

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
Alexandria Division**

\_\_\_\_\_  
CONVERGENCE TECHNOLOGIES (USA), LLC )  
11874 Sunrise Valley Drive, Suite 101 )  
Reston, Virginia 20191 )

Plaintiff

v.

MICROLOOPS CORPORATION )  
2F, No. 609, Sec. 2 )  
Wan Shou Road )  
Kueishan )  
Taoyuan Hsien, Taiwan R.O.C )

SAPPHIRE TECHNOLOGY LIMITED )  
Unit 1908 – 1919, 19/F., Tower 2 )  
Grand Central Plaza )  
138 Shatin Rural Committee Road )  
Shatin, N.T., Hong Kong )

THE HEWLETT-PACKARD COMPANY )  
3000 Hanover Street )  
Palo Alto, California 94304-1185 )

and

DYNATRON CORPORATION )  
41458 Christy Street )  
Fremont, California 94538 )

Defendants  
\_\_\_\_\_

Civil Action No.

1:09 cv 1256 TSE/IDD

**Jury Trial Demanded**

**AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff, Convergence Technologies (USA), LLC (“Convergence Technologies”), by counsel, for its Complaint against Defendants, Microloops Corporation; Sapphire Technologies, Hewlett Packard and Dynatron Corporation, states as follows:

**JURISDICTION AND VENUE**

1. This is an action for patent infringement under 35 U.S.C. § 271.
2. This Court has jurisdiction of this action under 28 U.S.C. §§ 1331, 1338(a).
3. Convergence Technologies is a corporation located at: 11874 Sunrise Valley Drive, Suite 101, Reston, Virginia 20191, and is the owner of United States Letters Patent 7,422,053 (the “‘053 patent”) by assignment from Convergence Technologies, Ltd., which developed and patented a Vapor Augmented Heatsink with a Multi-Wick Structure.
4. Defendant Microloops Corporation (“Microloops”), upon information and belief, is a corporation existing under the laws of Taiwan R.O.C. and has a principle place of business at: 2F, No. 609, Sec. 2, Wan Shou Rd., Kueishan, Taoyuan Hsien, Taiwan in the Republic of China. Microloops also maintains a U.S. sales office located at 632 Eagles View, Lancaster, PA 17601. Microloops is engaged in making, using, offering for sale and selling vapor augmented heat sinks with a multi-wick structure, as taught and claimed in the ‘053 patent in suit. These products which are covered under the claims of the ‘053 patent in suit, are being sold in the United States, including substantial sales in Virginia, in this Judicial District. Jurisdiction and Venue are proper in this District as to Defendant Microloops, under 28 U.S.C. §1391(b), §1391(d) and §1400(a).
5. Defendant Sapphire Technologies Ltd. (“Sapphire”), upon information and belief, is a corporation existing under the laws of China and has a principle place of business at: Unit 1908 – 1919, 19/F., Tower 2, Grand Central Plaza, 138 Shatin Rural Committee Road, Shatin, N.T., Hong Kong. Sapphire is engaged in making, using, offering for sale and selling computer components which incorporate vapor augmented heat sinks with a multi-wick structure, as taught and claimed in the ‘053 patent in suit. These products, which are covered under the claims of the ‘053 patent in suit, are being sold in the United States, including substantial sales in Virginia, in

this Judicial District. Jurisdiction and Venue are proper in this District as to Defendant Sapphire under 28 U.S.C. §1391(b), §1391(d) and §1400(a).

6. Defendant Hewlett Packard Company (“Hewlett Packard”), upon information and belief, is a corporation existing under the laws of the state of Delaware and has a principle place of business at: 3000 Hanover Street, Palo Alto, California 94304. Hewlett Packard is engaged in making, using, offering for sale and selling computer components which incorporate vapor augmented heat sinks with a multi-wick structure, as taught and claimed in the ‘053 patent in suit. These products, which are covered under the claims of the ‘053 patent in suit, are being sold in the United States, including substantial sales in Virginia, in this Judicial District. Jurisdiction and Venue are proper in this District as to Defendant Hewlett Packard under 28 U.S.C. §1391(b) and §1400(a).

