paragraphs above. None of these other proceedings would be expected to have a material adverse impact on our results of operations, financial condition, or cash flows.

Item 4. Submission of Matters to a Vote of Security Holders

None.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Effective December 2005, the common stock of the Company began trading on the NASDAQ Capital Market, under the symbol "CASM." Effective December 2006, the common stock of the Company began trading on the NASDAQ Global Market while continuing to utilize the CASM symbol.

The following table shows the high and low sales prices for the Company's common stock during each quarterly period for the last two years.

Quarter Ended	High	Low
March 31, 2007	$ 8.40	$ 6.26
June 30, 2007	$ 8.51	$ 6.27
September 30, 2007	$ 7.50	$ 4.25
December 31, 2007	$ 6.47	$ 4.76
March 31, 2008	$ 5.54	$ 4.05
June 30, 2008	$ 4.30	$ 2.81
September 30, 2008	$ 4.21	$ 2.72
December 31, 2008	$ 4.00	$ 1.66

The following table sets forth the approximate number of holders of record of common stock of the Company on December 31, 2008.

Title of Class	Number of Shareholders
Common stock, $.004 par value	1,862

To date, no cash dividends have been declared on the Company's common stock. The Company does not currently intend to pay a cash dividend in the near future.

The Company did not issue any shares of common stock during the fourth quarter of 2008 that were not registered under the Securities Act. In addition, the Company did not repurchase any of its common stock during the fourth quarter of 2008.

Item 6. Selected Financial Data

For Year Ended December 31, (amounts in thousands, except per share amounts)	2008(1)	2007(1)	2006(1)	2005(2)	2004
Net sales	$40,649	$ 38,232	$ 35,202	$ 26,884	$20,059
Cost of sales	26,748	24,585	20,803	15,092	11,056
Gross profit	13,901	13,647	14,399	11,792	9,003
Operating expenses:					
Research and development	$ 2,028	$ 2,254	$ 2,762	$ 1,631	$ 1,033
Selling, general and administrative	12,165	10,815	8,659	7,438	6,263
Total operating expenses	14,193	13,069	11,421	9,069	7,296
Operating (loss) income	(291)	579	2,978	2,723	1,707
(Loss) income before income taxes	(564)	304	2,730	2,556	1,635
Net (loss) income	(388)	306	1,747	1,815	1,205
Net (loss) income per diluted common share	$ (0.04)	$ 0.03	$ 0.14	$ 0.15	$ 0.11
Diluted shares outstanding	11,032	12,212	12,147	11,729	11,128
At Year End:					
Working capital	$10,819	$ 10,388	$ 9,096	$ 7,482	$ 5,369
Long-term debt, less current portion	1,708	2,323	3,807	4,416	1,035
Total assets	23,685	23,888	21,443	17,918	10,993
Stockholder's equity	$14,900	$ 13,751	$ 12,625	$ 9,117	$ 7,156

(1) Operating income reduced by $410, $303 and $390 for 2008, 2007 and 2006, respectively, from stock compensation expense. The Company adopted FAS 123R – Share-Based Payment, as of January 1, 2006.
(2) 2005 operating income includes $401 credit from curtailment gain of post-retirement benefit plan. 2005 reflects the acquisition of Statcorp, Inc. on May 15, 2005.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Certain statements included in this report, including without limitation statements in the Management's Discussion and Analysis of Financial Condition and Results of Operations, which are not historical facts, are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements represent the Company's current expectations regarding future events. The Company cautions that such statements are qualified by important factors that could cause actual results to differ materially from expected results which may be contained in the forward-looking statements. All forward-looking statements involve risks and uncertainties, including, but not limited to, the following: potential liquidity constraints; price and product competition; rapid technological changes; dependence on new product development; failure to introduce new products effectively or on a timely basis; the mix of products

sold; supply and prices of raw materials and products; customer demand for the Company's products; regulatory actions; changes in reimbursement levels from third-party payors; product liability or other litigation claims; changes in economic conditions that adversely affect the level of demand for the Company's products; changes in foreign exchange markets; changes in financial markets; changes in the competitive environment; and other risks described in Item 1A of this filing.

Year Ended December 31, 2008 Compared to Year Ended December 31, 2007

The Company recorded a net loss of $388,000 for 2008 or ($0.04) per basic and diluted common share compared to net income of $306,000 or $0.03 per diluted common share for 2007. Pre-tax (loss) income for 2008 and 2007 were affected by $410,000 and $303,000, respectively, of stock compensation expense.

The operating loss for 2008 was $291,000 or 0.7% of net sales compared to operating income of $579,000 or 1.5% of net sales for 2007. Several key factors contributed to the decrease in operating income during 2008. Cost of sales as a percentage of sales increased to 65.8% from 64.3% for 2007 primarily as a result of higher costs in the first quarter of 2008. Lower than expected sales during that period combined with fixed manufacturing costs resulted in a 70.1% cost of sales percentage during the first quarter. Operating expenses for 2008 increased $1,124,000 or 9% to reach $14,193,000 or 34.9% of net sales from $13,069,000 or 34.2% of net sales for 2007. Sales and marketing expenses related to the cerebral oximetry market reached $3,094,000 in 2008, an increase of $1,355,000 over 2007 spending levels.

The following table provides comparative results of net sales by product and geographic category:

(amounts in thousands)	Year Ended December 31, 2008	Year Ended December 31, 2007	Increase (Decrease)
Bedside Monitoring	$ 15,889	$ 18,640	$ (2,751)
Critical Care Monitoring	2,258	315	1,943
Blood Pressure Measurement Technology	7,769	5,825	1,944
Supplies/Service	14,733	13,452	1,281
	$ 40,649	$ 38,232	$ 2,417
Domestic Sales	$ 30,032	$ 29,601	$ 431
International Sales	10,617	8,631	1,986
	$ 40,649	$ 38,232	$ 2,417

Net sales for 2008 increased 6% or $2,417,000 to $40,649,000 from $38,232,000 for 2007. Bedside monitoring sales decreased $2,751,000 or 15% from 2007 primarily due to lower sales levels of vital signs monitors and accessories sold to the Veterans Administration and lower sales of veterinary products sold under a private label agreement. Approximately $311,000 of the veterinary sales are classified as of 2008 as blood pressure measurement technology sales. Increased sales of Analogic products marketed by the Company since May 2007 partially offset reductions in vital signs products sales. Critical care monitoring sales increased $1,943,000 to $2,258,000 and represent the Company's Fore-Sight cerebral oximetry technology launched during mid-2007. Net sales in this category are primarily sensor related (72% for 2008). In certain U.S. markets, the Company routinely places the monitor and retains ownership of the device in exchange for commitments to purchase disposable sensors. During 2008, the Company placed or sold approximately 116 monitors with customers bringing the installed base of Fore-Sight monitors worldwide to 151 as of the end of 2008. Blood pressure measurement technology sales increased $1,944,000 or 33% due to a rebound of sales to a key customer, Medtronic. 2007 sales to Medtronic were affected by a voluntary suspension of U.S. product shipments from its Physio-Control division announced during January 2007. Sales of supplies and service increased $1,281,000 or 10% over 2007 sales and are primarily comprised of sales of blood pressure cuffs accounting for approximately 71% of sales in this category. Sales to the U.S. market accounted for $30,032,000 or 74% of the total net sales reported for 2008, an increase of $431,000 or 1% over the $29,601,000 reported for 2007. International sales accounted for $10,617,000 or 26% of total net sales, an increase of $1,986,000 or 23% over 2007 sales levels. The growth in international sales was led by sales of Analogic products and blood pressure cuff sales.

Cost of sales as a percentage of net sales increased to 65.8% for 2008 compared to 64.3% of net sales for 2007. The increase in cost of sales as a percentage of sales for 2008 was primarily related to the first quarter of 2008 where lower than expected sales combined with fixed manufacturing costs. The Company is focusing its efforts during 2009 to achieve cost reductions to improve overall gross profit levels.

R&D expenses decreased $226,000 or 10% to $2,028,000 for 2008 from $2,254,000 for 2007. R&D expenses are reported net of reimbursements received from the National Institutes of Health ("NIH") pertaining to the Company's development of its Near-Infrared Spectroscopy ("NIRS") technology. Amounts reimbursed from the NIH, including accruals, for 2008 and 2007 were $582,000 and $480,000, respectively. Increased reimbursements for 2008 reflect the fact that during September 2007 the Company was awarded a three year grant totaling approximately $2,800,000 to support its NIRS research. R&D expenses before NIH reimbursement approximated 6.4% and 7.2%, respectively, of 2008 and 2007 revenues.

Selling, general and administrative ("S,G&A") expenses increased $1,350,000 or 12.5% to $12,165,000 or 29.9% of net sales for 2008 from $10,815,000 or 28.3% of net sales for 2007. Sales and marketing expenses in 2008 pertaining to the Company's Fore-Sight cerebral oximeter were approximately $3,094,000 and accounted for 100% of the overall increase in S,G&A spending. Increased manufacturers representative commission expenses from increased sales, salaries and related benefits from expanded direct sales personnel costs, travel and entertainment and depreciation expenses were primarily responsible for the increase in the cerebral oximetry related expenses. General and administrative ("G&A") expenses increased by $219,000 or 5.9% as a result of increases in salaries and related benefits and legal and accounting expenses which were partially offset by reductions in Sarbanes Oxley section 404 compliance costs, investor relations fees and company-wide incentive payouts. Together, the G&A expenses were offset by reductions in non-cerebral oximetry related marketing costs and decreased international sales support expenses.

Net interest expense decreased $3,000 to $272,000 for 2008 from $275,000 for 2007 as a result of reduced balances on the Company's long-term debt loan. Higher average balances on the line-of-credit facility for 2008 were offset by reduced costs of borrowed funds.

The income tax benefit for 2008 was $176,000 compared to a benefit of $3,000 for 2007. The benefit for 2008 is related to taxable losses and federal R&D related tax credits. The benefit for 2007 is primarily related to an exchange of $155,000 of state tax carry-forwards for reduced cash receipts payable to the Company partially offset by certain non-deductible expenses including stock option compensation and entertainment costs.

