UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 6340

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/414,346	04/15/2003 RULE	361	2835	D2852

APPLICANTS

Harold J. Gorenz JR., Lisle, IL;
William R. Groves, Naperville, IL;
Roger W. Ady, Chicago, IL;

** CONTINUING DATA **********

** FOREIGN APPLICATIONS **********

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 06/13/2003

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no	IL	4	20	5

35 USC 119 (a-d) conditions met: ☐ yes ☐ no ☐ Met after Allowance

Verified and Acknowledged: _____ Examiner's Signature Initials

ADDRESS

43471

TITLE

ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

FILING FEE RECEIVED		
1218	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/414,346	04/15/2003	Harold J. Gorenz JR.	D2852

CONFIRMATION NO. 6340

OC000000016628367
OC000000016628367

43471
GENERAL INSTRUMENT CORPORATION DBA THE CONNECTED
HOME SOLUTIONS BUSINESS OF MOTOROLA, INC.
101 TOURNAMENT DRIVE
HORSHAM, PA 19044

Date Mailed: 07/27/2005

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/15/2005.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

For N. Home

JOHN INGRAM
PUBS ()-

OFFICE COPY

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852

CONFIRMATION NO. 6340

OC000000016628347

OC000000016628347

24375
VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

Date Mailed: 07/27/2005

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/15/2005.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

JOHN INGRAM
PUBS ()-

OFFICE COPY

PART B - FEE(S) TRANSMITTAL

JUL 15 2005

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

24375 7590 04/13/2005

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

07/18/2005 WASFAW2 00000149 502117 10414346

01 FC:1501 1400.00 DA
02 FC:1504 300.00 DA

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

Carol J. Smith	(Depositor's name)
Carol J. Smith	(Signature)
July 13, 2005	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

TITLE OF INVENTION: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	07/13/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANG, YEAN HSI	2835	361-681000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 Lawrence T. Cullen, 44489
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: General Instrument Corporation
(B) RESIDENCE: (CITY and STATE OR COUNTRY): Horsham, PA

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☑ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:
☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):
☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☑ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 502117 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date July 13, 2005

Typed or printed name Robert P. Marley Registration No. 32,914

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REVOCATION OF POWER OF ATTORNEY AND APPOINTMENT OF NEW POWER OF ATTORNEY		
	Application Number	10/414,346
	Filing Date	04/15/2003
	First Named Inventor	Harold J. Gorenz Jr.
	Art Unit	2835
	Examiner Name	Chang, Yean Hsi
	Attorney Docket Number	D2852

I hereby revoke all previous powers of attorney given in the above-identified application:

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners at Customer Number : 000043471

☐ Please change the correspondence address for the above-identified application to:

☐ The address associated with Customer Number: 000043471

OR

☐ Firm or Individual Name Motorola, Inc.

Address 101 Tournament Drive
Address
City Horsham
State PA Zip 19044
Country United States of America
Telephone 215-323-1907 Fax 215-323-1300

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Name	Robert P. Marley, Assistant Secretary General Instrument Corporation
Signature	
Date	July 13, 2005

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ * Total of _____ forms are submitted.

STATEMENT UNDER 37 CFR 3.73 (b)

Applicant/Patent Owner: Harold J. Gorenz Jr. et al
Application No./Patent No.: 10/414,346 Filed/Issue Date: 04/15/2003
Entitled: Electronic Chassis and Housing Having an Integrated Forced Air Cooling System
General Instrument Corporation, a Corporation,
(Name of Assignee) (Type of Assignee e.g., corporation, partnership, university, etc.)

states that it is:

1. [X] the assignee of the entire right, title, and interest; or
2. [ ] an assignee of less than the entire right, title and interest.
The extent (by, percentage) of its ownership interest is _____ %

In the patent application/patent identified above by virtue of either:

A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 013981, Frame 0275, or for which a copy thereof is attached.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____ or for which a copy thereof is attached.
2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____ or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____ or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ ] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

July 13, 2005
Date

Robert P. Marley
Typed or printed name

Signature

Assistant Secretary
Title

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in this Submission	2

Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Harold J. Gorenz Jr.
Group Art Unit	2835
Examiner Name	Chang, Yean ~~His~~ Hsi
Attorney Docket Number	D2852

ENCLOSURES (check all that apply)

