

05-30-2001



101733949

SHEET U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

LY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): THERMALLOY, INC.

- Individual
- Association
- General Partnership
- Limited Partnership
- Corporation State: Delaware
- Other

5-22-01

Additional name(s) of conveying party(ies) attached?
 Yes No

3. Nature of conveyance:

- Assignment
- Merger
- Security Agreement
- Change of Name
- Other

Execution Date:

2. Name and Address of receiving party(ies):

Name: Canadian Imperial Bank of Commerce
Internal Address:
Street Address: 425 Lexington Avenue
City: New York State: NY ZIP: 10017

- Individual(s) Citizenship:
- Association:
- General Partnership:
- Limited Partnership:
- Corporation State: Canadian corporation
- Other:

MAY 22 2001

If assignee is not domiciled in the United States, a domestic representative designation is attached: Yes No

(Designations must be a separate document from Assignment)

Additional name(s) & address(es) attached? Yes No

4. Application number(s) or trademark number(s):

A. Trademark Application No.(s)

B. Trademark registration No.(s)

SEE EXHIBIT A ATTACHED

75-227 937

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Elisabeth A. Evert
Internal Address: Sidley Austin Brown & Wood

Street Address: 717 N. Harwood
Suite 3400
City: Dallas State: Texas ZIP: 75201

6. Total number of applications and registrations involved: 4

7. Total fee (37 CFR 3.41).....\$160.00
 Enclosed
 Authorized to be charged to deposit account
Account Number 18-1260

8. Deposit account number: 18-1260

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature:

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Elisabeth A. Evert
Name of Person Signing

Signature

May 22, 2001
Date

Total number of pages comprising cover sheet: 2

OMB No. 0651-0011 (exp. 4/94)

Our Ref: Do not detach this portion

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks
Box Assignment
Washington, D.C. 20231

Public burden reporting for this sample cover sheet is estimated to average about 30 minutes per document to be recorded, including time for reviewing the document and gathering the data needed, and completing and reviewing the sample cover sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Office of Information Systems, PK2-1000C, Washington, D.C. 20231, and to the Office of Management and Budget, Paperwork Reduction Project (0651-0011), Washington, D.C. 20503.

05/29/2001 6T0N11 00000109 181260 75227937

01 FD:481 40.00 CH
02 FD:482 75.00 CH

EXHIBIT A
TRADEMARKS SUBJECT TO SECURITY INTEREST GRANTED BY
THERMALLOY, INC. IN FAVOR OF
CANADIAN IMPERIAL BANK OF COMMERCE

Serial No.	Reg. No.	Mark
75/227,937	2,101,701	EASY-PLY
74/481,059	1,947,354	POWERGAIN
73/019,672	1,028,661	T-LOGO
73/405,461	1,351,654	INSUL-COTE (stylized)

185868v1

EXECUTION COPY

SUBSIDIARY INTELLECTUAL PROPERTY SECURITY AGREEMENT

AMENDED AND RESTATED INTELLECTUAL PROPERTY SECURITY AGREEMENT, dated as of February 2, 2000 made by THERMALLOY, INC., a Delaware corporation (successor by merger to Thermalloy, Inc., a Nevada corporation), (the "Grantor"), in favor of CANADIAN IMPERIAL BANK OF COMMERCE, as administrative agent (in such capacity, the "Administrative Agent") for the several banks and other financial institutions (the "Lenders") from time to time parties to the Amended and Restated Credit Agreement, dated as of February 2, 2000 (as amended, supplemented or otherwise modified from time to time, the "Credit Agreement"), among Aavid Thermal Technologies, Inc. (the "Borrower"), Heat Holdings Corp., Heat Holdings II Corp., the Lenders, CIBC World Markets Corp., as lead arranger and bookrunner (in such capacity, the "Lead Arranger"), Canadian Imperial Bank of Commerce, as issuer of certain letters of credit (the "Issuer"), BankBoston, N.A., as documentation agent, and the Administrative Agent.

WITNESSETH:

WHEREAS, the Borrower has entered into a Credit Agreement dated as of October 21, 1999, among the Borrower, the lenders party thereto (the "Existing Lenders"), CIBC World Markets Corp., as lead arranger and bookrunner (the "Existing Arranger"), Canadian Imperial Bank of Commerce, as issuer of certain letters of credit (the "Existing Issuer") and Canadian Imperial Bank of Commerce, as administrative agent (the "Existing Agent"); pursuant to which the Existing Lenders have severally agreed to make Loans to, and the Existing Issuer has agreed to provide letters of credit for the benefit of, the Borrower upon the terms and subject to the conditions set forth therein (the "Existing Credit Agreement");

WHEREAS, pursuant to the Existing Credit Agreement, the Grantor was required to enter into an Intellectual Property Security Agreement dated as of October 21, 1999 (the "Existing IP Security Agreement") with the Existing Agent, pursuant to which, among other things, the Grantor granted to the Existing Agent a security interest in certain collateral;

WHEREAS, the Existing Agent, the Existing Arranger, the Existing Lenders, the Existing Issuer, the Administrative Agent, the Lead Arranger, the Issuer, the Lenders, and the Borrower have entered into an Assignment and Assumption Agreement (the "Assignment and Assumption Agreement") dated as of February 2, 2000, pursuant to which (a) the Existing Lenders have assigned all their right, title and interest in, to and under the Existing Credit Agreement, the "Loan Documents" (as defined in the Existing Credit Agreement) and the Collateral (as defined in such Loan Documents) and delegated all their obligations with respect thereto to the Lenders and the Lenders have accepted such assignment and assumed such obligations, and (b) the Borrower has consented to such assignment and delegations;

WHEREAS, the Borrower, the Lenders, the Lead Arranger, the Issuer and the Administrative Agent have agreed to amend and restate the Existing Credit Agreement as set forth in the Credit Agreement;