Year Ended December 31, 2007 Compared to Year Ended December 31, 2006

Net income for 2007 was $306,000 or $0.03 per common share on a diluted basis compared to $1,747,000 or $0.14 per diluted common share for 2006. Pre-tax income for 2007 and 2006 were affected by $303,000 and $390,000, respectively, of stock compensation expense of which $98,000 and $343,000, respectively, was non-deductible for income tax purposes.

Operating income for 2007 was $579,000 or $1.5% of sales compared to $2,978,000 or 8.5% of sales for 2006. Several key factors contributed to the decrease in operating income levels during 2007 including significant investments in the cerebral oximetry market particularly in the areas sales and marketing expenditures which increased approximately $1,300,000 over 2006 spending levels; product mix issues largely caused by reduced OEM sales which normally carry higher than average gross margin rates and international sales of Analogic products; increased manufacturing overhead costs including Fore-Sight cerebral oximetry start-up costs; and Sarbanes Oxley 404 internal control consulting fees of approximately $164,000. The Company generated sales of $38,232,000 for 2007, an increase of $3,030,000 or 8.6% over sales of $35,202,000 for 2006. The following table provides comparative results by product and geographic category:

(amounts in thousands)	Year Ended December 31, 2007	Year Ended December 31, 2006	Increase (Decrease)
Bedside Monitoring	$ 18,640	$ 16,071	$ 2,569
Critical Care Monitoring	315	-	315
Blood Pressure Measurement Technology	5,825	6,571	(746)

Supplies/Service	13,452	12,560	892
	$ 38,232	$ 35,202	$ 3,030
Domestic Sales	29,601	27,519	2,082
International Sales	8,631	7,683	948
	$ 38,232	$ 35,202	$ 3,030

Sales for 2007 increased 8.6% or $3,030,000 to $38,232,000 from $35,202,000 for 2006. Bedside monitoring sales increased $2,569,000 or 16% over 2006 led by vital signs monitoring and accessories sales primarily sold to the VA and sales of Analogic products marketed by the Company since May 2007, partially offset by reductions in apnea monitoring products sales. Critical care monitoring sales represent the Company's Fore-Sight cerebral oximetry technology launched during mid-2007. Sales in this category are primarily sensor related where the Company places the monitor and retains ownership of the device in exchange for commitments to purchase disposable sensors. Blood pressure measurement technology sales decreased $746,000 or 11% due to reductions in sales to a key customer, Medtronic. During January 2007, Medtronic announced a voluntary suspension of U.S. product shipments from its Physio-Control division. Despite strong fourth quarter sales which exceeded the prior year fourth quarter, overall sales to Medtronic for 2007 decreased $1,510,000 as compared to 2006. Medtronic represented approximately 11% of the Company's sales for the full year 2006. Sales of supplies and service increased $892,000 or 7% over 2006 sales and are primarily comprised of sales of blood pressure cuffs accounting for approximately 71% of sales in this category. Sales to the U.S. market accounted for $29,601,000 or 77% of the total sales for 2007, an increase of $2,082,000 or 8% over the $27,519,000 reported for 2006. International sales accounted for $8,631,000 or 23% of total revenues, an increase of $948,000 or 12% over 2006 sales levels.

Cost of sales as a percentage of net sales increased to 64.3% for 2007 compared to 59.1% of net sales for 2006. The increase in cost of sales as a percentage of sales for 2007 was related to a number of causes including lost gross margins on the shortfall in OEM sales which normally carries higher gross margins than other products sold by the Company; lower margins on Analogic product sales particularly in the fourth quarter of 2007 primarily as a result of additional international business; NIRS manufacturing start-up costs; increased indirect manufacturing overhead costs to support the Company's expanded operations; and reductions in accrued post-retirement benefit costs during 2006 for changes made to terminate the Company's plan during 2005.

R&D expenses decreased $508,000 or 18% to $2,254,000 for 2007 from $2,762,000 for 2006. R&D expenses are reported net of reimbursements received from the National Institutes of Health ("NIH") pertaining to the Company's development of its Near-Infrared Spectroscopy ("NIRS") technology. Amounts reimbursed from the NIH, including accruals, for 2007 and 2006 were $480,000 and $21,000, respectively. Increased reimbursements for 2007 reflect the fact that during September 2007 the Company was awarded a three year grant totaling approximately $2,800,000 million to support its NIRS research. R&D expenses before NIH reimbursement approximated 7.2% and 7.9%, respectively, of 2007 and 2006 revenues. Increased NIH reimbursements offset increases in project material costs, clinical evaluations and salaries and related fringe benefits.

Selling, general and administrative ("S,G&A") expenses increased $2,156,000 or 25% to $10,815,000 or 28% of sales for 2007 from $8,659,000 or 25% of sales for 2006. Sales and marketing expenses in 2007 pertaining to the Company's Fore-Sight cerebral oximeter were approximately $1,800,000 and accounted for nearly $1,300,000 or 60% of the increase in S,G&A spending. The Company also increased its investments in personnel in the areas of marketing, customer service, international sales consultants and domestic sales management in order to support the Company's growth. Additionally, increases in general insurance costs, amortization and depreciation, and employee health care costs also impacted S,G&A expenses. During 2007, the Company also incurred $164,000 in consulting fees pertaining to its Sarbanes Oxley 404 compliance efforts.

Net interest expense increased $27,000 to $275,000 for 2007 from $248,000 for 2006 as a result of borrowings on the line-of-credit facility partially offset by reductions in interest expenses associated with lower balances on the Company's Statcorp acquisition loan and the payoff of the mortgage on the Company's headquarters facility.

The income tax benefit for 2007 was $3,000 compared to income tax expense of $983,000 for 2006. The benefit for 2007 was primarily related to an exchange of $155,000 of state tax carry-forwards for reduced cash receipts payable to the Company partially offset by certain non-deductible expenses including stock option compensation and entertainment costs. The provision for income taxes for 2006 represented an effective tax rate of 36% which was

greater than the statutory rate primarily as a result of non-deductible stock compensation expense and state income taxes partially offset by R&D and other tax credits. The income tax benefit for 2007 represented an effective tax rate of approximately 1% resulting primarily from R&D and other tax credits.

Financial Condition, Liquidity and Capital Resources

The Company's cash and cash equivalents were $1,083,000 at December 31, 2008 compared to $667,000 at December 31, 2007. Working capital increased $431,000 to $10,819,000 at December 31, 2008 from $10,388,000 at December 31, 2007. The Company's current ratio increased slightly to 2.88 to 1 from 2.63 to 1.

Net cash provided by operating activities for 2008 was $1,660,000 compared to cash used of $3,178,000 for the prior year. The improvement was primarily due to decreases in accounts receivable and inventories which were partially offset by decreases in accounts payable and accrued expenses and the increase in an other receivable related to the transfer of raw material inventories to one of the Company's primary vendors under a turn-key agreement initiated during the fourth quarter of 2008.

Net cash used by investing activities was $1,466,000 for 2008 compared to cash provided of $1,124,000 for 2007. During September 2007, the Company realized proceeds of $2,792,000 from the sale of its headquarters. The Company incurred $1,413,000 of capital expenditures during 2008 compared to $1,188,000 for 2007. Equipment purchases during 2008 were driven by Fore-Sight cerebral oximeter demonstration equipment and clinical research units, information technology, manufacturing equipment and furniture and fixtures and leasehold improvements pertaining to the Company's expansion of its adjacent facilities. Cash used for investing activities in 2007 included $1,188,000 for manufacturing equipment, leasehold improvements commensurate with the expansion of the Company's adjacent leased space, engineering equipment and enhancements to the Company's IT infrastructure. During 2008, the Company incurred $184,000 of expenditures to purchase intangible assets including $60,000 related to deferred finance charges and $70,000 pertaining to patents and trademarks. Current year additions reflect an adjustment of a prior year accrual of $131,000.

Net cash provided by financing activities was $222,000 for 2008 compared to $1,387,000 for 2007. During May of 2008, the Company consummated a private placement of 333,333 shares of its common stock for an aggregate sum of $1,000,000. The Company repaid $577,000 of long-term debt during 2008 and reduced its line-of-credit balance by $255,000 at December 31, 2008. During 2007, the Company received advances under the line-of-credit of $2,250,000 and repaid $1,516,000 of long-term debt which included the retirement of its mortgage debt of $929,000 upon the sale and leaseback of its headquarters.

The Company currently leases four facilities and certain equipment under non-cancelable operating leases. The following table sets forth a summary of the Company's cash commitments under contractual obligations as of December 31, 2008:

Contractual Obligations	Total	One Year or Less	2 – 4 Years	5 – 7 Years	More Than Seven Years
Long-term debt	$ 2,322,560	$ 614,067	$ 1,708,493	$ -	$ -
Operating leases	3,379,000	472,235	1,289,557	1,169,208	448,000
	$ 5,701,560	$1,086,302	$ 2,998,050	$ 1,169,208	$ 448,000

On February 11, 2008, the Company amended and restated its existing line of credit with NewAlliance Bank (the "Bank"). The Company entered into a new Commercial Loan Agreement (the "Loan Agreement") and related Commercial Revolving Promissory Note (the "Note") which provide for borrowings on a revolving basis, at the Bank's discretion, in an amount up to $10,000,000. Loans in excess of $2,000,000 up to $10,000,000 can be made only if the maximum principal amount outstanding does not exceed a borrowing base equal to the sum of (i) 75% of eligible receivables (as defined in the Loan Agreement) and (ii) the lesser of $2,500,000 or 30% of eligible inventory (as defined in the Loan Agreement.) Borrowings under the Loan Agreement and the Note are secured by a first priority lien in all the business assets of the Company pursuant to a Security Agreement (the "Security Agreement"). The Loan Agreement contains customary non-financial covenants and financial covenants consisting of a debt service coverage ratio and a debt to tangible net worth ratio.

On December 31, 2008, the Company amended the line of credit pursuant to a Debt Modification Agreement (the "Modification Agreement"). The Modification Agreement amended the Loan Agreement and related Note. The Modification Agreement extends the maturity date of the Note to July 1, 2010 and also amends the interest rate for the revolving loans under the Credit Agreement by increasing the rate from (i) the Prime Rate (as defined in the Loan Agreement) minus .50% to (ii) the Bank's Base Rate (as defined in the Modification Agreement) with a minimum interest rate of 3.25% per annum. The Modification Agreement also amended the existing debt service coverage ratio covenant to provide that it would be measured quarterly on a rolling four quarter basis beginning December 31, 2008.