- [X] Fee Transmittal Form
  - [X] Part B-Issue Fee
- [ ] Amendment/Reply
  - [ ] After Final
- [ ] Affidavits/Declaration(s)
- [ ] Extension of time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Documents
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts Under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers (for an Application)
- [ ] Drawing(s)
- [ ] Licensing-Related papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [X] Power of Attorney, Revocation, Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CDs
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
- [ ] Proprietary Information
- [ ] Status Letter with appropriate copies
- [ ] Other Enclosure(s) (please identify below)
  - [ ] Response to Restriction Requirement
  - [ ] Associate Power of Attorney
  - [ ] RCE
  - [ ] Copy of Notice to File Missing Parts

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	Lawrence T. Cullen	Registration No.	44,489
Signature			
Date	July 13, 2005		

CERTIFICATE OF TRANSMITTAL/MAILING

I hereby certify that this correspondence is being facsimile transmitted to facsimile number _____ or deposited with the United States Postal Service with sufficient postage thereon, as first-class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on the date listed below:

Typed or printed name	Carol J. Smith		
Signature		Date	July 13, 2005

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

24375 7590 04/13/2005

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
CHANG, YEAN HSI	
ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 04/13/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

TITLE OF INVENTION: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	07/13/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

or Fax **(703) 746-4000**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

24375 7590 04/13/2005

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

TITLE OF INVENTION: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1400	$300	$1700	07/13/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANG, YEAN HSI	2835	361-681000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

☐ A check in the amount of the fee(s) is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

24375 7590 04/13/2005

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
CHANG, YEAN HSI	

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 04/13/2005

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed Mar. 21, 2005*.

2. ☒ The allowed claim(s) is/are *1-3,5,6 and 8-20*.

3. ☒ The drawings filed on *15 April 2003* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/21/05 has been entered.

2. Claims 1-3, 5-6 and 8-20 are allowed.

3. The following is an examiner's statement of reasons for allowance: The best prior art of record, Faneuf et al. (US 2003/0002254 A1/US 6,813,149), Casebolt (US 6,525,935 B2), Stalley (US 5,663,868), Frank, Jr. et al. (US 6,389,499 B1), and Moss et al. (US 6,144,549), taken alone or in combination, fails to teach or reasonably suggest a printed circuit board chassis comprising: a housing having a height of one rack-unit, a front wall including an inlet vent, and baffle, a display module, and a jack; wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond a top plane of a blower and contacts a top of the housing, and is positioned within an interior space of the housing so that it directs a flow of air from the inlet vent through a horizontally non-linear path to the blower inlet port as set forth in claim 1; a

face plate including a billboard surface, display module slot, and a jack slot; and wherein said inlet vent is concealed from view by the billboard surface portion of the face plate as set forth in claims 10, 13-14 and 18. Claims 2-3, 5-6 and 8-9 are dependent claims from independent claim 1; and claims 11-12, 15-17, and 19-20 are dependent claims from independent claims 10, 14, and 18, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-2038. The examiner can normally be reached on 07:30 - 16:00.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3431 for regular communications and for After Final communications. There are RightFax numbers and provide the fax sender with an auto-reply fax verifying receipt by the USPTO: Before-Final (703-872-9318) and After-Final (703-872-9319).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang
Primary Examiner
Art Unit: 2835
April 9, 2005

YEAN-HSI CHANG
PRIMARY EXAMINER

Issue Classification	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

ISSUE CLASSIFICATION

ORIGINAL					CLASS	CROSS REFERENCE(S)						
CLASS				SUBCLASS		SUBCLASS (ONE SUBCLASS PER BLOCK)						
361				681	361	688						
INTERNATIONAL CLASSIFICATION					165	80.2						
G	0	6	F	1/16								
				/								
				/								
				/								
				/								

(Assistant Examiner) (Date)

(Legal Instruments Examiner) (Date)

Yean-Hsi Chang 4/8/04

(Primary Examiner) (Date)

Total Claims Allowed: 18

O.G. Print Claim(s)	O.G. Print Fig.
1	4,6

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		31		61		91		121		151		181
2	2		32		62		92		122		152		182
3	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
4	5		35		65		95		125		155		185
5	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
6	8		38		68		98		128		158		188
7	9		39		69		99		129		159		189
8	10		40		70		100		130		160		190
9	11		41		71		101		131		161		191
10	12		42		72		102		132		162		192
11	13		43		73		103		133		163		193
12	14		44		74		104		134		164		194
13	15		45		75		105		135		165		195
14	16		46		76		106		136		166		196
15	17		47		77		107		137		167		197
16	18		48		78		108		138		168		198
17	19		49		79		109		139		169		199
18	20		50		80		110		140		170		200
	21		51		81		111		141		171		201
	22		52		82		112		142		172		202
	23		53		83		113		143		173		203
	24		54		84		114		144		174		204
	25		55		85		115		145		175		205
	26		56		86		116		146		176		206
	27		57		87		117		147		177		207
	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