WHEREAS, it is a condition precedent to the obligation of the Lenders to make their respective Loans to the Borrower and of the Issuer to issue Letters of Credit under the Credit Agreement that the Grantor shall have executed and delivered this Amended and Restated Intellectual Property Security Agreement to the Administrative Agent for the ratable benefit of the Lenders;

WHEREAS, the Grantor and the Administrative Agent wish to amend the Existing IP Security Agreement as set forth herein in order to, among other things, reflect the execution of the Credit Agreement and the Assignment and Assumption Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Administrative Agent and the Lenders to enter into the Credit Agreement and the Lenders to make their respective Loans to the Borrower under the Credit Agreement, the Grantor hereby agrees with the Administrative Agent, for the ratable benefit of the Lenders, as follows:

1. Defined Terms.

(a) Unless otherwise defined herein, each capitalized term used herein that is defined in the Credit Agreement shall have the meaning specified for such term in the Credit Agreement. Unless otherwise defined herein or in the Credit Agreement, all terms defined in Article 9 of the Uniform Commercial Code in effect as of the date hereof in the State of New York are used herein as defined therein as of the date hereof.

(b) The words "hereof", "herein" and "hereunder" and words of like import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement, and section references are to this Agreement unless otherwise specified.

(c) All terms defined in this Agreement in the singular shall have comparable meanings when used in the plural, and vice versa, unless otherwise specified.

2. Security Interest in Intellectual Property. To secure the complete and timely payment, performance and satisfaction of all the Obligations, the Grantor hereby grants to the Administrative Agent, for the benefit of the Administrative Agent and the Lenders, a security interest in, as and by way of a first mortgage and security interest having priority over all other security interests, with power of sale to the extent permitted by applicable law, all the Grantor's now owned or existing and hereafter acquired or arising:

(i) trademarks, registered trademarks, trademark applications, service marks, registered service marks and service mark applications, including, without limitation, the trademarks, registered trademarks, trademark applications, service marks, registered service marks and service mark applications listed on Schedule A attached hereto and made a part hereof, and (a) all renewals thereof, (b) all income, royalties, damages and

payments now and hereafter due and/or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements or dilutions thereof, (c) the right to sue for past, present and future infringements and dilutions thereof, (d) the goodwill of the Grantor's business symbolized by the foregoing and connected therewith, and (e) all the Grantor's rights corresponding thereto throughout the world (all the foregoing trademarks, registered trademarks and trademark applications, and service marks, registered service marks and service mark applications, together with the items described in clauses (a)-(e) in this paragraph 2(i), are sometimes hereinafter individually and/or collectively referred to as the "Trademarks");

(ii) rights under or interest in any patent license agreements, trademark license agreements or service mark license agreements with any other party, whether the Grantor is a licensee or licensor under any such license agreement, including, without limitation, those patent license agreements, trademark license agreements and service mark license agreements listed on Schedule B attached hereto and made a part hereof, in each case to the extent assignable without violation thereof, together with any goodwill connected with and symbolized by any such trademark license agreements or service mark license agreements, and the right to prepare for sale and sell any and all Inventory now or hereafter owned by the Grantor and now or hereafter covered by such licenses (all the foregoing are hereinafter referred to collectively as the "Licenses"); and

(iii) patents and patent applications, and the inventions and improvements described and claimed therein, including, without limitation, those patents and patent applications listed on Schedule A attached hereto and made a part hereof, and (a) the reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof, (b) all income, royalties, damages and payments now and hereafter due and/or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof, (c) the right to sue for past, present and future infringements thereof, (d) all patented technology and know-how, and (e) all of the Grantor's rights corresponding thereto throughout the world (all of the foregoing patents and applications, together with the items described in clauses (a)-(e) in this paragraph 2(iii) are sometimes hereinafter individually and/or collectively referred to as the "Patents").

3. Restrictions on Future Agreements. The Grantor will not, without the Administrative Agent's prior written consent, enter into any agreement, including, without limitation, any license agreement, which is inconsistent with this Agreement, and the Grantor further agrees that, without the Administrative Agent's prior written consent, it will not take any action, and will use its best efforts not to permit any action to be taken by others, including, without limitation, licensees, or fail to take any action, which would in any respect adversely affect the validity or enforcement of the rights transferred to the Administrative Agent under this Agreement or the rights associated with any Patents, Trademarks or Licenses, and in particular, the Grantor will not permit to lapse or become abandoned any Patent, Trademark or License; provided that nothing contained herein shall restrict the Grantor's ability to license its software in the ordinary course of its business consistent with prior practice.

4. New Patents, Trademarks and Licenses. The Grantor represents and warrants that (a) the Patents and Trademarks listed on Schedule A include all the registered patents, patent applications, trademarks, common law trademarks, trademark applications, registered service marks and service mark applications now owned or held by the Grantor, (b) the Licenses listed on Schedule B include all the patent license agreements, trademark license agreements and service mark license agreements under which the Grantor is the licensee or licensor and which are material individually or in the aggregate to the operation of the business of the Grantor and (c) other than the rights of any party to the Licenses with respect to the Patents and the Trademarks, no Liens in such Patents, Trademarks and Licenses have been granted by the Grantor to any Person other than the Administrative Agent. If, prior to the termination of this Agreement, the Grantor shall (i) obtain rights to any new patentable inventions, trademarks, registered trademarks, trademark applications, service marks, registered service marks or service mark applications, (ii) become entitled to the benefit of any patent, patent application, license or any reissue, division, continuation, renewal, extension or continuation-in-part of any Patent or any improvement on any Patent or License or any trademarks, registered trademarks, trademark applications, trademark licenses, trademark license renewals, service marks, registered service marks, service mark applications, service mark licenses or service mark license renewals whether as licensee or licensor, or (iii) enter into any new patent license agreement, trademark license agreement or service mark license agreement, the provisions of paragraph 3 above shall automatically apply thereto. The Grantor shall give to the Administrative Agent written notice of events described in clauses (i), (ii) and (iii) of the preceding sentence within 30 days of the occurrence of any such event. The Grantor hereby authorizes the Administrative Agent to modify this Agreement unilaterally (i) by amending Schedule A to include any future patents, trademarks, registered trademarks, trademark applications, service marks, patent applications, registered service marks and service mark applications owned or held by Grantor or to prepare this Agreement for filing with the Patent and Trademark Office and by amending Schedule B to include any patent license agreements, trademark license agreements and service mark license agreements to which Grantor becomes a party, which are Trademarks or Licenses under paragraph 2 above or under this paragraph 4, and (ii) by filing with the Patent and Trademark Office, in addition to and not in substitution for this Agreement, a duplicate original of this Agreement containing on Schedule A or B thereto, as the case may be, such future patents, trademarks, registered trademarks, trademark applications, service marks, patent applications, registered service marks and service mark applications, and patent license agreements, trademark license agreements and service mark license agreements.