The Company executed an amendment to the line of credit agreement on April 3, 2009 pursuant to a Second Modification Agreement with the Bank effective March 31, 2009. Under the terms of the Second Modification Agreement, the debt service coverage ratio was revised from a quarterly test to an annual test for the twelve months ended December 31, 2009 and the minimum ratio revised from 1.5 to 1.0. As of the first quarter of 2010 and thereafter, the ratio returns to 1.5 with testing resumed on a quarterly basis. The maximum availability under the line of credit was reduced to $5,000,000 from $10,000,000. Further, the interest rate was modified from the Bank's Base Rate with a floor of 3.25% to the Bank's Base Rate plus 1.0% with a floor rate of 4.0%.

The Company believes that its sources of funds consisting of cash and cash equivalents, cash flow from operations and funds available from the revolving credit facility will be sufficient to meet its current and expected short-term requirements. However, future cash flows may be impacted by a number of factors, including changing market conditions or failure to meet financial covenants under our current or any future loan agreement. Changes in payment terms to one or more major suppliers could also have a material adverse effect on our results of operations and future liquidity. We believe that our current levels of working capital and available debt financing are insufficient to fund major growth initiatives, such as significant increases in our sales and marketing personnel, or material acquisitions. Any major growth initiatives would require us to seek other sources or forms of debt or equity capital. There can be no assurance that we will be successful in securing such funding for major initiatives. There can be no assurance that we will be successful in obtaining a new credit agreement or that we would be successful in securing additional sources or forms of capital for major initiatives.

Off-Balance Sheet Arrangements

The Company has no off-balance sheet arrangements other than operating leases for office and warehouse space.

Critical Accounting Policies

The Company's financial statements have been prepared in accordance with generally accepted accounting principles in the United States. In preparing the financial statements, the Company is required to make estimation judgments. Such judgments are based upon historical experience and certain assumptions that are believed to be reasonable in the particular circumstances. Those judgments affect both balance sheet and income statement accounts and disclosures. The Company evaluates its assumptions on an ongoing basis by comparing actual results with its estimates. Actual results may differ from the original estimates. The following accounting policies are those that the Company believes to be most critical to the preparation of its financial statements.

Inventory Valuation–The Company's inventories are stated at the lower of cost or market. The Company provides allowances on inventories for any material that has become obsolete or may become unsalable based on estimates of future demand and the sale price in the market. Judgments with respect to salability and usage of inventories, estimated market value, and recoverability upon sale are complex and subjective. Such assumptions are reviewed periodically and adjustments are made, as necessary, to reflect changed conditions. There were no significant write-offs for any period presented.

Deferred Income Tax Assets–The Company has recorded deferred income tax assets for the estimated benefit of future tax deductions on inventories, property and equipment and other accruals and various tax credits. Based on the Company's projection of future taxable income and certain prudent tax planning strategies, management believes its deferred income tax assets will be realized. Should circumstances change and the Company determine that some or all of the deferred income tax assets would not be realized, a valuation allowance would be recorded resulting in a charge to operations in the period the determination is made.

Accrued Warranty Costs–The Company warranties its products for up to three years and records the estimated cost of such product warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experience of product returns and the related estimated cost of labor and material to make the necessary repairs. Warranty costs have not been material to operating results over the past several years. However, if actual future product return rates or the actual costs of material and labor differ from the estimates, adjustments to the accrued warranty liability would be made.

Recent Accounting Pronouncements

Recent accounting pronouncements potentially affecting the Company's future financial statements are described under the caption, "New accounting pronouncements" in Note 2 – Summary of Significant Accounting Policies. There are no new pronouncements which are likely to materially impact the Company's financial statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

The Company has certain exposures to market risk related to changes in interest rates. The Company has an outstanding line-of-credit agreement, under which there were borrowings of $1,994,000 at December 31, 2008. The line-of-credit agreement, amended effective March 31, 2009, bears interest at variable rates based on prime rate indices. The Company holds no derivative securities for trading purposes and is not subject in any material respect to currency or other commodity risk.

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
CAS Medical Systems, Inc:

We have audited the accompanying consolidated balance sheets of CAS Medical Systems, Inc. (the "Company") as of December 31, 2008 and 2007, and the related consolidated statements of operations, changes in shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2008. The Company's management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of the Company's internal control over financial reporting. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2008 and 2007, and the results of its operations and its cash flows for the each of the years in the three-year period ended December 31, 2008 in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 2, the Company adopted FIN 48, *Accounting for Uncertainty in Income Taxes – an Interpretation of FASB Statement No. 109,* effective January 1, 2007.

/s/ UHY LLP

New Haven, Connecticut
April 3, 2009

CAS MEDICAL SYSTEMS, INC.
Consolidated Balance Sheets
As of December 31, 2008 and 2007

ASSETS	**2008**	**2007**
CURRENT ASSETS:		
Cash and cash equivalents	$ 1,082,619	$ 666,722
Accounts receivable, less allowance of $150,000 in 2008 and $125,000 in 2007	3,681,355	4,947,300
Recoverable income taxes	101,185	230,458
Other receivable	715,769	-
Inventories	9,786,538	10,021,118
Deferred income taxes	791,493	474,265
Other current assets	411,938	414,204
Total current assets	16,570,897	16,754,067
PROPERTY AND EQUIPMENT:		
Leasehold improvements	281,612	266,493
Equipment at customers	1,132,422	272,360
Machinery and equipment	5,326,735	4,788,902
	6,740,769	5,327,755
Accumulated depreciation and amortization	(4,013,900)	(2,987,030)
Property and equipment, net	2,726,869	2,340,725
INTANGIBLE AND OTHER ASSETS, net	757,378	846,602
GOODWILL	3,379,021	3,379,021
DEFERRED INCOME TAXES	250,370	567,971
Total assets	$23,684,535	$23,888,386
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current portion of long-term debt	$ 614,067	$ 577,453
Notes payable	-	71,537
Line-of-credit	1,994,008	2,249,349
Accounts payable	2,307,675	2,505,460
Accrued expenses	835,868	962,154
Total current liabilities	5,751,618	6,365,953
LONG-TERM DEBT, less current portion	1,708,493	2,322,561
DEFERRED GAIN ON SALE AND LEASEBACK OF PROPERTY	1,168,701	1,303,338
INCOME TAXES PAYABLE	155,875	145,125
COMMITMENTS (Note 11)	-	-
SHAREHOLDERS' EQUITY:		
Series A cumulative convertible preferred stock, $.001 par value per share, 1,000,000 shares authorized, no shares issued or outstanding	-	-
Common stock, $.004 par value per share, 40,000,000 shares authorized, 11,419,535 and 10,984,785 shares issued as of December 31, 2008 and 2007, respectively, including shares held in treasury	45,675	43,575
Common stock held in treasury, at cost – 86,000 shares	(101,480)	(101,480)
Additional paid-in capital	7,423,340	5,889,007
Retained earnings	7,532,313	7,920,307
Total shareholders' equity	14,899,848	13,751,409
Total liabilities and shareholders' equity	$23,684,535	$23,888,386

See accompanying notes.

CAS MEDICAL SYSTEMS, INC.

Consolidated Statements of Operations
For the Years Ended December 31, 2008, 2007 and 2006

	2008	2007	2006
NET SALES	$ 40,649,057	$ 38,232,405	$ 35,202,011
COST OF SALES	26,747,590	24,584,807	20,802,677
Gross profit	13,901,467	13,647,598	14,399,334
OPERATING EXPENSES:			
Research and development	2,027,747	2,253,512	2,762,269
Selling, general and administrative	12,164,974	10,815,248	8,658,812
Total operating expenses	14,192,721	13,068,760	11,421,081
OPERATING (LOSS) INCOME	(291,254)	578,838	2,978,253
Interest expense, net	272,471	274,977	248,404
(LOSS) INCOME BEFORE INCOME TAXES	(563,725)	303,861	2,729,849
Income taxes (benefit)	(175,731)	(2,599)	983,148
NET (LOSS) INCOME	$ (387,994)	$ 306,460	$ 1,746,701
NET (LOSS) INCOME PER COMMON SHARE:			
Basic	$ (0.04)	$ 0.03	$ 0.17
Diluted	$ (0.04)	$ 0.03	$ 0.14
WEIGHTED AVERAGE NUMBER OF COMMON SHARES OUTSTANDING:			
Basic	11,031,855	10,696,217	10,373,225
Diluted	11,031,855	12,211,694	12,147,373

See accompanying notes.

CAS MEDICAL SYSTEMS, INC.

Consolidated Statements of Changes in Shareholders' Equity

For the Years Ended December 31, 2008, 2007 and 2006

	Common Stock						
	Issued		Held in Treasury		Paid-in	Retained	
	Shares	Amount	Shares	Amount	Capital	Earnings	Total
BALANCE, December 31, 2005	10,113,860	$ 40,456	86,000	($101,480)	$ 3,176,911	$ 6,001,521	$ 9,117,408
Net income						1,746,701	1,746,701
Common stock issued upon exercise of stock options and warrants	493,425	1,973			401,349		403,322
Common stock issued under stock purchase plan	25,022	100			101,341		101,441
Tax benefit from exercise of warrants					865,842		865,842
Restricted stock issued under equity incentive plans	47,000	188			(188)		-
Stock compensation					390,283		390,283
BALANCE, December 31, 2006	10,679,307	42,717	86,000	(101,480)	4,935,538	7,748,222	12,624,997
Adoption of FIN 48						(134,375)	(134,375)
Net income						306,460	306,460
Common stock issued upon exercise of stock options and warrants	192,824	771			116,391		117,162
Common stock issued under stock purchase plan	21,654	87			114,543		114,630
Tax benefit from exercise of warrants					419,399		419,399
Restricted stock issued under equity incentive plans	91,000	-			-		-
Stock compensation					303,136		303,136
BALANCE, December 31, 2007	10,984,785	43,575	86,000	(101,480)	5,889,007	7,920,307	13,751,409
Net loss						(387,994)	(387,994)
Common stock issued upon exercise of stock options and warrants	29,300	118			40,847		40,965
Common stock issued under stock purchase plan	26,417	106			99,690		99,796
Private placement	333,333	1,333			998,667		1,000,000
Tax benefit from exercise of warrants					(14,730)		(14,730)
Restricted stock issued under equity incentive plans, net of cancellations	45,700	543			(543)		-
Stock compensation					410,402		410,402
BALANCE, December 31, 2008	11,419,535	$ 45,675	86,000	($101,480)	$ 7,423,340	$ 7,532,313	$14,899,848

See accompanying notes.

