

Thatcher Robert J  
 Form 3  
 December 29, 2008

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL  
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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *		2. Date of Event Requiring Statement	3. Issuer Name <b>and</b> Ticker or Trading Symbol	
Thatcher Robert J		(Month/Day/Year)	CARDIOVASCULAR SYSTEMS INC [CSII]	
(Last)	(First)	(Middle)	12/29/2008	
651 CAMPUS DRIVE			4. Relationship of Reporting Person(s) to Issuer	5. If Amendment, Date Original Filed(Month/Day/Year)
(Street)			(Check all applicable)	
ST. PAUL, MN 55112			<input type="checkbox"/> Director <input type="checkbox"/> 10% Owner	6. Individual or Joint/Group Filing(Check Applicable Line)
(City)	(State)	(Zip)	<input checked="" type="checkbox"/> Officer <input checked="" type="checkbox"/> Other	<input checked="" type="checkbox"/> Form filed by One Reporting Person
			Executive VP / Mbr of 13(d) grp owng > 10%	<input type="checkbox"/> Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
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Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly. SEC 1473 (7-02)

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)	3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)	4. Conversion or Exercise Price of Derivative Security	5. Ownership Form of Derivative Security: Direct (D) or Indirect (I)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable      Expiration Date	Title      Amount or Number of Shares			

(Instr. 5)

Series A-1 Conv Preferred Stock	Â (1)	Â (1)	Common Stock	12,378	\$ (1)	D	Â
Stock Option (right to buy)	Â (2)	10/16/2010	Common Stock	100,000	\$ 8	D	Â
Stock Option (right to buy)	Â (3)	12/18/2016	Common Stock	12,000	\$ 5.71	D	Â
Stock Option (right to buy)	Â (4)	04/17/2017	Common Stock	46,000	\$ 5.71	D	Â
Stock Option (right to buy)	Â (5)	08/06/2017	Common Stock	35,000	\$ 5.11	D	Â
Stock Option (right to buy)	Â (6)	12/11/2017	Common Stock	50,000	\$ 7.86	D	Â

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Thatcher Robert J 651 CAMPUS DRIVE ST. PAUL, MN 55112	Â	Â	Â Executive VP	Mbr of 13(d) grp owng > 10%

## Signatures

/s/ Carlye S. Landin as Attorney-in-Fact for Robert J. Thatcher pursuant to Power of Attorney filed herewith.

12/29/2008

\*\*Signature of Reporting Person

Date

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, see Instruction 5(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Each share of Series A-1 convertible preferred stock is convertible at any time, at the holder's election, into 1.03 shares of common stock and has no expiration date.
- (2) Exercisable: 33,333 on 10/17/06 and 10/17/07; 33,334 on 10/17/2008.
- (3) Exercisable: 4,000 on 12/19/07, 12/19/08 and 12/19/2009.
- (4) Exercisable: 15,333 on 4/18/08 and 4/18/09; 15,334 on 4/18/10.
- (5) Exercisable: 11,667 on 8/7/08 and 8/7/09; 11,666 on 8/7/10.
- (6) Exercisable: 25,000 on the first anniversary of the closing of the Company's merger with Replidyne, Inc. and 25,000 on the second anniversary of the merger.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, See Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.