5. Royalties. The Grantor hereby agrees that the use by the Administrative Agent of the Patents, Trademarks and Licenses as authorized hereunder in connection with the Administrative Agent's exercise of its rights and remedies under paragraph 13 or pursuant to the Security Agreements shall be coextensive with the Grantor's rights thereunder and with respect thereto and without any liability for royalties or other related charges from the Administrative Agent and the Lenders to the Grantor.

6. Further Assignments and Security Interests. The Grantor agrees not to sell or assign its respective interests in, or grant any license under, the Patents, the Trademarks or the Licenses without the prior and express written consent of the Administrative Agent.

7. Nature and Continuation of the Administrative Agent's Security Interest; Termination of the Administrative Agent's Security Interest; Release of Collateral. This Agreement is made for collateral security purposes only. This Agreement shall create a continuing security interest in the Patents, Trademarks and Licenses and shall terminate only when the Obligations have been paid in full in cash and the Credit Agreement and the Security Agreements have been terminated. Upon such termination and at the written request of the Grantor or its successors or assigns, and at the cost and expense of the Grantor or its successors or assigns, the Administrative Agent shall execute in a timely manner such instruments, documents or agreements as are necessary or desirable to terminate the Administrative Agent's security interest in the Patents, the Trademarks and the Licenses, subject to any disposition thereof which may have been made by the Administrative Agent pursuant to this Agreement or the Security Agreements.

8. Duties of the Grantor. Subject to the second sentence of this Section 8, the Grantor shall have the duty (i) to prosecute diligently any patent application, trademark application or service mark application that is part of the Trademarks pending as of the date hereof or hereafter until the termination of this Agreement and (ii) to make any application for and diligently prosecute the registration of (x) any trademark or service mark that the Grantor has not created as of the date hereof which the Administrative Agent, after consultation with the Grantor, reasonably determines may have significant value and (y) any unpatented but patentable invention. The Grantor further agrees (i) not to abandon any Trademark or License without the prior written consent of the Administrative Agent if such abandonment would have a Material Adverse Effect, and (ii) to use its reasonable best efforts to obtain and maintain in full force and effect the Patents, the Trademarks and the Licenses that are or shall be necessary or economically desirable in the operation of the Grantor's business. Any expenses incurred in connection with the foregoing shall be borne by the Grantor. Neither the Administrative Agent nor any of the Lenders shall have any duty with respect to the Patents, Trademarks and Licenses. Without limiting the generality of the foregoing, neither the Administrative Agent nor any of the Lenders shall be under any obligation to take any steps necessary to preserve rights in the Patents, the Trademarks or Licenses against any other parties, but the Administrative Agent may do so at its option from and after the occurrence of an Event of Default, and all expenses incurred in connection therewith shall be for the sole account of the Grantor and shall be added to the Obligations secured hereby.

9. The Administrative Agent's Right to Sue. Upon the occurrence and during the continuance of an Event of Default, the Administrative Agent shall have the right, but shall not be obligated, to bring suit in its own name to enforce the Patents, the Trademarks and the Licenses and, if the Administrative Agent shall commence any such suit, the Grantor shall, at the request of the Administrative Agent, do any and all lawful acts and execute any and all proper documents required by the Administrative Agent in aid of such enforcement. The Grantor shall, upon demand, promptly reimburse the Administrative Agent for all actual costs and expenses incurred by the Administrative Agent in the exercise of its rights under this paragraph 9 (including, without limitation, reasonable fees and expenses of counsel for the Administrative Agent).

10. Waivers. The Administrative Agent's failure, at any time or times hereafter, to require strict performance by the Grantor of any provision of this Agreement shall

and the Grantor, the Administrative Agent shall be conclusively presumed to be acting as agent for the Lenders with full and valid authority so to act or refrain from acting, and the Grantor shall not be under any obligation, or entitlement, to make any inquiry respecting such authority.

18. Termination; Release. Upon the repayment of all the Obligations in full and the termination of the Commitments, this Agreement shall terminate, and the Administrative Agent, at the request and expense of the Grantor, will promptly execute and deliver to the Grantor the proper instruments acknowledging the termination of this Agreement, and will duly assign, transfer and deliver to Grantor (without recourse and without any representation or warranty of any kind) such of the Collateral as may be in the possession of the Administrative Agent and has not theretofore been disposed of or otherwise applied or released.

19. Reinstatement. This Agreement shall continue to be effective or be reinstated, as the case may be, if at any time any amount received by the Lenders in respect of the Obligations is rescinded or must otherwise be restored or returned by such Lender upon the insolvency, bankruptcy, dissolution, liquidation or reorganization of the Grantor or upon the appointment of any intervenor or conservator of, or trustee or similar official for, the Grantor or any substantial part of its assets, or upon the entry of an order by a bankruptcy court avoiding payment of such amount, or otherwise, all as though such payments had not been made.

20. Section Titles. The section titles herein are for convenience of reference only, and shall not affect in any way the interpretation of any of the provisions hereof.

21. Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

22. Submission to Jurisdiction and Service of Process. The Grantor hereby irrevocably and unconditionally agrees that the terms of Section 9.13 of the Credit Agreement with respect to submission to jurisdiction and service of process shall apply equally to this Agreement.