Search Notes	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

SEARCHED			
Class	Subclass	Date	Examiner
361	688-692.		
165	80.2-80.3		
	168-170	4/9/2005	YHC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
361	**681**	4/9/2005	**YHC**

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Search up-dated and EAST search note attached.	4/9/2005	YHC

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Bib Data Sheet

CONFIRMATION NO. 6340

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/414,346	04/15/2003 RULE	361	2835	MOT-D2852

APPLICANTS

Harold J. Gorenz JR., Lisle, IL;

William R. Groves, Naperville, IL;
Roger W. Ady, Chicago, IL;

** CONTINUING DATA **********

** FOREIGN APPLICATIONS ********** None

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 06/13/2003

Foreign Priority claimed	STATE OR	SHEETS	TOTAL	INDEPENDENT
☐ yes ☑ no	COUNTRY	DRAWING	CLAIMS	CLAIMS
35 USC 119 (a-d) conditions met ☐ yes ☑ no ☐ Met after Allowance	IL	4	20	5
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS
24375
VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA , PA
19103

TITLE
Electronic chassis and housing having an integrated forced air cooling system

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time)

918		☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

	Type	Hits	Search Text	DBs	Time Stamp
1	IS&R	14	(("4717216") or ("5216579") or ("5282114") or ("5287244") or ("5505533") or ("6011689") or ("6315655")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 13:42
2	BRS	84	(((361/688-692) or (165/80.2,80.3)).CCLS.) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
3	BRS	88	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
4	BRS	69	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:57
5	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:50
6	IS&R	2	("20030002254").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 14:26
7	BRS	143	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
8	BRS	3	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot and jack	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:30

	Type	Hits	Search Text	DBs	Time Stamp
9	BRS	51	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
10	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and display	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:51
11	BRS	19	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:34
12	BRS	76	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:39
13	BRS	0	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)) and (billboard or (bill adj board))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:41
14	BRS	46	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:01
15	BRS	178	(((rack adj mount$4) and electronic) and communication) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:02
16	BRS	121	((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:06

	Type	Hits	Search Text	DBs	Time Stamp
25	BRS	307	(front adj panel) and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:49
26	BRS	85	((front adj panel) and (display adj module)) and slot	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:50
27	BRS	39	(((front adj panel) and (display adj module)) and slot) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:52
28	BRS	1	(PCM adj card) and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:07
29	BRS	9	(PCM adj card) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:05
30	BRS	394	(expansion adj card) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:06
31	BRS	565	(expan$4 near function) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:54
32	BRS	79	((expan$4 near function) and lcd) and (display near function)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17

	Type	Hits	Search Text	DBs	Time Stamp
33	BRS	54	((expan$4 near function) and lcd) and (display adj function)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17
34	BRS	0	((expan$4 near function) and lcd) and (add-on adj display)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:55
35	BRS	0	((expansion adj card) and lcd) and (add-on adj display)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:56
36	BRS	0	((expansion adj card) and lcd) and (add-on adj (time adj piece))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
37	BRS	7680	(display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
38	BRS	2045	((display adj module)) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
39	BRS	35	(((display adj module)) and lcd) and (cd adj player)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
40	BRS	9	(((display adj device)) and (time adj piece)) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:27

	Type	Hits	Search Text	DBs	Time Stamp
41	BRS	3	(((display adj device)) and (time adj piece)) and (terminal adj device)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:30
42	BRS	307	((display adj module)) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:31
43	BRS	5	(((display adj module)) and (front adj panel)) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:52
44	IS&R	2	("20030002254").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
45	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:43
46	BRS	6	("5063477" | "5168171" | "5398161" | "5428503" | "5432674" | "5493474").PN.	US-PGPUB; USPAT; USOCR	2005/01/16 12:55
47	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:50
48	BRS	10	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and display	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:51
49	BRS	2	((electronic adj apparatus) and (display adj module)) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:52

	Type	Hits	Search Text	DBs	Time Stamp
50	BRS	48	(((front adj panel) and (display adj module)) and slot) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:52
51	BRS	7	(((display adj module)) and (front adj panel)) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/04/09 13:52

PTO/SB/06 (08-03)
Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 10/414346

CLAIMS AS FILED - PART I

	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE	SMALL ENTITY FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY FEE
FOR							
BASIC FEE (37 CFR 1.16(a))				$	OR		$
TOTAL CLAIMS (37 CFR 1.16(c))	minus 20 = *	*	x $ =		OR	x $ =	
(37 CFR 1.16(d))	minus 3 = *	*	x $ =		OR	x $ =	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))			+ $ =		OR	+ $ =	
* If the difference in column 1 is less than zero, enter "0" in column 2			TOTAL		OR	TOTAL	