7. Defendant Dynatron Corporation (“Dynatron”), upon information and belief, is a corporation existing under the laws of the state of California and has a principle place of business at: 41458 Christy Street, Fremont, California 94538. Dynatron is engaged in making, using, offering for sale and selling computer components which incorporate vapor augmented heat sinks with a multi-wick structure, as taught and claimed in the ‘053 patent in suit. These products, which are covered under the claims of the ‘053 patent in suit, are being sold in the United States, including substantial sales in Virginia, in this Judicial District. Jurisdiction and Venue are proper in this District as to Defendant Dynatron under 28 U.S.C. §1391(b) and §1400(a).

### **GENERAL ALLEGATIONS**

8. The 7,422,053 patent issued on September 9, 2008, from a patent application with a filing priority date of May 15, 2002. The patent application was examined by the United States

Patent and Trademark Office, and issued on September 9, 2008, as the 7,422,053 patent entitled: Vapor Augmented Heatsink with Multi-Wick Structure.

9. The '053 patent was issued after careful examination by the United States Patent and Trademark Office, which determined the invention as claimed to be new, useful and unobvious.

10. The '053 patent has twenty-five (25) claims, including exemplary apparatus claim 1, which reads as follows:

1. A heat transfer device, comprising:  
at least one chamber containing a condensable fluid, the chamber including: an evaporation region configured to be coupled to a heat source for vaporizing the condensable fluid, and a condensation region comprising condensation surfaces configured to permit the vaporized condensable fluid to collect as condensate, wherein the at least one chamber is configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and  
a multi-wick structure comprising a plurality of hydraulically interconnected wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein a wicking power of the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

and exemplary method claim 19:

19. A method of manufacturing a heat transfer device, comprising:  
forming at least one chamber containing a condensable fluid, the chamber including: an evaporation region configured to be coupled to a heat source for vaporizing the condensable fluid, and a condensation region comprising condensation surfaces configured to permit the vaporized condensable fluid to collect as a condensate, wherein the at least one chamber is configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and  
forming a multi-wick structure comprising a plurality of hydraulically interconnected wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein the multi-wick structure is formed such that a wicking power of

the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

11. The '053 patent includes independent apparatus claims 1, 5, 6, 11 and 14 defining heat transfer devices, and independent claims 19 and 21 defining a method of manufacture of heat transfer devices.

12. Microloops manufactures, uses, offers for sale and sells vapor augmented heatsinks with multi-wick structures and generally refers to its products as: "vapor chambers." The Microloops vapor chamber is a heat transfer device with all of the elements of the claims of the '053 patent, including: a condensable fluid chamber with an evaporation region configured for connection to a heat source and a condensation region, configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and a multi-wick structure with a plurality of hydraulically interconnected wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein a wicking power of the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

13. The Microloops method of manufacture of its vapor augmented heatsinks includes all of the elements of the method claims of the '053 patent, including: forming at least one condensable fluid chamber with an evaporation region, and a condensation region with a converging flow condition as the condensate approaches the evaporation region; and forming a multi-wick structure with a wicking power increasing with decreasing flow distance to the evaporation region.

14. Defendant Sapphire incorporates Microloops' vapor chambers into its products and manufactures, uses, offers for sale and sells graphics cards, including those cards designated as "vapor-x" series, including the Sapphire HD3870 Atomic, Sapphire HD4870 Toxic, Sapphire HD4890 Atomic, Sapphire HD4890 Toxic, Sapphire Vapor-x HD5750, Sapphire Vapor-x HD5870, and Sapphire Vapor-x HD4850, as well as others that incorporate a heat transfer device with all of the elements of the claims of the '053 patent, including: a condensable fluid chamber with an evaporation region configured for connection to a heat source and a condensation region, configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and a multi-wick structure with a plurality of hydraulically interconnected wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein a wicking power of the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