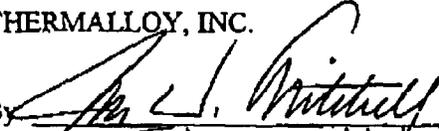
23. Waiver of Bond. The Grantor waives the posting of any bond otherwise required of the Administrative Agent in connection with any judicial process or proceeding to realize on any of the Patents, Trademarks or Licenses or any other security for the Obligations, to enforce any judgment or other court order entered in favor of the Administrative Agent, or to enforce by specific performance, temporary restraining order, or preliminary or permanent injunction, this Agreement or any other agreement or document between the Administrative Agent and the Grantor.

24. WAIVER OF JURY TRIAL. EACH OF THE GRANTOR AND THE ADMINISTRATIVE AGENT WAIVES ANY RIGHT TO TRIAL BY JURY IN ANY

DISPUTE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, BETWEEN THE ADMINISTRATIVE AGENT AND THE GRANTOR ARISING OUT OF OR RELATED TO THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT, OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HEREWITH. EITHER THE GRANTOR OR THE ADMINISTRATIVE AGENT MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS AGREEMENT WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF THE PARTIES HERETO TO THE WAIVER OF THEIR RIGHT TO TRIAL BY JURY.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

THERMALLOY, INC.

By: 
Name: John W. Mitchell
Title: Vice President

CANADIAN IMPERIAL BANK OF
COMMERCE, as Administrative Agent

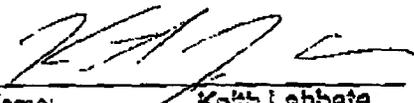
By: _____
Name:
Title:

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

THERMALLOY, INC.

By: _____
Name:
Title:

CANADIAN IMPERIAL BANK OF
COMMERCE, as Administrative Agent

By: 
Name: Keith Labbate
Title: Executive Director
CIBC World Markets Corp. As Agent

STATE OF NH
COUNTY OF Merrimack

) SS

On the 1st day of February 2000, before me personally came John W. Mitchell, to me known, who being by me duly sworn, did depose and say that he/she resides at Belmont NH; that he/she is a VP of Thermalloy, Inc., the corporation described in and which accepted and agreed to the foregoing instrument; and that he/she signed his/her name thereto by authority of the board of directors of said corporation.

S. DIANE KNAEFLER
NOTARY PUBLIC
STATE OF NEW HAMPSHIRE
My commission expires Nov. 6, 2002

[Signature]
Notary Public

STATE OF New York)
COUNTY OF New York) SS

On the 9th day of February, 2000, before me personally came Keith Labbata, to me known, who being by me duly sworn, did depose and say that he/she resides at 214 Riverside Drive, New York, NY 10025; that he/she is a Authorized signatory of Canadian Imperial Bank of Commerce, the entity described in and which accepted and agreed to the foregoing instrument; and that he/she signed his/her name thereto by appropriate authority.

Sherry Rosso
Notary Public
SHERRY ROSSO
Notary Public, State of New York
No. 0150403011
Queens, New York County
Commission Expires March 9, 2000

Schedule A

THERMALLOY, INC.

(See Attached)

605773.1

Table 2.10(a)(1)

Company Operating Unit Name: Thermilkoy, Inc.

Registered Patents/Patents Pending

	Registered Patents/Patents Pending		Application		Registration		Expiration Date
	Number	Country	Number	Date	Number	Date	
1. Strap Spring for Heat Sink Clip Assembly	08/744,569	U.S.A.	08/744,569	14/6/93	5,889,653	30/3/99	4/5/2014
2. Strap Spring for Heat Sink Clip Assembly (division of immediately preceding patent)	09/233,705	U.S.A.	09/233,705	19/1/99			
3. Pre-application of Grease to Heat Sinks with a Protective Coating	08/669,875	U.S.A.	08/669,875	21/6/96			
4. Pre-application of Grease to Heat Sinks with a Protective Coating (division of application no. 08/669,875)	08/910,314	U.S.A.	08/910,314	13/8/97	5,897,917	27/4/99	21/6/2016
5. Pre-application of Grease to Heat Sinks with a Protective Coating (division of application no. 08/669,875)	09/169,055	U.S.A.	09/169,055	9/10/98			
6. Applicator Head and method of using same (continuation-in-part of Application Number 08/669,875) (amendment filed 6/7/99)	08/877,944	U.S.A.	08/877,944	18/6/97			

20800249.4

Registered Patents/Patents Pending									
Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Date	Expiration Date			
7. Applicator Head and method of using same (continuation-in-part of Application Number 08/877,944) (amendment filed 6/7/99)	U.S.A.	08/877,944	5/6/98						
8. Anchor for Securing Heat Sink to PCB	U.S.A.	08/663,600	1/16/96	5,640,305	17/6/97				
9. Pre-Apply Circuit	Germany (utility model)	08/609,975	2/16/96	5,998,275	31/1/97				
10. Strap Spring for Heat Sink Clip Assembly	U.S.A.	08/643,079	2/5/96	5,594,624	14/1/97				
11. Fan Attachment Clip for Heat Sink for Semi-conductor Devices	U.S.A.	08/482,011	7/6/95	5,590,025	31/12/96				
(Continuation of 08/621,167 and continuation in part of 08/482,011)	U.S.A.	08/621,167	22/3/96	5,667,829	14/10/97	7/6/2015			
	WO			WO 9639889		19/12/96			
	WO			WO 9735460		25/9/97			

