

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA**

**VOLUMETRICS MEDICAL IMAGING,
LLC., a Delaware Company,**

Plaintiff,

vs.

CIVIL ACTION NO. 1:05CV00955

**GE HEALTHCARE, LTD., a United
Kingdom Corporation, GE MEDICAL
SYSTEMS, INC., a Delaware Corporation,
GE MEDICAL SYSTEMS, L.L.C., a
Delaware Corporation, GE MEDICAL
SYSTEMS KRETZTECHNIK GMBH &
CO. OHG, an Austria Corporation,
TOSHIBA AMERICA MEDICAL
SYSTEMS, INC., a California Corporation,
MEDISON AMERICA, INC., a California
Corporation, and SIEMENS MEDICAL
SOLUTIONS USA, INC., a Delaware
Corporation**

Defendants.

**FIRST AMENDED COMPLAINT
AND DEMAND FOR JURY TRIAL**

Plaintiff Volumetrics Medical Imaging, L.L.C. by and through counsel, for its Complaint against Defendant GE Healthcare, Ltd., Defendant GE Medical Systems Inc., Defendant GE Medical Systems L.L.C., Defendant GE Medical Systems Kretztechnik GmbH & Co. OHG, Defendant Toshiba America Medical Systems, Inc., Defendant Medison America, Inc., and Defendant Siemens Medical Solutions (hereinafter collectively referred to as “Defendants”), alleges on personal knowledge as to its actions, and upon information and belief as to the actions of others, as follows:

THE PARTIES

1. Plaintiff Volumetrics Medical Imaging, L.L.C. (hereinafter referred to as “VMI”), is a Delaware limited liability company with its principal place of business in Hillsborough, NC. VMI was formed in 2005. VMI is the owner by assignment of patents covering innovative medical technologies invented in the research laboratories of Volumetrics Medical Imaging, Inc. (“VMI, Inc.”) and/or two of its founders, Drs. Olaf von Ramm and Stephen Smith of Duke University, and their colleagues. Drs. von Ramm and Smith are world-famous pioneers in the field of diagnostic ultrasound. The patented technologies concern diagnostic ultrasound machines and associated methods for acquiring and displaying images of the human body, in real time and in both two and three dimensions. These technologies represent a significant advance in the field of diagnostic imaging, as they permit physicians to view the human body with a degree of spatial detail and clarity never before achieved by any other form of imaging.

2. Defendant GE Healthcare, Ltd. is a British corporation having its principal place of business at Pollards Wood, Nightingales Lane, Chalfont St. Giles, Buckinghamshire HP8 4SP United Kingdom. Defendant GE Healthcare, Ltd. is comprised of at least GE Healthcare Technologies, formerly named GE Medical Systems, which is headquartered in Waukesha, WI at 3000 N. Grandview Blvd., Waukesha, WI 53188. Defendant GE Healthcare, Ltd. is a subsidiary of General Electric Co., the worldwide industrial and financial conglomerate. GE Medical Systems, Inc. and GE Medical Systems, L.L.C. are Delaware corporations headquartered at 3000 N. Grandview Blvd., Waukesha, WI 53188. GE Medical Systems Kretztechnik GmbH & Co. OHG is an Austria corporation having its principal place of business at Tiefenbach 15, 4871 Zipf, Austria. GE Healthcare, Ltd., GE Medical Systems, Inc., GE Medical Systems, L.L.C., and GE Medical Systems Kretztechnik GmbH & Co. OHG (hereinafter collectively referred to as

“GE”) are engaged in the business of manufacturing and distributing diagnostic medical ultrasound systems, and have annual revenues in excess of \$10 billion.

3. Defendant Toshiba America Medical Systems, Inc. (hereinafter referred to as “Toshiba”) is a California corporation having its primary office at 2441 Michelle Dr., Tustin, CA 92780. Defendant Toshiba America Medical Systems, Inc. is a subsidiary of Toshiba America, which is a subsidiary of Toshiba Corporation, a Japanese company with over \$52 billion in annual revenue. Defendant Toshiba America Medical Systems, Inc. provides ultrasound and other imaging systems for medical diagnostic imaging.