CLAIMS AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE	SMALL ENTITY ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY ADDITIONAL FEE
AMENDMENT A	Total (37 CFR 1.16(b))	* 18	Minus	** 20	* 1	x $ =		OR	x $ =	
	Independent (37 CFR 1.16(h))	* 5	Minus	*** 5	* 1	x $ =		OR	x $ =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+ $ =		OR	+ $ =	
						TOTAL ADDL FEE		OR	TOTAL ADDL FEE	
AMENDMENT B	Total (37 CFR 1.16(b))		Minus	**		x $ =		OR	x $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***		x $ =		OR	x $ =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+ $ =		OR	+ $ =	
						TOTAL ADDL FEE		OR	TOTAL ADDL FEE	
AMENDMENT C	Total (37 CFR 1.16(b))		Minus	**		x $ =		OR	x $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***		x $ =		OR	x $ =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+ $ =		OR	+ $ =	
						TOTAL ADDL FEE		OR	TOTAL ADDL FEE	

Index of Claims

Application No.	Applicant(s)
10/414,346	GORENZ ET AL.
Examiner	**Art Unit**
Yean-Hsi Chang	2835

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	+	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	1/18/05
	1	√
	2	√
	3	√
	4	√
	5	√
	6	√
	7	√
	8	√
	9	√
	10	=
	11	=
	12	=
	13	=
	14	=
	15	=
	16	=
	17	=
	18	=
	19	=
	20	=
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	
	50	

Claim		Date
Final	Original	
	51	
	52	
	53	
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	
	79	
	80	
	81	
	82	
	83	
	84	
	85	
	86	
	87	
	88	
	89	
	90	
	91	
	92	
	93	
	94	
	95	
	96	
	97	
	98	
	99	
	100	

Claim		Date
Final	Original	
	101	
	102	
	103	
	104	
	105	
	106	
	107	
	108	
	109	
	110	
	111	
	112	
	113	
	114	
	115	
	116	
	117	
	118	
	119	
	120	
	121	
	122	
	123	
	124	
	125	
	126	
	127	
	128	
	129	
	130	
	131	
	132	
	133	
	134	
	135	
	136	
	137	
	138	
	139	
	140	
	141	
	142	
	143	
	144	
	145	
	146	
	147	
	148	
	149	
	150	

RCE #

PTO/SB/30 (08-03)
Approved for use through 07/31/2006.
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Request For Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Gorenz Jr. et al.
Art Unit	2835
Examiner Name	Yean Hsi Chang
Attorney Docket Number	MOT-D2852

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Rely Brief previously filed on _____

      ii. ☐ Other _____

   b. ☒ Enclosed

      i. ☒ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

   a. ☒ The Director is hereby authorized to charge any deficiencies or credit any overpayments in the enclosed fees, to Deposit Account No. 22-0493

      i. ☐ RCE fee required under 37 CFR 1.17(e)

      ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   03/22/2005 MAHMED1 00000070 10414346
   01 FC:1801 790.00 OP

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☒ Payment by credit card in the amount of $ 790.00 (Form PTO-2038 enclosed).

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Anthony L. Venezia	*Registration No. (Attorney/Agent)*	48,382
Signature		*Date*	March 18, 2005

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

Name (Print/Type)	Anthony L. Venezia		
Signature		Date	March 18, 2005

PTO/SB/17 (12-04)
Approved for use through 07/31/2006.
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

MAR 2 1 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($) 790.00

Complete if Known	
Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Gorenz Jr. et al.
Examiner Name	Yean Hsi Chang
Art Unit	2835
Attorney Docket No.	MOT-D2852

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 22-0493 Deposit Account Name: Volpe and Koenig, P.C.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
18 - 20 =	0	x 50.00	= 0.00

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
5 - 5 =	0	x 200.00	= 0.00

HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims Fee ($)	Fee Paid ($)
	0.00

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
- 100 =	/ 50 =	(round **up** to a whole number)	x =	0.00

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other: Request for Continued Examination	790.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 48,382	Telephone 215-568-6400
Name (Print/Type)	Anthony L. Venezia		Date March 18, 2005

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:	
	Gorenz, Jr. et al.
Application No.:	10/414,346
Confirmation No.:	6340
Filed:	April 15, 2003
For: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM	
Group:	2835
Examiner:	Yean Hsi Chang

Our File: MOT-D2852

Date: March 18, 2005

REPLY PURSUANT TO 37 C.F.R. §1.114

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply is being timely filed in response to the Final Office Action dated January 19, 2005. A Request for Continued Examination (RCE) is filed concurrently herewith.