Registered Patents/Patents Pending		Registered Patents/Patents Pending			
Registered Patents/Patents Pending	Country	Application Number	Registration Number	Registration Date	Expiration Date
GP	GP	06917257	EP 832578	6/6/96	8/4/98
12. Heat sink and attachment process for electronic components (co-assignee: Lucent Technologies, Inc.)	U.S.A.	97916980	EP 888708	2/13/97	7/1/99
		97932815	5,917,700	16/9/97	29/6/99
13. Stamped TCM Module (Heat Sink for Electronic Device Heat Dissipation)	U.S.A.	08/544,060	5,566,749	12/10/93	22/10/96
14. Method and Apparatus for Dissipating Thermal Energy (Powergain) (Heat Sink for Cooling Large Electronic Device)	U.S.A.	302,336	5,486,980	8/9/94	23/1/96
	Great Britain	9307010.1	2,276,763	3/4/93	8/1/97
15. Spring Clip for Attaching Electronic Device Packages to Heat Sink	U.S.A.	933,781	5,466,970	2-1/8/92	14/11/95
16. Combined Heat Sink and Mounting Clamp Assembly to Fix Heat Sink	U.S.A.	283,535	5,464,054	1/8/94	7/11/95

Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Country	Application Number	Registration Number	Expiration Date
Great Britain	9107046.4	2,276,763	7/5/97
DE		DE 4428170	2/3/95
JP		JP 7153879	16/6/95
CN		CN 1105481	19/7/95
U.S.A.	08/169,354	5,386,338	3/1/95
17. Heat sink Attachment Assembly (Spring Wing) (Mounting Spring Clamp for Heat Sink Attachment)			
Great Britain	9400248.2	2,284,917	2/9/97
DE		DE 4445541	22/6/95
JP		JP 7202091	4/8/95
CN		CN 1104320	28/6/95
U.S.A.	08/223-011	5,371,652	6/12/94
18. Spring Clamp Assembly with Electrically Insulating Shoe (Plastic Footed Spring Clip) (Spring Clamp Assembly for Securing Finned Heat Sink to Electronic Device)			
DE		DE 4436491	18/5/95

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Registration Number	Registration Date	Expiration Date
	JP	0417579-1	JP 7183679	21/7/95	
	CN		CN 1106898	15/1/97	
	Great Britain	0417579-1	2283781	15/1/97	21/08/99
19. Interlocking Attachment Assembly for Securing Two or more Sheets of Material Together	U.S.A.	087058,380	5,365,654	22/11/94	
20. Heat Sink Mounting	U.S.A.	077977,220	5,276,585	4/1/94	
21. Spring Clip Fastener	U.S.A.	853,909	5,130,888	14/7/92	
22. Fixing for Securing Electronic Device Packages to Heat Sinks	U.S.A.	762,377	5,138,524	11/8/92	
23. Heat Sink Apparatus for Semiconductor Device	U.S.A.	8808943,8	2204181	21/3/90	
24. Insulating Apparatus for Electronic Device	Great Britain	077162,183	3,014,942	28/5/91	28/5/91
25. Mounting Apparatus for Electronic Device Packaging	U.S.A.	128,390	5,019,940	28/5/91	
26. Finned Heat Sink Body	U.S.A.	492,926	5,038,858	13/8/91	
	U.S.A.	074188,117	5,068,764	26/11/91	

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Date	Expiration Date
27. Staked Fin Extrusion	U.S.A.	492,926				
28. Slot Clip	U.S.A.	07488,117	5/3/90	5,068,764	26/11/91	26/11/2008
	Great Britain	0104555.1	11/3/91	2,213,026	15/6/94	4/2/2001
29. Alignment Device for Connecting Electronic Component to PCI (Alignment Pad)	Japan			JP-43019900	27/1/88	
	U.S.A.			4847449	11/7/89	
30. Heat Sink for Electronic Package (Spotweld Clip)	Japan			JP-62210657	16/9/87	
	U.S.A.			US-4729426	8/3/88	
31. Heat Sink Clip Assembly (for Heat Sink Component) (Spring & Frame/8300-SP01)	Great Britain		8721863.9	2195051	10/1/90	8/9/99
	U.S.A.			US-4745456	17/5/88	
	U.S.A.			US-35573	29/7/97	
	Japan			JP-63133557	6/6/88	

Registered Patents/Patents Pending

	Registered Patents/Patents Pending		Country	Application		Registration		Expiration Date
	Number	Date		Number	Date	Number	Date	
32. Apparatus and Method of Attaching an Electronic Device Package and a Heat Sink to a Circuit Board	395,661	18/8/89	U.S.A.	4,961,125	2/10/90	4,961,125	2/10/90	8/8/2009
33. Free-standing Stanchion for Supporting and Protecting Electronic Device	501,784	30/3/90	U.S.A.	4,962,442	9/10/90	4,962,442	9/10/90	30/3/2010
34. Method of Mounting Heat Sinks	162,150	29/2/88	U.S.A.	4,783,899	15/1/88	4,783,899	15/1/88	
35. Compensating Roll Pin for Heat Sink Mounting	644,215	8/2/84	U.S.A.	4,602,315	7/2/86	4,602,315	7/2/86	
36. Alignment Apparatus for use in Mounting Electronic Components	07,028,222	16/6/88	U.S.A.	4,847,449	1/7/89	4,847,449	1/7/89	1/7/2006
37. Method of Manufacturing Heat Sink Apparatus (Pin Pins)	07,361,484	5/6/89	U.S.A.	4,879,891	14/1/89	4,879,891	14/1/89	27/4/2007
38. Bonded Clip Heat Sink	07,262,695	26/10/88	U.S.A.	4,884,331	5/12/89	4,884,331	5/12/89	
39. Heat Sink Clip Assembly (8300-SPOL)	836,816	6/3/86	U.S.A.	4,729,426	8/3/88	4,729,426	8/3/88	
40. Assembling Electrical Component on Printed Circuit Board	905,657	9/1/86	U.S.A.	4,745,456	17/5/88	4,745,456	17/5/88	
	404,261	1/6/82	Canada	1,244,683	15/1/88	1,244,683	15/1/88	

Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Country	Application Number	Registration Number	Expiration Date
Japan	89300263	HP 14558	20/8/80
Great Britain		G11 2042260	17/9/80
France		FR 2248276	3/10/80
Canada		CA 1130466	24/8/82
Canada		CA 1162324	14/2/84
Denmark		DE 3067404	17/5/84
U.S.A.	126,822	4,783,899	15/11/88
41. Compensating Roll Pin for H.S. Mounting			
Japan		61164347	7/7/88
42. Alignment Apparatus for Electronic Device Package			
Great Britain		2198899	22/6/88
U.S.A.	886,386	4,712,159	8/12/87
Japan		62244454	24/4/87
Great Britain		2193839	17/2/88
U.S.A.	130,309	4,890,196	9/12/87
Japan		62226647	3/10/87
44. Fastener for Mounting Heat Sink			

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Registered Patents/Patents Pending		Registered Patents/Patents Pending		Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Date	Expiration Date	
54. Solderable Stud	Canada	343,286	7/1/80	1,130,766	2/18/82	2/18/99	
55. Unitary Card Handling Means	U.S.A.	120,053	11/2/80	4,261,076	14/4/81	11/2/2000	
56. Circuit Pkg. Loader & Extractor	U.S.A.		13/1/77	4,304,514	8/12/81		
57. Semiconductor Heat Sink	U.S.A.	601,920	4/8/75	4,012,769	15/3/77		
58. Heat Sink for TO-220	Germany (Registered Design)	URA791/84	16/6/84	MR22898	16/6/84		possibly expired on 16/6/94; Germany counsel unable to confirm)
59. Spring Wing	U.S.A.	08/314,673	29/9/94				
	Germany						
	China	94105223.0	6/5/94				
	Taiwan	83103167	11/4/94				
	Thailand	022075	8/4/94				
	Indonesia	P-940653	29/4/94				
	Great Britain	9409748.2	15/5/94				

Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Registered Patents/Patents Pending	Country	Application Number	Registration Number
		Date	Date
Korea		2266394	9/8/94
Japan		HEI6-266397	3/11/94
60. "Z" Spring for Socket	U.S.A.	08/103,864	
	U.S.A.	08/283,535	
Japan		HEI6-185920	
	Indonesia	P-941305	9/8/93
	Taiwan	83107064	1/8/94
	China	08/103,564	8/8/94
	Germany	P4428170.6	9/8/94
	Korea	19231/94	2/8/94
Thailand		023402	9/8/94
61. Powergain	U.S.A.	08/029,955	9/8/94
Germany		P4312227.7	1/31/93
	France	9304894	9/8/94
	Taiwan	82102879	
Japan		HEI5-85905	3/7/93

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Registration Date	Expiration Date
62. Plastic Footed Spring Clip	Indonesia	97036191.1	1/5/93			
	Germany	94436491.1	12/10/94			
	Thailand	83108876	1/5/93			
	Great Britain	911579.1	13/4/93			
	Korea	211079/1	12/10/94			
63. Graphite Fiber Heat Spreader	U.S.A.	08276,622	9/8/94			
64. "Z" Spring Circuit Board Anchor	U.S.A.	08477,794	7/6/95			
65. Solderable Spring Clip & Heat Sink	U.S.A.	08786,408	2/1/97	5,844,312	1/12/98	
	WO	90936284	9/10/96	WO 9714184	17/4/97	
66. Fan Attachment Clip for Heat Sink	EP	90936284	9/10/96	EP 855089	29/7/98	
	China	97193255.7	2/7/97	CN 119505	18/1/98	
	Japan	501753/97	5/12/97			
	Japan	533784/97	2/9/98			
	South Korea	9705400-1				

Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Country	Application Number	Registration Number	Expiration Date
South Korea	207412109X		17/8/98
Singapore	9804840-X		
U.S.A.	08/792,864	1/3/97	
U.S.A.	29/013,459	24/9/93	11/4/95
U.S.A.	275,545	25/1/88	11/12/90
U.S.A.	120,804	16/1/87	18/4/89
U.S.A.	718,558	1/4/85	19/4/88
U.S.A.	718,557	1/4/85	19/4/88
U.S.A.	595,510	2/1/84	19/8/86
U.S.A.	626,660	1/4/85	29/7/86
U.S.A.	485,204	7/4/86	1/10/85

- 67. Powergain Series IV
- 68. Spring Clip for Retaining Thermal Contact Between an Electronic Device Package and a Heat Sink (outside Corner Clip)
- 69. Heat Sink or similar article (TO-220 H.S.)
- 70. Heat Sink or similar article (TO-220 H.S.)
- 71. Heat Sink or similar article
- 72. Heat Sink or similar article
- 73. Heat Sink or similar article (TO-220)
- 74. Heat Sink or similar article
- 75. Heat Sink or similar article (TO-220)

Registered Patents/Patents Pending		Registered Patents/Patents Pending			
Registered Patents/Patents Pending	Country	Application Number	Date		
Registration Number	Date	Registration Number	Expiration Date		
76. Pre-application of grease to heat sinks with a protective coating	Great Britain	G09902029.1	3/1/94	G02317457	2/1/97
	Denmark		30/1/97	DE 29702293.8	3/4/97
	Denmark		30/1/97	DK 19705057.3	2/1/98
	PCT	PCT/US96/20934	30/12/96	WO 9748957	24/12/97
	France	971044	31/1/97	FR 2750251	26/12/97
	France	971045	31/1/97	FR 2750252	26/12/97
	Canada			CN 1194030	23/9/98
	Italy		31/1/94	IT 1291488	11/1/99
	Singapore	992037-3	30/12/96		
	South Korea	701098/1998	30/12/96		
	Japan	502902/98	30/12/96		
	China	96196448.0	30/12/96		
77. Spring clamp and heat sink assembly	Great Britain	G099445622.1	2/8/94	G02281149	2/4/97