Consolidated Statements of Cash Flows
For the Years Ended December 31, 2008, 2007 and 2006

	2008	2007	2006
OPERATING ACTIVITIES:			
Net (loss) income	$ (387,994)	$ 306,460	$ 1,746,701
Adjustments to reconcile net (loss) income to net cash provided (used) by operating activities:			
Depreciation and amortization	1,169,335	816,286	516,150
Deferred income taxes	373	(537,167)	37,813
Provision for doubtful accounts	25,000	50,000	-
Stock compensation	410,402	303,136	390,283
Amortization of gain on sale and leaseback	(134,637)	(43,035)	-
Changes in operating assets and liabilities:			
Accounts receivable	1,240,945	(90,997)	(1,687,340)
Other receivable	(715,769)	-	-
Recoverable income taxes	129,273	90,485	(320,943)
Inventories	234,580	(3,212,925)	(1,215,386)
Other current assets	2,266	(6,033)	86,011
Accounts payable and accrued expenses	(324,071)	(865,377)	1,097,560
Income taxes payable	10,750	10,750	(18,999)
Retirement benefit obligation	-	-	(349,567)
Net cash provided (used) by operating activities	1,660,453	(3,178,417)	282,283
INVESTING ACTIVITIES:			
Purchases of intangible assets	(53,241)	(479,543)	(157,561)
Proceeds from sale of property	-	2,791,529	-
Contingent consideration for business purchased	-	-	(300,000)
Purchases of property and equipment	(1,413,014)	(1,188,030)	(1,042,143)
Net cash (used) provided by investing activities	(1,466,255)	1,123,956	(1,499,704)
FINANCING ACTIVITIES:			
Borrowings under notes payable	298,704	410,639	312,182
Repayments of notes payable	(370,241)	(408,343)	(449,300)
(Repayments) borrowings under line-of-credit, net	(255,341)	2,249,349	-
Repayments of long-term debt	(577,454)	(1,516,188)	(574,115)
Tax benefit (reversal) from exercise of warrants	(14,730)	419,399	865,842
Proceeds from issuance of common stock	1,140,761	231,792	504,763
Net cash provided by financing activities	221,699	1,386,648	659,372
Net change in cash and cash equivalents	415,897	(667,813)	(558,049)
Cash and cash equivalents, beginning of year	666,722	1,334,535	1,892,584
CASH AND CASH EQUIVALENTS, END OF YEAR	$ 1,082,619	$ 666,722	$ 1,334,535
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid during the year for interest	$ 282,056	$ 263,732	$ 247,663
Cash (collected) paid during the year for income taxes, net	$ (301,398)	$ 13,934	$ 417,710

See accompanying notes.

CAS MEDICAL SYSTEMS, INC.

Notes to Consolidated Financial Statements

(1) THE COMPANY

CAS Medical Systems, Inc. ("CASMED") and its wholly-owned subsidiary, Statcorp, Inc. ("Statcorp") operate as one reportable business segment. Together, CASMED and Statcorp (the "Company") develop, manufacture and distribute diagnostic equipment and medical products for use in the healthcare and medical industry. These products are sold by the Company through its own sales force, via distributors and manufacturers representatives under contract, and pursuant to original equipment manufacturer ("OEM") agreements both internationally and in the United States. The Company's operations and manufacturing facilities are located in the United States. During 2008 and 2006, one customer accounted for approximately 12% and 11%, respectively, of net sales. No customer accounted for more than 10% of net sales during 2007. The Company generated international sales of approximately $10.6 million in 2008, $8.6 million in 2007, and $7.7 million in 2006. In the normal course of business, the Company grants credit to customers and does not require collateral. Credit losses are provided for in the period the related sales are recognized based on experience and an evaluation of the likelihood of collection. Credit losses have been within management's expectations.

(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and expenses during the reporting period. Estimates that are particularly sensitive to change in the near-term are the inventory valuation allowances, capitalized software development costs, allowance for doubtful accounts and warranty accrual. Actual results could differ from those estimates.

Principles of consolidation

The consolidated financial statements include the accounts of CASMED and its wholly-owned subsidiary. All intercompany accounts and transactions are eliminated in consolidation.

Cash and cash equivalents

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. The Company has deposits in a limited number of financial institutions with federally insured limits. Cash (including cash equivalents) at these institutions is normally in excess of the insured limits. However, the Company believes that the institutions are financially sound and there is only nominal risk of loss.

Inventories

Inventories are stated at the lower of cost, determined by the first-in, first-out method, or market.

Property and equipment

Property and equipment, including leasehold improvements, are stated at cost. Depreciation is computed using the straight-line method based on the estimated useful lives of the assets, which range from two to five years for machinery and equipment, and twenty years for building and improvements. Leasehold improvements are amortized over the life of the improvement or the lease term, whichever is shorter. Maintenance and repairs are charged to expense when incurred.

The Company has separately reported its FORE-SIGHT cerebral oximetry monitors located at customer sites within the U.S. Such equipment is held under a no cost program whereby customers purchase disposable sensors for use with the Company's equipment. The Company retains title to the monitors shipped to its customers under this program. The monitors are depreciated on a straight-line basis over five years to cost of sales. As of December 31, 2008, the Company has capitalized $1,132,422 of costs pertaining to the monitors which have a net book value of $905,854.

Depreciation and amortization expense on property and equipment was $1,026,870 in 2008, $750,411 in 2007, and $455,755 in 2006.

Long-lived assets

The Company reviews its long-lived assets including goodwill for impairment at least annually or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company believes that the carrying amounts of its long-lived assets are fully recoverable. Accordingly, no impairment loss has been reflected in the Company's reported results of operations for any year presented.

Intangible and other assets

Intangible and other assets at December 31, 2008 and 2007 consist of:

	2008	2007
Patents and other assets	$ 628,273	$ 555,446
Patents pending	204,510	161,249
Purchased technology	123,893	254,393
Capitalized software	177,813	170,063
Deferred finance charges	71,938	12,035
	1,206,427	1,153,186
Accumulated amortization	(449,049)	(306,584)
	$ 757,378	$ 846,602

Intangible and other assets are stated at cost. Patents are amortized over their estimated useful lives which range from 1 to 20 years. Purchased technology is amortized over five years. Costs associated with the development of new external use software products are expensed as incurred until technological feasibility has been established in accordance with SFAS No. 86 "Accounting for the Costs of Computer Software to be Sold, Leased or Otherwise Marketed." Technological feasibility is demonstrated by the completion of a detailed design plan. Capitalization ceases when the product is available for general release to customers. Capitalized costs are amortized over their estimated 3 year useful lives. Deferred financing costs were amortized over the term of the related debt. Amortization expense was $142,465 in 2008, $63,808 in 2007 and $60,395 in 2006.

Expected amortization expense of intangible assets as of December 31, 2008 over the next five years follows:

2009	$ 126,000
2010	86,000
2011	53,000
2012	25,000
2013	13,000
	$ 303,000

Revenue and accounts receivable recognition

Revenue from sales and accounts receivable are recognized when evidence of an arrangement exists, delivery has occurred based upon shipping terms, the selling price is fixed and determinable, and collectability is reasonably assured. Terms of sale for most domestic sales are FOB origin and for most international sales are EX-Works reflecting that ownership and risk of loss are assumed by the buyer at shipping point. In addition, the Company

has certain agreements with its customers to ship FOB destination reflecting that ownership and risk of loss are assumed by the buyer upon delivery. While the Company accepts returns of products from its customers from time to time for various reasons including defective goods, order entry, shipping or other errors, the Company's business practices do not include providing right of return at the time of sale. Historically, such returns have not been significant. The Company has entered into agreements with several customers to provide them with price rebates based upon their level of purchases. Rebates are accrued by the Company as a reduction in net sales as they are earned by customers. Payment terms range from prepayment to net sixty days depending upon certain factors including customer credit worthiness, geographical location and customer type (i.e., end-user, distributor, government or private entity) and also includes irrevocable letters of credit for certain international shipments. Price discounts that may be taken by customers under contractual arrangements for payment of invoices within specified periods are recorded as reductions to net sales. Further, the Company accrues expected payment discounts based upon specific customer accounts receivable balances. The Company does not incur post shipment obligations with the exception of product warranties which are generally fulfilled from the Company's corporate facilities and which costs are not material relative to the sale of the product. Accounts receivable are charged to the allowance for doubtful accounts when deemed uncollectible.

As of December 31, 2008, the Company was owed $715,769 (included in the caption "Other Receivables") for materials sold at cost by it to a vendor who provides subcontracted manufacturing services for the Company.

Income taxes

The Company recognizes deferred income tax assets and liabilities for future tax consequences resulting from differences between the book and tax bases of existing assets and liabilities. A valuation allowance is provided for that portion of deferred income tax assets which may not be realized.

As of January 1, 2007, the Company adopted FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes – an Interpretation of FASB Statement No. 109" ("FIN 48"). FIN 48 prescribes a more-likely-than-not threshold for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. This interpretation also provides guidance on de-recognition of income tax assets and liabilities, the classification of current and deferred income tax assets and liabilities, the accounting for interest and penalties associated with tax positions, the accounting for income taxes in interim periods, and income tax disclosures. In conjunction with the adoption of FIN 48, the Company recognized non-current liabilities of $134,375 for uncertain tax positions with a charge to retained earnings. There was no effect on operating results or cash flows.

The Company files U.S. Federal and multiple state income tax returns. With few exceptions, the Company's tax returns have been examined for years prior to 2004. During 2006, an examination of the Company's 2004 U.S. Federal income tax return was completed. There was no material effect on the Company's financial statements. Interest and penalties related to uncertain tax positions are classified with income taxes.