15. Defendant Hewlett Packard incorporates Microloops' vapor chambers into its products and manufactures, uses, offers for sale and sells servers components, including those designated as "blade servers" including models ProLiant BL2x220c G5 Blade Server and blade server cooler part number 468600-001, as well as others, which incorporate a heat transfer device with all of the elements of the claims of the '053 patent, including: a condensable fluid chamber with an evaporation region configured for connection to a heat source and a condensation region, configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and a multi-wick structure with a plurality of hydraulically interconnected

wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein a wicking power of the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

16. Defendant Dynatron incorporates Microloops' vapor chambers into its products and manufactures, uses, offers for sale and sells servers components, including those designated as "CPU Coolers" including a model designated as "G218", as well as others, which incorporate a heat transfer device with all of the elements of the claims of the '053 patent, including: a condensable fluid chamber with an evaporation region configured for connection to a heat source and a condensation region, configured to cause the condensate to flow through increasingly less area in the vicinity of the evaporation region, giving rise to a converging flow condition as the condensate approaches the evaporation region; and a multi-wick structure with a plurality of hydraulically interconnected wick structures extending from the evaporation region into the condensation region for facilitating flow of the condensate toward the evaporation region, wherein a wicking power of the multi-wick structure increases with decreasing flow distance to the evaporation region to facilitate an increased flow rate of the condensate as the condensate approaches the evaporation region.

**PATENT INFRINGEMENT OF 7,422,053**

17. Plaintiff realleges each and every allegation set forth above and incorporates them herein by reference.

18. Plaintiff owns and has at all times owned and has had standing to sue for infringement of United States Letters Patent 7,422,053 which was duly and legally issued on

September 9, 2008.

19. The '053 patent properly names as inventor Wing Ming Siu and is titled "Vapor Augmented Heat-Sink with Multi-Wick Structure."

**COUNT I  
PATENT INFRINGEMENT BY MICROLOOPS**

20. Plaintiff realleges each and every allegation set forth above and incorporates them herein by reference.

21. Upon information and belief, Defendant Microloops has infringed and continues to infringe the claims of the '053 patent.

22. Upon information and belief, Defendant Microloops has infringed and continues to infringe at least claims 1-5, 8, 9, 11, 12, 18, 19, 20 and 24 of the '053 patent.

23. Upon information and belief, Defendant Microloops has infringed and continues to infringe the claims of the '053 patent by manufacturing or causing to be manufactured, distributing, using, offering to sell, and/or selling heatsink products which infringe the claims of the '053 patent. Microloops' infringement is a literal infringement of the claims and/or an equivalent infringement of the claims.

24. Plaintiff is entitled to recover from Defendant Microloops the damages sustained as a result of Defendant's infringing acts.

25. Defendant Microloops has had knowledge of Plaintiff's rights in the '053 patent since September 2008 and has continued its infringement with full knowledge of and in disregard for those rights, which constitutes willful infringement of Plaintiff's rights.

**COUNT II  
PATENT INFRINGEMENT BY SAPPHIRE TECHNOLOGIES**



26. Plaintiff realleges each and every allegation set forth above and incorporates them herein by reference.

27. Upon information and belief, Defendant Sapphire has infringed and continues to infringe the claims of the '053 patent.

28. Upon information and belief, Defendant Sapphire has infringed and continues to infringe at least claims 1-5, 8, 9, 11, 12 and 18 of the '053 patent.

29. Upon information and belief, Defendant Sapphire has infringed and continues to infringe the claims of the '053 patent by manufacturing or causing to be manufactured, distributing, using, offering to sell, and/or selling products which infringe the claims of the '053 patent. Sapphire's infringement is a literal infringement of the claims and/or an equivalent infringement of the claims.

30. Plaintiff is entitled to recover from Defendant Sapphire the damages sustained as a result of Defendant's infringing acts.

**COUNT III**  
**PATENT INFRINGEMENT BY HEWLETT PACKARD**

31. Plaintiff realleges each and every allegation set forth above and incorporates them herein by reference.

32. Upon information and belief, Defendant Hewlett Packard has infringed and continues to infringe the claims of the '053 patent.