4. Defendant Medison America, Inc. (hereinafter referred to as “Medison”) is a private California corporation with a primary place of business at 11075 Knott Ave, Cypress, CA 90630-5135. Defendant Medison manufactures and sells three-dimensional diagnostic ultrasound equipment, for which it has over \$1 million in annual sales. The parent of Defendant Medison America, Inc. is Medison, Ltd., based in the Republic of Korea.

5. Defendant Siemens Medical Solutions USA, Inc. (hereinafter referred to as “Siemens”) is the medical products division of the German electronics conglomerate Siemens AG. Siemens AG is headquartered at Henkestraße, 127 Erlangen 91052, Germany. Defendant Siemens Medical Solutions USA, Inc. is a Delaware Corporation and is located at 51 Valley Stream Pkwy, Malvern, PA 19355. Siemens produces, manufactures, and distributes ultrasound and other medical imaging equipment.

JURISDICTION AND VENUE

6. This action arises under the Patent Act, Title 35 of the United States Code, and is an action for patent infringement under § 271.

7. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over the Defendants under the provisions of N.C. Gen. Stat. § 1-75.4 and consistent with the underlying due process principles of the U.S. Constitution. Upon information and belief, Defendants GE, Toshiba, Medison and Siemens are doing business in this State and District, have significant contacts in this State and District, have offered for sale and sold infringing products in this State and District, have purposely shipped or caused to be shipped infringing products into this State and District through established distribution channels, and/or have committed acts in this State and District that are the subject of the counts set forth herein.

9. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b). VMI's principal place of business is in this State and District.

CLAIM I – INFRINGEMENT OF U.S. PAT. NO. 4,596,145

10. The allegations contained in Paragraphs 1 through 9 above are incorporated herein by reference.

11. On June 24, 1986, the United States Patent Office duly and lawfully issued United States Patent No. 4,596,145 entitled "Acoustic Orthoscopic Imaging System" (hereinafter referred to as "the '145 Patent"). VMI is the lawful owner of all right, title, and interest in and to the '145 Patent, including the right to sue for and recover for past infringement thereof. A true and correct copy of the '145 Patent is attached hereto as Exhibit A.

12. During the term of the '145 Patent, Defendants GE and Medison made, used, offered to sell, sold, or imported medical imaging equipment embodying the patented invention,

including at least the GE Voluson 730 and the Medison Voluson 730, without authority from the patent holder.

13. Defendants GE and Medison directly infringed, contributorily infringed, or induced the infringement of one or more claims of the '145 Patent.

14. The infringing activities of defendants GE and Medison were willful and deliberate.

CLAIM II – INFRINGEMENT OF U.S. PAT. NO. 4,694,434

15. The allegations contained in Paragraphs 1 through 14 above are incorporated herein by reference.

16. On September 15, 1987, the United States Patent Office duly and lawfully issued United States Patent No. 4,694,434 entitled “Three-Dimensional Imaging System” (hereinafter referred to as “the '434 Patent”). VMI is the lawful owner of all right, title, and interest in and to the '434 Patent, including the right to sue for and recover for past infringement thereof. A true and correct copy of the '434 Patent is attached hereto as Exhibit B.

17. During the term of the '434 Patent, Defendants GE and Medison made, used, offered to sell, sold, and/or imported medical imaging equipment embodying the patented invention, including at least the GE Voluson 730, the GE Vivid 7, and the Medison Voluson 730, without authority from the patent holder.

18. Defendants GE and Medison directly infringed, contributorily infringed, or induced the infringement of one or more claims of the '434 Patent.