During 2007 and 2006, warrants to purchase 164,599 and 257,600 shares, respectively, of the Company's common stock were exercised, including those held by a former outside director and the Chairman of the Board of Directors of the Company. The exercise of the warrants resulted in income tax deductions in excess of compensation expense recognized of $1,140,573 in 2007 and $2,735,875 in 2006. Such amounts are included in the taxable income of the applicable individuals and deducted by the Company for federal and state income tax reporting purposes. As a result, the Company has reduced its current federal and state income tax obligations by $419,399 in 2007 and $865,842 in 2006 and credited additional paid-in-capital. A change in estimate for prior year amounts of $14,730 was recorded in 2008.

Warranty costs

The Company warrants some of its products against defects and failures for up to three years and records the estimated cost of such warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experiences of product returns and the related estimated cost of labor and material to make the necessary repairs.

A summary of the changes in the Company's warranty accrual follows:

	2008	2007
Beginning balance	$ 50,000	$ 50,000
Provision	188,775	185,962
Warranty costs incurred	(188,775)	(185,962)
Ending balance	$ 50,000	$ 50,000

Research and development costs

The Company expenses all research and development costs as incurred. Research and development includes, among other expenses, direct costs for salaries, employee benefits, professional services, materials and facility related expenses.

The Company has received various grants which support its research and development efforts. In accordance with the terms of these grants, the Company is being reimbursed for certain qualifying expenditures under the agreement. Funding provided to the Company is being recorded as a reduction of R&D expenses. The Company recognizes the reimbursement on an accrual basis as the qualifying costs are incurred.

Advertising costs

Non-direct response advertising costs are expensed as incurred and include product promotion, samples, meetings and conventions, and print media. Advertising expense was $936,000 in 2008, $990,000 in 2007 and $667,000 in 2006.

Earnings per common share

Basic earnings per share is calculated by dividing net income (loss) by the weighted average number of shares of common stock outstanding during the year. Diluted earnings per share assumes the exercise or conversion of dilutive securities using the treasury stock method.

A summary of the denominators used to compute basic and diluted earnings (loss) per share for the years ended December 31, 2008, 2007 and 2006 follow:

	2008	2007	2006
Weighted average shares outstanding, net of restricted shares – used to compute basic earnings (loss) per share	11,031,855	10,696,217	10,373,225
Dilutive effect of restricted shares, and outstanding warrants and options	-	1,515,477	1,774,148
Weighted average shares of dilutive securities outstanding – used to compute diluted earnings (loss) per share	11,031,855	12,211,694	12,147,373

Stock-based compensation

As of December 31, 2008, the unrecognized stock-based compensation cost related to non-vested stock awards was $689,233. Such amount, reduced for forfeitures, will be recognized in operations over a weighted average period of 2.1 years.

The fair value of each option is estimated on the date of grant using the Black-Scholes option pricing model Similar to other option pricing models, the Black-Scholes model requires the input of highly subjective assumptions which may materially affect the estimated fair value of the Company's stock options. The following weighted-average assumptions were used for grants in 2008, 2007 and 2006: risk-free interest rates of 3.6% to

3.9%, 4.6% and 4.4%; expected lives of 4.2 years, 4.2 years and 7.0 years; dividend yield of 0%; and expected volatility of 63%, 115% and 130%. Risk-free interest rates approximate U.S. Treasury yields in effect at the time of the grant. The expected lives of the stock options are determined using historical data adjusted for the estimated exercise dates of unexercised options. Volatility is determined using both current and historical implied volatilities of the underlying stock which is obtained from public data sources.

Fair value of financial instruments

The Company has not expanded the use of fair value measurements to the amounts shown in its financial statements for financial instruments, including debt, under Statement of Financial Accounting Standards No. 157, "Fair Value Measurements" (SFAS 157), described below. The fair value disclosures for financial instruments as of December 31, 2008 have been determined under SFAS 157. The fair value of the Company's long-term debt as of December 31, 2008 approximates its carrying value of $2,322,560. Fair value was determined using unobservable inputs (i.e. Level III as defined in SFAS 157). The fair value of all other financial instruments approximates their carrying value using active market data (i.e. Level I as defined in SFAS 157).

As of December 31, 2007, the carrying value of all financial instruments approximated fair value using fair value measurements then in effect.

New accounting pronouncements

In September 2006, the FASB issued Statement of Financial Accounting Standards No. 157, "Fair Value Measurements" (SFAS 157). SFAS 157 defines fair value, establishes a framework for measuring fair value, and expands disclosure requirements regarding fair value measurement. SFAS 157 does not expand the use of fair value measurements. Further, this statement simplifies and codifies fair value related guidance previously issued and is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. The Company has not expanded the use of fair value measurements. However, all fair value disclosures included in the accompanying financial statements are determined in accordance with SFAS 157. In addition, the Company considers fair value determined under SFAS 157 when performing its annual goodwill impairment test. FASB Staff Position 157-2, "Effective Date of FASB Statement No. 157," ("FSP 157-2") delayed the effective date of SFAS 157 for all nonfinancial assets and nonfinancial liabilities, except for items that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually), until the beginning of fiscal 2009. The Company is currently assessing the impact that the application of SFAS 157 to nonfinancial assets and liabilities will have on its results of operations and financial position.

In February 2007, the FASB issued SFAS 159, *The Fair Value Option for Financial Assets and Liabilities—Including an amendment of FASB Statement No. 115* ("SFAS 159"). SFAS 159 expands the use of fair value accounting but does not affect existing standards which require assets or liabilities to be carried at fair value. The objective of SFAS 159 is to improve financial reporting by providing companies with the opportunity to mitigate volatility in reported earnings caused by measuring related assets and liabilities differently without having to apply complex hedge accounting provisions. Under SFAS 159, a company may elect to use fair value to measure eligible items at specified election dates and report unrealized gains and losses on items for which the fair value option has been elected in earnings at each subsequent reporting date. Eligible items include, but are not limited to, accounts receivable, accounts payable, and issued debt. If elected, SFAS 159 is effective for fiscal years beginning after November 15, 2007. The Company has not elected to measure and report any additional financial assets or liabilities at fair value under SFAS 159 that were not already measured at fair value under existing standards.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *Business Combinations* ("SFAS 141(R)"). SFAS 141(R) establishes principles and requirements for how an acquirer recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, any non-controlling interest in the acquiree and the goodwill acquired. SFAS 141(R) also establishes disclosure requirements to enable the evaluation of the nature and financial effects of the business combination. SFAS 141(R) is effective for fiscal years beginning after December 15, 2008. The Company, as required, will apply the provisions SFAS 141(R) to any acquisition after January 1, 2009.

(3) ALLOWANCE FOR DOUBTFUL ACCOUNTS

Changes in the allowance for doubtful accounts during the years ended December 31, 2008 and 2007 follow:

	2008	2007
Balance at beginning of year	$ 125,000	$ 75,000
Provision	25,350	58,000
Accounts written off	(350)	(8,000)
Balance at end of year	$ 150,000	$ 125,000

(4) INVENTORIES

Inventories at December 31, 2008 and 2007 consist of:

	2008	2007
Raw materials	$ 7,560,332	$ 7,481,065
Work in process	24,560	187,134
Finished goods	2,201,646	2,352,919
	$ 9,786,538	$ 10,021,118

(5) FINANCING ARRANGEMENTS

Line-of-credit

On February 11, 2008, the Company amended and restated its existing line of credit with NewAlliance Bank (the "Bank"). The Company entered into a new Commercial Loan Agreement (the "Loan Agreement") and related Commercial Revolving Promissory Note (the "Note") which provide for borrowings on a revolving basis, at the Bank's discretion, in an amount up to $10,000,000. Loans in excess of $2,000,000 up to $10,000,000 can be made only if the maximum principal amount outstanding does not exceed a borrowing base equal to the sum of (i) 75% of eligible receivables (as defined in the Loan Agreement) and (ii) the lesser of $2,500,000 or 30% of eligible inventory (as defined in the Loan Agreement.) Borrowings under the Loan Agreement and the Note are secured by a first priority lien in all the business assets of the Company pursuant to a Security Agreement (the "Security Agreement"). The Loan Agreement contains customary non-financial covenants and financial covenants consisting of a debt service coverage ratio and a debt to tangible net worth ratio.

On December 31, 2008, the Company amended the line of credit pursuant to a Debt Modification Agreement (the "Modification Agreement"). The Modification Agreement amended the Loan Agreement and related Note. The Modification Agreement extends the maturity date of the Note to July 1, 2010 and also amends the interest rate for the revolving loans under the Credit Agreement by increasing the rate from (i) the Prime Rate (as defined in the Loan Agreement) minus .50% to (ii) the Bank's Base Rate (as defined in the Modification Agreement) with a minimum interest rate of 3.25% per annum. The Modification Agreement also amended the existing debt service coverage ratio covenant to provide that it would be measured quarterly on a rolling four quarter basis beginning December 31, 2008.

The Company executed an amendment to the line of credit agreement on April 3, 2009 pursuant to a Second Modification Agreement with the Bank effective March 31, 2009. Under the terms of the Second Modification Agreement, the debt service coverage ratio was revised from a quarterly test to an annual test for the twelve months ending December 31, 2009 and the minimum ratio was revised from 1.5 to 1.0. As of the first quarter of 2010 and thereafter, the ratio returns to 1.5 with testing resumed on a quarterly basis. Also, the maximum availability under the line of credit was reduced to $5,000,000 from $10,000,000. Further, the interest rate was modified from the Bank's Base Rate with a floor of 3.25% to the Bank's Base Rate plus 1.0% with a floor rate of 4.0%.

Notes payable

During 2008, 2007, and 2006, the Company financed the premiums for its property casualty insurance policies and for 2007 and 2006 its directors and officers insurance with short-term borrowings of $289,886, $410,639, and $312,182, respectively. There were no outstanding balances as of December 31, 2008.