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Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Date	Expiration Date
78. Heat sink apparatus and method of manufacture	Great Britain	GB2264181	15/4/88	GB2264181	21/3/90	31/3/99 (and within 6 months after that date)
79. Patent (Method and apparatus for dissipating thermal energy)	Hong Kong			HK 1006605	Deemed date of filing: 5/1/93	5/1/2002 (renewal due date)
80. Patent (Spring clamp assembly with electronically insulating shoe)	Hong Kong			HK 1006606	Deemed date of filing: 31/8/94	31/8/2002 (renewal due date)
81. Patent (Spring clamp and heat sink assembly)	Hong Kong			HK 1006607	Deemed date of filing: 2/8/94	2/8/2002 (renewal due date)
82. Patent (Heat sink attachment assembly)	Hong Kong			HK 1006631	Deemed date of filing: 16/5/94	16/5/2002 (renewal due date)
83. Patent (Heat sink apparatus and method of manufacture)	Hong Kong			HK 0930716	Deemed date of filing: 15/4/88	15/4/2001 (renewal due date)
84. Patent (Fan attachment clip for heat sink)	Hong Kong				Hong Kong Application No. 98110150.8	25/8/98

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Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application		Registration		Expiration Date
		Number	Date	Number	Date	
85. Applicator head and method for using same	Thailand	044432	16/6/98			
86. Applicator head and method for using same	Taiwan	87109750	18/6/98			
87. Applicator head and method for using same	Philippines	1-1998-01474	15/6/98			
88. Applicator head and method for using same	Malaysia	P19802705	17/6/98			
89. Attachment of electronic device packages to heat sinks	Malaysia	P19801387	24/9/98			
90. Heat sink mounting assembly for surface mount electronic device packages	Malaysia	P19804839	23/10/98			
91. Pre-application of grease to heat sinks with a protective coating	Malaysia	P19605570	31/12/96			
92. Fan attachment clip for heat sink	Malaysia	P19701782	24/4/97			
93. Solderable transistor clip and heat sink	Malaysia	P19604235	11/10/96			
94. Fan attachment clip for heat sink	Malaysia	P19602299	7/6/96			

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Expiration Date
95. Heat Sink Apparatus and Method of Manufacture	Malaysia	P19201406	07/08/92		
96. Solderable transistor clip and heat sink	PCT	PCT/US96/16160	11/10/96		
97. Solderable transistor clip and heat sink	China	1199505A	9/10/96		
98. Transistor-Lötclip und Kühlkörper	FR-German Designated	FR 96-936284.7	9/10/96		
99. Solderable transistor clip and heat sink	Hong Kong	98111148.1	9/10/96		
100. Solderable transistor clip and heat sink	Singapore	9802328-6	9/10/96		
101. Befestigung von Gehäusen elektronischer Bauteile an Kühlkörpern	Germany	DE 19846484	07/10/98		
102. Wärmesenke und Verfahren zur Verbesserung der Wärmeableitung	Germany	DE 19705057	30/01/97		
103. Kühlkörperbefestigungsrichtung	Germany	DE 4445541	20/12/94		

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Expiration Date
104. Vorrichtung zur Handhabung von Karten	Germany	DE 3317552	1/05/83		
105. Verbindungskammer für Kühlkörperventilator, European Patent Application	EP-German Designated	EP 97-916980.2	2/10/97		
106. Montage einer Wärmesenkung	EP-German Designated	EP 98-300721	02/02/98		
107. Verbindungskammer für Kühlkörperventilator	EP-German Designated	EP 96-917257	06/06/96		
108. Heat Sink Mounting Assembly for Surface Mount Electronic	PCT-German Designated CN, JP, KR, SG, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	PCT/US98/22447 A	23/10/98	WO 9921402	29/04/99

Registered Patents/Patents Pending		Registered Patents/Patents Pending	
Registered Patents/Patents Pending	Country	Application Number	Registration Number
		Date	Date
109. Heat Sink Packaging Methods and Devices for Same	PCT-Germany Designated CA, JP, KR, SG	PCT/US98/11727 A 05/06/98	WO9857801 12/23/98
	U.S.A.	08/876,093	18/6/97
110. Heat sink packaging methods and devices for same	Malaysia	MY9802706	17/6/98
111. Heat sink packaging methods and devices for same	Philippines	1-1998-01473	18/6/98
112. Heat sink packaging methods and devices for same	Taiwan	87109752	18/6/98
113. Heat sink packaging methods and devices for same	Thailand	86-1-133	16/6/98
114. Applicator Head and Method for Using Same	PCT-Germany Designated	PCT/US98/11728	05/06/98
115. Thermal Grease for Heat Sinks and Electrical Components	PCT-CA, JP, KR, SG		WO 9857755 23/12/98
116. Strip Spring for Securing Heat Sink to Electronic Device	US		US 5817928 8/12/98

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application Number	Date	Registration Number	Date	Expiration Date
117. Heat Sink for Semiconductor Device	PCT, At., AT, BE, CH, DE, DK, EP, ES, FI, FR, GB, GR, IE, IT, JI, JT, LU, LV, MC, MK, NL, PT, RO, SE, SI	96300721		JP 862210	2/9/98	
				JP 10301348	13/11/98	
118. Anchor for Securing Heat Sink to PCB	US			US 5640305	17/6/97	
119. Miniature Heat Sink for Large Semiconductor Device Exp.	GB, DE, FR, JP			GB 2276763	5/10/94	
				DE 4312927	6/10/94	
				FR 2703443	7/10/94	
				JP 7058470	3/3/95	
120. A Method and Apparatus for Heat Dissipation	Italy		175793	IT 1266517	20/12/96	
121. Free Standing Stanchion	US			US 4962412	9/10/90	

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application		Registration		Expiration Date
		Number	Date	Number	Date	
122. Attachment of Electronic Device Package	US	US 4961125		US 4961125	2/10/90	
123. Compensating Roll Pin for Heat Sink Mounting	US	US 4806064		US 4806064	2/2/89	
124. Heat Sink Mounting Method	US	US 4783899		US 4783899	15/1/88	
125. Heat Sink Mounting	US	US 4521827		US 4521827	4/6/85	
126. Semiconductor Device Case Mounting	US	US 4446504		US 4446504	1/5/84	
127. Unitary Card Handling Device	US	US 4261076		US 4261076	1/4/81	
128. Strap Spring for Heat Sinks to Circuit Boards	US	677,596	9/7/96	US 5817928	8/12/98	
129. Strap spring for attaching heat sinks to circuit boards (continuation of immediately preceding patent, issue no. 5847928)	US	09/099,186	17/6/98 (CIPA filed 13/7/99)			
130. Solderable Transistor Clip and Heat Sink	US			US 5844312	1/12/98	
131. Heat Sink Clip Assembly	US			US RE35573	29/7/97	