19. The infringing activities of defendants GE and Medison were willful and deliberate.

CLAIM III – INFRINGEMENT OF U.S. PAT. NO. 5,546,807

20. The allegations contained in Paragraphs 1 through 19 above are incorporated herein by reference.

21. On August 20, 1996, the United States Patent Office duly and lawfully issued United States Patent No. 5,546,807 entitled “High Speed Volumetric Ultrasound Imaging System” (hereinafter referred to as “the ’807 Patent”). VMI is the lawful owner of all right, title, and interest in and to the ’807 Patent, including the right to sue for and recover for infringement thereof. The term of the ’807 Patent has not expired. A true and correct copy of the ’807 Patent is attached hereto as Exhibit C.

22. Defendant GE makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the GE Voluson 730, the GE Vivid 7, and the GE Logiq 9, without authority from the patent holder.

23. Defendant Toshiba makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the Toshiba Nemio, without authority from the patent holder.

24. Defendant Medison makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the Accuvix, without authority from the patent holder.

25. Defendant Siemens makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least products in the Sequoia line, without authority from the patent holder.

26. The Defendants have directly infringed, contributorily infringed, or induced the infringement of one or more claims of the ’807 Patent.

27. The infringing activities of defendants GE, Toshiba, Medison, and Siemens are willful and deliberate.

28. VMI has been and will continue to be damaged and irreparably injured unless this Court enjoins the Defendants' infringing activities.

CLAIM IV – INFRINGEMENT OF U.S. PAT. NO. 6,241,675

29. The allegations contained in Paragraphs 1 through 28 above are incorporated herein by reference.

30. On June 5, 2001, the United States Patent Office duly and lawfully issued United States Patent No. 6,241,675 entitled "Methods and Systems for Determining Velocity of Tissue Using Three Dimensional Ultrasound Data" (hereinafter referred to as "the '675 Patent"). VMI is the lawful owner of all right, title, and interest in and to the '675 Patent, including the right to sue for and recover for infringement thereof. The term of the '675 Patent has not expired. A true and correct copy of the '675 Patent is attached hereto as Exhibit D.

31. Defendant GE makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the GE Vivid 7, without authority from the patent holder.

32. Defendant GE, excepting Defendant GE Medical Systems Kretztechnik GmbH & Co. OHG, has directly infringed, contributorily infringed, or induced the infringement of one or more claims of the '675 Patent, without authority from the patent holder.

33. The infringing activities of defendant GE are willful and deliberate.

34. VMI has been and will continue to be damaged and irreparably injured unless this Court enjoins GE's infringing activities.

CLAIM V – INFRINGEMENT OF U.S. PAT. NO. 6,276,211

35. The allegations contained in Paragraphs 1 through 34 above are incorporated herein by reference.

36. On August 21, 2001, the United States Patent Office duly and lawfully issued United States Patent No. 6,276,211 entitled “Methods and Systems for Selective Processing of Transmit Ultrasound Beams to Display Views of Selected Slices of a Volume” (hereinafter referred to as “the ’211 Patent”).

37. VMI is the lawful owner of all right, title, and interest in and to the ’211 Patent, including the right to sue for and recover for infringement thereof. The term of the ’211 Patent has not expired. A true and correct copy of the ’211 Patent is attached hereto as Exhibit E.

38. Defendant GE makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the GE Vivid 7 and the Logiq 9, without authority from the patent holder.

39. Defendant Medison makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the Accuvix, without authority from the patent holder.

40. Defendant Siemens makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the Sonoline Antares line, without authority from the patent holder.

41. The Defendants have directly infringed, contributorily infringed, or induced the infringement of one or more claims of the ’211 Patent.

42. The infringing activities of defendants GE, Medison, and Siemens are willful and deliberate.

43. VMI has been and will continue to be damaged and irreparably injured unless this Court enjoins Defendants' infringing activities.

CLAIM VI – INFRINGEMENT OF U.S. PAT. NO. 6,545,678

44. The allegations contained in Paragraphs 1 through 43 above are incorporated herein by reference.

45. On April 8, 2003, the United States Patent Office duly and lawfully issued United States Patent No. 6,545,678 entitled "Methods, Systems, and Computer Program Products for Generating Tissue Surfaces from Volumetric Data Thereof Using Boundary Traces" (hereinafter referred to as "the '678 Patent").