Long-term debt

Long-term debt at December 31, 2008 and 2007 consists of:	2008	2007
Note payable to a bank in monthly installments of $61,533, including interest at 6.0% to May 2012	$ 2,322,560	$ 2,900,014
Less current portion	614,067	577,453
	$ 1,708,493	$ 2,322,561

Scheduled principal maturities of long-term debt follow:

2009	614,067
2010	652,482
2011	693,300
2012	362,711
	$ 2,322,560

Collateral and covenants

Substantially all assets are pledged as collateral for long-term debt and borrowings under the line-of-credit. In addition, the Company is required to meet, among others, debt service and debt to equity covenants. As of December 31, 2008, the Company was in compliance with such covenants.

(6) ACCRUED EXPENSES

Accrued expenses at December 31, 2008 and 2007 consist of:

	2008	2007
Payroll	$ 327,239	$ 212,716
Professional fees	174,529	119,681
Warranty	50,000	50,000
Contract fees	-	130,500
Bonuses	-	146,110
Travel and entertainment	53,270	54,701
Other	230,830	248,446
	$ 835,868	$ 962,154

(7) SHARE-BASED PAYMENT PLANS

Under the CAS Medical Systems, Inc. 2003 Equity Incentive Plan (the "Incentive Plan") 1,000,000 shares of common stock have been reserved for issuance. Awards that may be granted under the Incentive Plan include options, restricted stock, restricted stock units, and other stock-based awards. The purposes of the Incentive Plan are to make available to key employees and directors, certain compensatory arrangements related to growth in the value of the Company's stock so as to generate an increased incentive to contribute to the Company's financial success and prosperity; to enhance the Company's ability to attract and retain exceptionally qualified individuals

whose efforts can affect the Company's financial growth and profitability; and align in general the interests of employees and directors with the interests of stockholders. The Incentive Plan is administered by the Compensation Committee of the Board of Directors, which in turn determines the employees, officers and directors to receive awards and the terms and conditions of these awards.

As of December 31, 2007, 343,750 shares were available for issuance under the Incentive Plan. During 2008, under the Incentive Plan, options for 125,000 shares of common stock were granted to the Company's employees. Further, 74,000 shares of restricted stock were issued during 2008 to employees and members of the Board of Directors and 58,300 shares were cancelled. As such, 203,050 shares of common stock remain available for issuance under the Incentive Plan as of December 31, 2008.

As of December 31, 2008, options to purchase 124,700 shares remain outstanding under the 1994 Employees Incentive Stock Option Plan (the "1994 Plan"). The 1994 Plan expired during 2003 and, as such, there are no further options available for issuance under the 1994 Plan.

A summary of the Company's stock option plans and changes during the years follow:

	2008			2007		
	Option Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value	Option Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding at beginning of year	524,425	$ 2.11		537,650	$ 1.98	
Granted	125,000	3.89		15,000	5.64	
Exercised	(29,300)	1.40		(28,225)	1.54	
Canceled	(30,000)	4.00		-	0.00	
Outstanding at end of year	590,125	2.43	$0.37	524,425	2.11	$ 3.39
Exercisable at end of year	461,791	2.00	0.47	509,425	2.01	3.49
Vested or expected to vest at end of year	589,125	2.43	$ 0.37	514,425	2.06	$ 3.39
Weighted average grant-date fair value of options granted during the year		$ 2.90			$ 5.11	

The total intrinsic value of stock options exercised was $62,731 in 2008 and $143,821 in 2007. The intrinsic value of a stock option is the amount by which the current market value of the underlying stock exceeds the option exercise price.

Additional information about stock options outstanding and exercisable at December 31, 2008 follows:

Range of Exercise Prices	Number Outstanding	Weighted Remaining Contractual Life in Years	Average Exercise Price	Number Exercisable	Average Exercise Price
$ 0.53 - $ 0.82	124,700	2.9	$ 0.67	124,700	$0.67
1.40 - 2.81	215,425	6.0	1.87	190,425	1.75
3.10 - 4.65	225,000	8.5	3.61	145,000	3.42
5.02 - 6.93	25,000	9.2	5.40	1,666	6.93
$ 0.53 - $ 6.93	590,125	6.1	$ 2.43	461,791	$2.00

During 2008, the Company issued an aggregate of 74,000 shares of restricted stock to employees including 35,000 to its executive officers and 9,000 shares of restricted stock to outside members of the Board of Directors under the Incentive Plan. The restricted stock issued to employees during 2008 vests from twenty-four months to thirty-six months from date of grant while the restricted stock issued to members of the Board of Directors vests ratably over twelve months from date of grant. The weighted average value of the restricted stock was $4.00 per share and the aggregate fair value of the stock issued based on the closing market price on the date granted was $295,760. The fair value of the restricted common shares was estimated based upon the market value of the common stock on the date of issuance.

As of December 31, 2008, 147,455 shares of non-vested restricted common stock issued to date remain outstanding. Stock compensation expense of $589,460 has been recognized to December 31, 2008 related to restricted shares granted in 2008 and in prior years. The unamortized stock compensation expense associated with the restricted shares at December 31, 2008 was $464,449 and will be recognized ratably through 2011.

Warrants to purchase 1,064,401 shares of common stock at a weighted average exercise price of $0.50 per share were outstanding at December 31, 2008. Included in the outstanding warrants at December 31, 2008 is a warrant issued to the Company's Chairman of the Board of Directors and former President and CEO during 1998 to purchase 100,000 shares of the Company's common stock at $1.00 per share. This warrant is exercisable solely in the event of a change of control of the Company, as defined, which rights to exercise terminate upon expiration of the Chairman's employment contract with the Company, which is scheduled to expire on March 31, 2009. Except for the warrants related to the change in control, the remaining warrants have no specific expiration date and have an exercise price range of $0.30 to $1.44 per share.

During 2007, a former director and the Company's Chairman of the Board of Directors exercised warrants to purchase a total of 164,599 shares of common stock at a weighted average exercise price of $0.45 per share. There was no warrant activity during 2008.

Under the CAS Medical Systems, Inc. Employee Stock Purchase Plan (the "Purchase Plan") 150,000 shares of common stock have been reserved for issuance. Under the Purchase Plan employees may purchase the Company's common stock through payroll deductions. To December 31, 2008, 103,405 shares of common stock have been issued to plan participants under the Purchase Plan and amounts had been withheld from employees' compensation for an additional 23,127 shares issued during January 2009.

(8) BENEFIT PLANS

The Company maintains a 401(k) benefit plan for its employees, which generally allows participants to make contributions via salary deductions up to allowable Internal Revenue Service limits on a tax-deferred basis. Such deductions are matched in part by discretionary contributions by the Company. Matching contributions by the

Company were $109,421 in 2008, $110,586 in 2007 and $96,266 in 2006.

The Company offered certain retirement benefits through a plan accounted for under Financial Accounting Standards Board Statement No. 106, "Accounting for Post-Retirement Benefits Other than Pensions" as a post-retirement benefit plan (the "Plan"). The benefits were funded through the purchase of medical insurance for each retiree each year. The Company funded the Plan on a "pay-as-you-go" basis.

The Plan became effective in January 2002 for qualifying employees who retire at age 65 or later and have provided ten continuous years of service to the Company. The Plan provided certain prescription drug and supplemental health benefits for Medicare qualified retirees of the Company.

During February 2005, the Company initiated certain changes to the Plan to significantly reduce its future funding requirements. Effective September 1, 2005, participants under the Plan were required to share fifty percent of the premiums for benefit costs.

As of December 1, 2005, the Plan was also amended to allow only those participants retired and receiving benefits as of that date to remain eligible to receive future benefits under the Plan. In addition, the Company advised those participants that it would no longer provide benefits after December 31, 2006. In connection therewith, the Company recognized a curtailment gain of $400,739 during the fourth quarter of 2005. Negative unrecognized prior service costs of $195,921 applicable to current retirees receiving benefits and an unrecognized net gain of $145,710 as of December 31, 2005 were amortized to the date coverage expired (December 31, 2006) in accordance with the closure of the Plan.

Components of net periodic benefit cost under the Plan during the year ended December 31, 2006 prior to the elimination of benefits follow:

	2006
Interest cost	$ 216
Amortization of prior service cost	(195,921)
Amortization of unrecognized gain	(145,710)
Net periodic benefit income	$ (341,415)

Final benefit obligations under the Plan of $8,152 were paid in 2006.

(9) INCOME TAXES

Recoverable income taxes as of December 31, 2008 and 2007 consist of estimated tax deposits in excess of the current provision. The provision for income taxes for the years ended December 31, 2008, 2007 and 2006 consists of:

	2008	2007	2006
Current (benefit):			
Federal	$ (28,597)	$ 657,438	$ 914,089
State	(147,508)	(133,620)	31,246
	(176,105)	523,818	945,335
Deferred (benefit):			
Federal	(155,637)	(507,348)	79,527
State	156,011	(19,069)	(41,714)
	374	(526,417)	37,813
Income taxes (benefit)	$ (175,731)	$ (2,599)	$ 983,148

A reconciliation of U.S. Federal income taxes computed at the statutory rate to income taxes shown in operations for the years ended December 31, 2008, 2007 and 2006 follows:

	2008	2007	2006
Income taxes at the statutory rate	$ (191,667)	$ 103,313	$ 928,148
State income taxes, net of federal effect	5,612	(100,774)	(6,910)
R&D and other tax credits	(25,021)	(80,700)	(134,642)
Stock options	3,523	33,424	116,522
Other	31,822	42,138	80,030
Income taxes (benefit)	$ (175,731)	$ (2,599)	$ 983,148

Deferred income tax assets and (liabilities) at December 31 relate to:

	2008	2007
Inventories	$ 545,930	$ 319,115
Warranty accrual	17,495	17,495
Allowance for doubtful accounts	52,492	43,738
Tax credits	163,830	196,232
Property and equipment	-	8,835
Deferred gain on sale and leaseback	408,928	455,262
Other	155,884	138,571
	1,344,559	1,179,248
Prepaid expenses	(144,137)	(137,012)
Property and equipment	(158,559)	-
	$ 1,041,863	$ 1,042,236

A reconciliation of unrecognized income tax benefits for 2008 and 2007 follows:

	2008	2007
Balance at beginning of year	$ 107,500	-
Adoption of FIN 48	-	$ 107,500
Tax positions taken in current year	-	-
Settlements	-	-
Lapse of applicable statute of limitation	-	-
Balance at end of year	$ 107,500	$ 107,500

During 2008, $10,750 of interest on uncertain tax positions was recognized as income tax expense. As of December 31, 2008, $48,375 of interest and penalties were accrued and, together with $107,500 of unrecognized tax benefits, were included in the $155,875 reported as income taxes payable on the Company's balance sheet. The total amount of unrecognized income tax benefits, if recognized, would affect the Company's effective income tax rate by approximately $36,500. Currently, the Company does not believe that the unrecognized income tax benefits will significantly change in 2009.