Registered Patents/Patents Pending

	Registered Patents/Patents Pending		Country	Application		Registration		Expiration Date
	Registered Patents/Patents Pending	Country		Number	Date	Number	Date	
132. Anchor for Securing a Heat Sink to a Printed Circuit Board		US			US 5640305	17/6/97		
133. Strap Spring for Heat Sink Clip Assembly		US			US 5594624	14/1/97		
134. Fan Attachment Clip for Heat Sink		US			US 5590025	31/12/96		
135. Stamped and Formed Heat Sink		US			US 5566749	22/10/96		
136. Method and Apparatus for Dissipating Thermal Energy		US			US 5486980	23/1/96		
137. Hooked Spring Clip		US			US 5466970	14/11/95		
138. Spring Clamp and Heat Sink Assembly		US			US 5464054	7/11/95		
139. Heat Sink Attachment Assembly		US			US 5428897	4/7/95		
140. Heat Sink Attachment Assembly		US			US 5386398	31/1/95		
141. Spring Clamp Assembly with Electrically Insulating Shoc		US			US 5371652	6/12/94		
142. Interlocking Attachment Assembly		US			US 5365654	22/11/94		
143. Heat Sink Mounting Apparatus		US			US 5276585	4/1/94		

Registered Patents/Patents Pending

	Registered Patents/Patents Pending		Country	Application		Registration		Expiration Date
	Registered Patents/Patents Pending	Country		Application Number	Application Date	Registration Number	Registration Date	
144.	Apparatus for Securing Electronic Device Packages to Heat Sinks	US	US 5138524	11/8/92	US 5138524	11/8/92		
145.	Spring Clip Fastener for Surface Mounting of Printed Circuit Board Components	US	US 5130888	14/7/92	US 5130888	14/7/92		
146.	Electronic Device Package Mounting Assembly	US	US 5068764	16/11/91	US 5068764	16/11/91		
147.	Finned Heat Sink and Method Manufacture	US	US 5038858	13/8/91	US 5038858	13/8/91		
148.	Insulating Apparatus for Electronic Device Assemblies	US	US 5019942	28/5/91	US 5019942	28/5/91		
149.	Mounting Apparatus for Electronic Device Packages	US	US 5019940	28/5/91	US 5019940	28/5/91		
150.	Solderable Heat Sink Fastener	US	US 4890196	26/12/89	US 4890196	26/12/89		
151.	Compensating Roll Pin for Heat Sink Mounting	US	US 4806064	21/2/89	US 4806064	21/2/89		
152.	Compensating Roll Pin for Heat Sink Mounting	US	US 4602315	22/7/86	US 4602315	22/7/86		
153.	Heat Sink and Method of Manufacture	US	US 4588028	13/5/86	US 4588028	13/5/86		

Registered Patents/Patents Pending

Registered Patents/Patents Pending	Country	Application		Registration		Expiration Date
		Number	Date	Number	Date	
154. Spring Clip Fastener for Mounting US of Printed Circuit Board Components	US			US 4575038	11/7/86	
155. A Method and an Apparatus to Mold Structural Shapes (originally applied for by Redpoint Thermalloy Ltd., but issued to Thermalloy Inc.)	Italy	MI99A001063 (English Priority 1099) of 27/03/91)	26/03/94	1275620	17/10/97	
156. Cap of Containers of Electronic Devices to Heat Sinks	Italy	RM98A000624	2/10/98			
157. Pre-Application of Grease to Heat Sinks with a Protective Coating	Italy	TO02A000020 (Application as Utility Model)	31/04/97			
158. Pre-Application of Grease to Heat Sinks with a Protective Coating	Italy	TO02A000025 ("full" patent application)	31/04/97			
159. Pre-Application of Grease to Heat Sinks with a Protective Coating	Finland	85116325	31/12/96			
160. Attachment of Electronic Device Packages to Heat Sinks	UK			GB 9905300	28/1/99	

Trademarks Registered/ Pending

	Trademarks Registered/ Pending		Country	Application		Registration	
	Number	Date		Number	Date		
1. Easy-Ply	75/227,937	20/1/97	U.S.A.	2,101,701	30/9/97		
2. Powergain			U.S.A.	1947354	1/9/96		
3. Insul-Cote	1192793	24/3/83	Great Britain	1192793	24/3/83		
4. T-Logo (Stylised T device)	1,196,469	24/5/83	Great Britain	1,196,469	31/10/83		
5. TCM			France	1,237,054	27/5/83		
6. T-Logo	74/279,213	28/5/91	U.S.A.	1,798,577	12/10/93		
7. T-Logo	8583,996	24/5/83	Canada	TMA288,206	24/7/84		
8. T-Logo	16,628/83	24/5/83	Japan	1,824,137	29/4/85		
9. T-Logo	73-019,672	24/4/74	U.S.A.	1,028,661	30/12/75		
10. Insul-Cote	662,392	22/4/83	France	1,233,944	23/4/83		
11. Insul-Cote (possibly expired; Germany counsel unable to confirm)	72255617WZ	9/5/83	Germany	1063188	16/5/84		
12. Insul-Cote	105,161	8/12/82	U.S.A.	1,351,651	30/7/85		
13. Surface Coolers	75-563,138	10/2/98	US				
14. DCP Heat Sink	75-357,953	9/16/97	US				

Schedule B

THERMALLOY, INC.

- Intellectual Property and License Agreement, effective as of February 20, 1998, by and between Dell Products L.P. and Thermalloy, Inc.
- Agreement, dated November 28, 1997, between JBA International, Inc. and Thermalloy, Inc.

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