46. VMI is the lawful owner of all right, title, and interest in and to the '678 Patent, including the right to sue for and recover for infringement thereof. The term of the '678 Patent has not expired. A true and correct copy of the '678 Patent is attached hereto as Exhibit F.

47. Defendant GE makes, uses, offers to sell, sells, and/or imports medical imaging equipment embodying the patented invention, including at least the GE Vivid 7, without authority from the patent holder.

48. Defendant GE has directly infringed, contributorily infringed, or induced the infringement of one or more claims of the '678 Patent.

49. The infringing activities of defendant GE are willful and deliberate.

50. VMI has been and will continue to be damaged and irreparably injured unless this Court enjoins GE's infringing activities.

RELIEF SOUGHT

Plaintiff VMI respectfully seeks that the Court grant the following relief:

- A. Enter judgment for VMI and against GE and Medison for infringement of the '145 Patent;
- B. Enter judgment for VMI and against GE and Medison for infringement of the '434 Patent;
- C. Enter judgment for VMI and against GE, Toshiba, Medison, and Siemens for infringement of the '807 Patent;
- D. Enter judgment for VMI and against GE excepting Defendant GE Medical Systems Kretztechnik GmbH & Co. OHG, for infringement of the '675 Patent;
- E. Enter judgment for VMI and against GE, Medison and Siemens for infringement of the '211 Patent;
- F. Enter judgment for VMI and against GE for infringement of the '678 Patent;
- G. Enter judgment that the infringement of GE, Toshiba, Medison, and Siemens was and is willful;
- H. Permanently enjoin GE, its officers, directors, principals, agents, sales representatives, servants, employees, successors, assigns, affiliates, subsidiaries and all those acting in concert or participation with them, from directly or indirectly infringing, inducing infringement or contributing to the infringement of any claim of the '807 Patent, the '675 Patent, the '211 Patent, or the '678 Patent;
- I. Permanently enjoin Medison, its officers, directors, principals, agents, sales representatives, servants, employees, successors, assigns, affiliates, subsidiaries and all those acting in concert or participation with them, from directly or indirectly infringing, inducing infringement or contributing to the infringement of any claim of the '807 Patent or the '211 Patent;

J. Permanently enjoin Siemens, its officers, directors, principals, agents, sales representatives, servants, employees, successors, assigns, affiliates, subsidiaries and all those acting in concert or participation with them, from directly or indirectly infringing, inducing infringement or contributing to the infringement of any claim of the '807 Patent or the '211 Patent;

K. Permanently enjoin Toshiba, its officers, directors, principals, agents, sales representatives, servants, employees, successors, assigns, affiliates, subsidiaries and all those acting in concert or participation with them, from directly or indirectly infringing, inducing infringement or contributing to the infringement of any claim of the '807 Patent;

L. Enter judgment in favor of VMI against Defendants for an amount that will adequately compensate it for Defendants' infringement, but under no circumstances an amount less than a reasonable royalty for Defendants' use of the VMI's patented inventions;

M. Enter judgment in favor of VMI and against Defendants for pre-judgment interest on all damages awarded;

N. Enter judgment in favor of VMI and against GE, Toshiba, Medison, and Siemens for three times the amount of damages pursuant to 35 U.S.C. § 284 because of their willful infringement;

O. Enter judgment in favor of VMI and against Defendants for VMI's attorneys' fees and costs pursuant to 35 U.S.C. § 285;

P. Enter judgment in favor of VMI and against Defendants for VMI's costs of suit; and

Q. Enter such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Plaintiff VMI requests a trial by jury.

This 31st day of July, 2007.

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CERTIFICATE OF SERVICE

I certify that the foregoing **FIRST AMENDED COMPLAINT** was electronically filed with the Clerk of Court and was served via email to the following:

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This 31st day of July, 2007.

/s/ Anne J. Randall