(10) GRANT AWARDS

The Company has been awarded various grants by the National Institutes of Neurological Disorders and Stroke of the NIH under its Small Business Innovative Research Program. Grants under this program have been used to support the development of the Company's Near-Infrared Spectroscopy ("NIRS") technology which non-invasively measures the brain oxygenation level of a patient. In accordance with the terms of these grants, the Company has been reimbursed for certain qualifying expenditures. On September 17, 2007, the Company was awarded a three year grant totaling $2,800,000 to support its NIRS research.

Qualifying research and development costs ("R&D") of $582,000 in 2008, $479,000 in 2007 and $20,000 in 2006 were reimbursed under grants. Such reimbursements are recorded as a reduction in R&D expenses. The Company recognizes these reimbursements on an accrual basis as the qualifying costs are incurred. As of December 31, 2008, a maximum of approximately $1,700,000 remains available under the 2007 grant.

(11) SALE AND LEASEBACK OF PROPERTY

On September 6, 2007, the Company closed the sale and leaseback of its headquarters and manufacturing facility (the "Property"). Net proceeds from the sale were $2,791,529 of which $928,872 was used to retire the related outstanding mortgage debt. The gain of $1,346,373 realized on the sale has been deferred and will be recognized in operations as a reduction in rent expense over the term of the lease. The lease has an initial term of ten years expiring on September 6, 2017 and an option for two additional five-year periods. The lease provides for an annual base rent in years one through five of $244,800 and $268,800 in years six through ten. The Company recognizes rent expense on a straight-line basis over the ten years. Under the lease, the Company is responsible for the costs of utilities, insurance, taxes and maintenance expenses. Further, the Company is required to maintain at least $600,000 in cash and cash equivalents (increasing at 3% per annum) and net current assets of not less than $3,600,000.

In addition, the Company has a right of first offer to lease any additional space or building built by the lessor on the Property, subject to certain restrictions. The Company also has the right to require the lessor to build an addition or additional building ("Expansion Premises"), subject to certain restrictions. Upon the delivery of any Expansion Premises, the term of the Lease would extend for a ten year term. The base rent for the Expansion Premises shall be the greater of the then prevailing market rent or an amount equal to a return on actual costs of construction of the greater of 250 basis points over the rate on ten year U.S. Treasury Notes, or 8%. Upon delivery of the Expansion Premises, the lessor would assume obligations under the Company's existing leases of its two adjacent properties, in exchange for a payment equal to three months rent and certain unamortized costs incurred with respect to these two facilities.

(12) COMMITMENTS

The manufacture and sale of our products exposes us to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, our products or use of our products with components or systems not manufactured or sold by us. Product liability claims or product recalls, regardless of their ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages. We are currently a defendant in a product liability action which is scheduled for trial during mid 2009. We believe that our product liability insurance is sufficient to cover any damages and costs that are likely with respect to this matter. There can be no assurance however, that this will be the case with respect to any future matters. Furthermore, we may not be able to obtain insurance in the future at satisfactory rates or in adequate amounts.

In addition, publicity pertaining to the misuse or malfunction of, or design flaws in, our products could impair our ability to successfully market and sell our products and could lead to product recalls.

On May 8, 2007, the Company signed an exclusive distribution agreement (the "Agreement") with Analogic Corporation under which the Company obtained worldwide exclusive rights to market the Analogic Lifegard® family of non-invasive patient monitors. Under the Agreement, Analogic would co-brand the devices and reconfigure its Lifegard II monitor to include the Company's MAXNIBP branded non-invasive blood pressure and other branded technologies. Accordingly, the Company would reimburse Analogic approximately $900,000 upon meeting agreed milestone dates for such efforts. As of December 31, 2008, the Company had made payments to Analogic of $90,000.

On November 24, 2008, Analogic commenced arbitration against the Company contending that the Company breached the Agreement. Analogic is seeking damages of approximately $765,000 for costs it allegedly incurred in performing under the Agreement including winding down costs and additional remedies which may provide for relief totaling double or treble damages, in addition to attorney fees. The Company denies Analogic's claims and is asserting a counterclaim for damages in excess of those sought by Analogic. The arbitration hearing is expected to be conducted in the second quarter of 2009.

In addition, we may become, in the normal course of our business operations, a party to other legal proceedings in addition to those described in the paragraphs above. None of these other proceedings would be expected to have a material adverse impact on our results of operations, financial condition, or cash flows.

The Company currently leases four separate operating facilities and certain equipment under non-cancellable operating leases.

Rent expense under these leases was $639,000 in 2008, $280,000 in 2007 and $150,000 in 2006. Future annual minimum rental payments as of December 31, 2008 to the expiration of the leases follow: 2009-$428,000; 2010-$410,000; 2011-$415,000; 2012-$428,000; 2013-$450,000; and thereafter $1,168,000.

(13) UNAUDITED QUARTERLY INFORMATION

Unaudited quarterly financial information follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
Year ended December 31, 2008					
Net sales	$ 8,961,551	$10,542,919	$11,708,082	$ 9,436,505	$40,649,057
Cost of sales	6,281,396	7,051,041	7,407,603	6,007,550	26,747,590
Gross profit	2,680,155	3,491,878	4,300,479	3,428,955	13,901,467
Net (loss) income	(529,891)	(32,008)	328,866	(154,961)	(387,994)
Net (loss) income per common share (1):					
Basic	$ (0.05)	$ (0.00)	$ 0.03	$ (0.01)	$ (0.04)
Diluted	$ (0.05)	$ (0.00)	$ 0.03	$ (0.01)	$ (0.04)
Year ended December 31, 2007					
Net sales	$ 9,289,332	$ 7,962,396	$10,663,435	$10,317,242	$38,232,405
Cost of sales	5,747,621	5,447,781	6,634,787	6,754,618	24,584,807
Gross profit	3,541,711	2,514,615	4,028,648	3,562,624	13,647,598
Net income (loss)	79,439	(300,618)	539,194	(11,555)	306,460
Net income (loss) per common share (1):					
Basic	$ 0.01	$ (0.03)	$ 0.05	$ (0.00)	$ 0.03
Diluted	$ 0.01	$ (0.03)	$ 0.05	$ (0.00)	$ 0.03

(1) The sum of quarterly per share amounts may not equal per share amounts reported for year-to-date or full-year periods due to change the number of weighted average shares outstanding and the effects of rounding.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A(T). Controls and Procedures

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in the Company's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure based on the definition of "disclosure controls and procedures" in Rule 13a-15(e). In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

The Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and the Company's Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2008. Based upon the foregoing evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that its disclosure controls and procedures were effective as of that date.

There have been no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2008 that have materially affected, or are reasonably likely to materially affect the Company's internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of the Company's management, including the principal executive officer and principal financial officer, an evaluation was conducted to determine the effectiveness of internal control over financial reporting based on the framework in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the Company's evaluation under the framework in *Internal Control — Integrated Framework,* the Company's management concluded that its internal control over financial reporting was effective as of December 31, 2008.

This annual report does not include an attestation report of the Company's independent registered public accounting firm regarding internal control over financial reporting pursuant to temporary rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

Reference is made to the Certifications of the Chief Executive Officer and the Chief Financial Officer about these and other matters attached as Exhibits 31.1, 31.2 and 32.1 to this report.

Item 9B. Other Information

The Company executed an amendment to the line of credit agreement on April 3, 2009 pursuant to a Second Modification Agreement with NewAlliance Bank (the "Bank) effective March 31, 2009. Under the terms of the Second Modification Agreement, the debt service coverage ratio was revised from a quarterly test to an annual test for the twelve months ended December 31, 2009 and the minimum ratio revised from 1.5 to 1.0. As of the first quarter of 2010 and thereafter, the ratio returns to 1.5 with testing resumed on a quarterly basis. The maximum availability under the line of credit was reduced to $5,000,000 from $10,000,000. Further, the interest rate was modified from the Bank's Base Rate with a floor of 3.25% to the Bank's Base Rate plus 1.0% with a floor rate of 4.0%. The Second Modification Agreement is attached as Exhibit 10.29 to this annual report on Form 10-K.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Reference is made to the disclosure required by Items 401, 405, 406 and 407(c)(3), (d)(4) and (d)(5) of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to shareholders on or about April 25, 2009, and to be filed with the Securities and Exchange Commission.

Item 11. Executive Compensation

Reference is made to the disclosure required by Items 402 and 407 (e) (4) and (e) (5) of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to shareholders on or about April 25, 2009, and to be filed with the Securities and Exchange Commission.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Reference is made to the disclosure required by Item 403 of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to shareholders on or about April 25, 2009, and to be filed with the Securities Exchange Commission.

The following table provides information regarding the Company's equity compensation plans as of December 31, 2008:

Plan Category	Number of securities to be issued upon exercise of outstanding options and warrants	Weighted-average exercise price of outstanding options and warrants	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders	590,125	$ 2.43	203,050
Equity compensation plans not approved by security holders	1,064,401	0.50	-
Total	1,654,526	$ 1.19	203,050

Securities remaining available for issuance under equity compensation plans approved by security holders are from the CAS Medical Systems, Inc. 2003 Equity Incentive Plan approved during 2004. The equity compensation plans not approved by security holders consist of warrants granted both current and former directors of the Company as compensation for services rendered. These warrants have no expiration date. See Note 7 to the Company's Financial Statements.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Reference is made to the disclosure required by Item 404 of Regulation S-K to be contained in the Registrant's definitive proxy statement to be mailed to shareholders on or about April 25, 2009, and to be filed with the Securities and Exchange Commission.