33. Upon information and belief, Defendant Hewlett Packard has infringed and continues to infringe at least claims 1-5, 8, 9, 11, 12 and 18 of the '053 patent.

34. Upon information and belief, Defendant Hewlett Packard has infringed and continues to infringe the claims of the '053 patent by manufacturing or causing to be

manufactured, distributing, using, offering to sell, and/or selling products which infringe the claims of the '053 patent. Hewlett Packard's infringement is a literal infringement of the claims and/or an equivalent infringement of the claims.

35. Plaintiff is entitled to recover from Defendant Hewlett Packard the damages sustained as a result of Defendant's infringing acts.

**COUNT IV**  
**PATENT INFRINGEMENT BY DYNATRON**

36. Plaintiff realleges each and every allegation set forth above and incorporates them herein by reference.

37. Upon information and belief, Defendant Dynatron has infringed and continues to infringe the claims of the '053 patent.

38. Upon information and belief, Defendant Dynatron has infringed and continues to infringe at least claims 1-5, 8, 9, 11, 12 and 18 of the '053 patent.

39. Upon information and belief, Defendant Dynatron has infringed and continues to infringe the claims of the '053 patent by manufacturing or causing to be manufactured, distributing, using, offering to sell, and/or selling products which infringe the claims of the '053 patent. Dynatron's infringement is a literal infringement of the claims and/or an equivalent infringement of the claims.

40. Plaintiff is entitled to recover from Defendant Dynatron the damages sustained as a result of Dynatron's infringing acts.

41. Defendant Dynatron has had knowledge of Plaintiff's rights in the '053 patent since at least October 2008 and has continued its infringement with full knowledge of and in disregard for those rights, which constitutes willful infringement of Plaintiff's rights.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for judgment against Defendants as follows:

42. That Defendants be each individually held to have infringed the claims of the '053 patent.

43. That the Defendant Microloops and Defendant Dynatron be held to have willfully infringed the '053 patent.

44. That Defendants, their customers, licensees, directors, officers, agents, servants, employees and all other persons in active concert or privity or in participation with them be enjoined from directly or indirectly infringing Plaintiff's patent.

45. That Defendants each individually be enjoined to deliver upon oath, to be impounded during the pendency of this action, and delivered to Plaintiff pursuant to judgment herein, all originals, copies, facsimiles, or duplicates of any software, device or system shown by the evidence to infringe Plaintiff's patent.

46. That Defendants each individually be required to file with the Court and to serve on Plaintiff, within 30 days after service of the Court's order as herein prayed, a report in writing under oath setting forth in detail the manner and form in which Defendant has complied with the Court's order.

47. That judgment be entered for Plaintiff against Defendants, for Plaintiff's actual damages according to proof, and for any additional profits attributable to infringements of Plaintiff's patent.

48. That judgment be entered for Plaintiff against Defendants, for statutory damages based upon Defendants' acts of patent infringement and for their other violations of law.

49. That Defendants be required to account for all gains, profits, and advantages

derived from their acts of infringement and for their other violations of law.

50. That judgment be entered for Plaintiff and against Defendant Microloops, and Defendant Dynatron for trebling of the damages awarded for patent infringement due to Microloops' and Dynatron's willful infringement of the '053 patent.

51. That judgment be entered against the Defendants for Plaintiff's costs and attorney's fees.

52. That the Court grant such other, further, and different relief as the Court deems proper under the circumstances.

#### **DEMAND FOR JURY TRIAL**

Plaintiff hereby requests and demands a trial by jury on all issues so triable.

**Respectfully Submitted,**

**Convergence Technologies (USA), LLC  
By Counsel**

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*Attorneys for Plaintiff*

**CERTIFICATE OF SERVICE**

I hereby certify that the forgoing will be served on Defendants in accordance with the Federal Rules of Civil Procedure. Additionally, service shall be made on the following:

**VIA U.S. First Class Mail**

Dynatron Corporation  
41458 Christy Street  
Fremont, California 94538

**VIA E-Mail and U.S. First Class Mail**

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