Item 14. Principal Accountant Fees and Services

Reference is made to the proposal regarding the approval of the Registrant's independent accountants to be contained in the Registrant's definitive proxy statement to be mailed to shareholders on or about April 25, 2009, and to be filed with the Securities and Exchange Commission.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) (1) Financial Statements

The Company's financial statements are included in response to Item 8 of this report.

Report of Independent Registered Public Accounting Firm
Financial Statements
Consolidated Balance Sheets as of December 31, 2008 and 2007
Consolidated Statements of Operations for the Years Ended December 31, 2008, 2007 and 2006
Consolidated Statements of Changes in Shareholders' Equity for the Years Ended December 31, 2008, 2007 and 2006
Consolidated Statements of Cash Flows for the Years Ended December 31, 2008, 2007 and 2006
Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

None.

(3) Exhibits

The Exhibits to this report are as set forth in the "Exhibit Index" on page 28 of this report. Management contracts or compensatory plans or arrangements filed as an exhibit to this report are identified in the "Index to Exhibits" with an asterisk after the exhibit number.

EXHIBIT INDEX

2.1	Stock Purchase Agreement dated May 15, 2005 between CAS Medical Systems, Inc., Statcorp, Inc., and the Stockholders of Statcorp Inc. (1)
3.1	Certificate of Incorporation of Registrant (2)
3.2	Amended and Restated Bylaws of Registrant (14)
10.1*	Employment Agreement dated September 1, 1993 between Louis P. Scheps and CAS Medical Systems, Inc. (4)
10.2*	Amendment Number One to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (4)
10.3*	Amendment Number Two to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (4)
10.4*	Amendment Number Three to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (4)
10.5*	Amendment Number Four to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (3)
10.6*	Amendment Number Five to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (5)
10.7*	Amendment Number Six to Employment Agreement between Louis P. Scheps and CAS Medical Systems, Inc. (6)
10.8*	1994 Employees' Incentive Stock Option Plan (7)
10.9*	CAS Medical Systems, Inc. Employee Stock Purchase Plan (8)
10.10*	CAS Medical Systems, Inc. 2003 Equity Incentive Plan (9)
10.11*	Form of Option Agreement (5)
10.12	Commercial Line of Credit Note and Loan Agreement with NewAlliance Bank (10)
10.13	Security Agreement with NewAlliance Bank (10)
10.14	Commercial Loan and Security Agreement between CAS Medical Systems, Inc., NewAlliance Bank and Statcorp Inc. (1)
10.15	Modification to Agreement between CAS Medical Systems, Inc. and NewAlliance Bank. (6)
10.16	Commercial Line of Credit Note and Loan Agreement dated October 27, 2006 (11)
10.17	Security Agreement in favor of NewAlliance Bank dated October 27, 2006 (11)
10.18*	Employment Agreement between Andrew E. Kersey and CAS Medical Systems, Inc. effective April 1, 2007 (12)
10.19	Purchase and Sale Agreement between CAS Medical Systems, Inc. and Davis Marcus Partners, Inc. (13)
10.20	Lease Agreement between CAS Medical Systems, Inc. and DMP New Branford, LLC (13)
10.21	Commercial Loan Agreement dated February 11, 2008 between CAS Medical Systems, Inc. and NewAlliance Bank (15)
10.22	Commercial Revolving Promissory Note dated February 11, 2008 (15)
10.23	Security Agreement dated February 11, 2008 in favor of NewAlliance Bank (15)
10.24	Subscription Agreement dated May 9, 2008 with jVen Capital, LLC (16)
10.25	First Amendment to Employment Agreement with Andrew E. Kersey dated December 29, 2008 (17)
10.26	Amendment No. 7 to Employment Agreement with Louis P. Scheps dated December 29, 2008 (17)
10.27	Amendment to the CAS Medical Systems, Inc. 2003 Equity Incentive Plan (17)
10.28	Debt Modification Agreement dated December 31, 2008 (18)
10.29	Second Modification Agreement dated April 3, 2009
21.1	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of CEO Pursuant to Rule 13a-14
31.2	Certification of CFO Pursuant to Rule 13a-14
32.1	Certification of CEO and CFO Pursuant to 18 U.S.C. 1350

(1) Incorporated by reference to the Company's Form 8-K/A filed July 29, 2005
(2) Incorporated by reference to the Company's Registration Statement, dated April 15, 1985, filed with the Securities and Exchange Commission
(3) Incorporated by reference to the Company's Form 10-KSB filed March 29, 2004
(4) Incorporated by reference to the Company's Form 10-KSB filed March 28, 2003
(5) Incorporated by reference to the Company's Form 10-KSB filed March 31, 2005
(6) Incorporated by reference to the Company's Form 10-QSB filed November 14, 2005
(7) Incorporated by reference to the Company's Form S-8 filed October 4, 2000
(8) Incorporated by reference to the Company's Form S-8 filed June 10, 2004
(9) Incorporated by reference to the Company's Form S-8 filed June 10, 2004
(10) Incorporated by reference to the Company's Form 10-QSB filed November 12, 2004
(11) Incorporated by reference to the Company's Form 8-K filed October 30, 2006
(12) Incorporated by reference to the Company's Form 10-KSB filed March 19, 2007
(13) Incorporated by reference to the Company's Form 8-K filed September 10, 2007
(14) Incorporated by reference to the Company's Form 8-K filed November 30, 2007
(15) Incorporated by reference to the Company's Form 8-K filed February 14, 2008
(16) Incorporated by reference to the Company's Form 8-K filed May 14, 2008
(17) Incorporated by reference to the Company's Form 8-K filed December 31, 2008
(18) Incorporated by reference to the Company's Form 8-K filed January 6, 2009

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CAS MEDICAL SYSTEMS, INC.

(Registrant)

/s/ Andrew E. Kersey — Date: April 3, 2009

By: Andrew E. Kersey
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

/s/ Louis P. Scheps — Date: April 3, 2009

Louis P. Scheps, Chairman of the Board

/s/ Lawrence Burstein — Date: April 3, 2009

Lawrence Burstein, Director

/s/ Jerome Baron — Date: April 3, 2009

Jerome Baron, Director

/s/ Evan Jones — Date: April 3, 2009

Evan Jones, Director

/s/ Andrew E. Kersey — Date: April 3, 2009

Andrew E. Kersey, President, Chief Executive Officer and Director

/s/ Jeffery A. Baird — Date: April 3, 2009

Jeffery A. Baird, Chief Financial Officer
(Chief Financial and Accounting Officer)

EXHIBIT 21.1

SUBSIDIARIES OF THE REGISTRANT

Statcorp, Inc., a Delaware corporation.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-135158) and Forms S-8 (Nos. 33-90512, 333-47258, 333-116348 and 333-116349) of CAS Medical Systems, Inc. of our report dated April 3, 2009 relating to the financial statements, which appears in this Form 10-K.

/s/UHY LLP

New Haven, Connecticut
April 3, 2009

EXHIBIT 31.1

CERTIFICATION

I, Andrew E. Kersey, certify that:

1. I have reviewed this annual report on Form 10-K of CAS Medical Systems, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrants' ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Andrew E. Kersey

Andrew E. Kersey
President and Chief Executive Officer

Date: April 3, 2009

EXHIBIT 31.2

CERTIFICATION

I, Jeffery A. Baird, certify that:

1. I have reviewed this annual report on Form 10-K of CAS Medical Systems, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Jeffery A. Baird

Jeffery A. Baird
Chief Financial Officer

Date: April 3, 2009

EXHIBIT 32.1

Section 906 Certifications

Pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Andrew E. Kersey, the President and Chief Executive Officer and Jeffery A. Baird, the Chief Financial Officer of CAS Medical Systems, Inc. (the "issuer"), do hereby certify that the report on Form 10-K accompanying this certification (the "report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 ((15 U.S.C. 78m or 78o(d)) and that information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

/s/ Andrew E. Kersey

Andrew E. Kersey
President and Chief Executive Officer
CAS Medical Systems, Inc.
April 3, 2009

/s/ Jeffery A. Baird

Jeffery A. Baird
Chief Financial Officer
CAS Medical Systems, Inc.
April 3, 2009

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Corporate Information

Corporate Headquarters
CAS Medical Systems, Inc.
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Branford, CT 06405
Phone: 203-488-6056
Fax: 203-488-9438
Internet: www.casmed.com

Transfer Agent
American Stock Transfer and Trust Company
59 Maiden Lane
New York, NY 10038

Legal Counsel
Wiggin & Dana LLP
One Century Tower
265 Church Street
New Haven, CT 06508

Independent Public Accountants
UHY LLP
Maritime Center
555 Long Wharf Drive
New Haven, CT 06511

Form 10-K
A copy of our Form 10-K Report for the year ended December 31, 2008, filed with the Securities and Exchange Commission, is available to stockholders free of charge by writing to the Company to the attention of the Chief Financial Officer.

Annual Meeting
The Company's Annual Meeting of Stockholders will be held at 10:30 a.m. on June 10, 2009, at The WoodWinds, 29 Schoolground Road, Branford, CT.

Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities
The Company's common stock trades on the NASDAQ Global Market under the symbol "CASM". The following table shows the high and low bid quotations for the Company's common stock during each quarterly period for the last two years.

Quarter Ended	High	Low
March 31, 2007	$ 8.40	$ 6.26
June 30, 2007	$ 8.51	$ 6.27
September 30, 2007	$ 7.50	$ 4.25
December 31, 2007	$ 6.47	$ 4.76
March 31, 2008	$ 5.54	$ 4.05
June 30, 2008	$ 4.30	$ 2.81
September 30, 2008	$ 4.21	$ 2.72
December 31, 2008	$ 4.00	$ 1.66

Board of Directors
Louis P. Scheps
Chairman of the Board

Jerome Baron
Vice Chairman, Brean Murray, Carret & Co., LLC

Lawrence S. Burstein
President, Unity Venture Capital Associates, Ltd.

Evan Jones
Managing Director, jVEN Capital, LLC

Andrew E. Kersey
President and Chief Executive Officer

Executive Officers
Andrew E. Kersey
President and Chief Executive Officer

Jeffery A. Baird
Chief Financial Officer

Nathan B. Harris
Vice President, Sales and Marketing

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