Please amend the application without prejudice or disclaimer as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An electronic chassis and housing having an integrated force air cooling system, comprising:

a) a housing having a top, a base and front, back, left and right side walls which define an interior space having a predetermined height, as measured between the top and the base, and an inlet vent in at least one side wall and an exhaust vent in an opposed side wall;

b) a centrifugal blower assembly having defined top and bottom planes and perimeter walls; a second predetermined height measured between the top and bottom planes that is less than the predetermined height of the interior space; and inlet and outlet ports; the blower assembly is mounted within the interior space such that its inlet port is in fluid communication with the inlet vent and its exhaust port is in fluid communication with the exhaust vent; and,

c) a baffle, positioned within the interior space so that it directs the flow of air from the inlet vent through a horizontally non-linear path to the blower inlet port, wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond the top plane and contacts the top of the housing.

2. (Original) The invention of claim 1, wherein the baffle is positioned between the housing inlet vent and said blower inlet port.

3. (Original) The invention of claim 1, wherein the baffle is comprised of foam gasket material.

4. (Canceled)

5. (Original) The invention of claim 1, wherein the blower is centrally located within the interior space and includes a fan having a diameter greater than the predetermined height.

6. (Original) The invention of claim 5, wherein the inlet vent is located in one side wall of the housing, the blower inlet port is directed toward another side wall of the housing and the baffle directs air past the blower assembly before it enters the blower inlet port.

7. (Canceled)

8. (Original) The invention of claim 1 further comprising:

d) at least one interior wall dividing the interior space into first and second chambers with the centrifugal blower being in one chamber and both chambers being in fluid communication with the inlet and exhaust vents.

9. (Original) The invention of claim 8 further comprising:

e) an axial fan located in other chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

10. (Original) A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack; and,

b) a face plate including a bill board surface, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively,

wherein said bill board portion and said vent define parallel, spaced apart planes so that said vent is concealed from view, but in fluid communication with the exterior ambient atmosphere.

11. (Original) The chassis recited in claim 10, wherein said front wall includes a plurality of jack, and a pair of installation handles.

12. (Original) The chassis recited in claim 10, wherein said bill board surface includes identifying indicia thereon.

13. (Original) A face plate for a printed circuit board chassis having a top, bottom, front, back, left and right side walls, a height, measured from the bottom wall to the top wall, which is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack, said face plate comprising:

a) a planar logo surface portion arranged to overlay the inlet vent in a parallel, overlapping but offset plane so that said vent is concealed from view from, but is in fluid communication with, the front exterior of said chassis;

b) a display module slot arranged to overlay the display module; and,

c) a jack slot arranged to overlay the jack.

14. (Original) A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent, said blower housing having a height, measured from the bottom wall to the top wall, that is less than the height of said chassis housing;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port;

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively;

wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

15. (Original) The chassis recited in claim 14, including:

f) a chassis housing interior wall dividing the interior into a first chamber in which the centrifugal blower is located and second chamber, both chambers being in fluid communication with said inlet vent and said exhaust vent; and,

g) an axial fan located in said second chamber, said axial fan having an inlet port in fluid communication with said inlet vent and an outlet port in fluid communication with said outlet vent.

16. (Original) The chassis recited in claim 14, wherein said front wall includes a plurality of jacks, and a pair of installation handles.

17. (Original) The chassis recited in claim 14, wherein said logo surface includes identifying indicia printed or embossed thereon.

18. (Original) A printed circuit board chassis for insertion in a standard communications infrastructure equipment rack, the chassis comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit of approximately 1.75 inches, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent, said blower housing having a height, measured from the bottom wall to the top wall, that is less than 1.75 inches;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port; and

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively.

19. (Original) The chassis of claim 18 wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said

vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

20. (Original) The chassis of claim 18 wherein said front wall includes a pair of installation handles.

REMARKS/ARGUMENTS

After the foregoing Amendment, Claims 1-3, 5-6, and 8-20 are currently pending in this application. Claims 4 and 7 have been canceled without prejudice. Claim 1 has been amended to incorporate the limitations of claim 4.

Allowable Subject Matter

The Examiner is thanked for indicating that claims 10-20 contain allowable subject matter.

Objections to the Specification

The Examiner objected to the specification because elements of claim 7 are not disclosed therein. Claim 7 is canceled.

Objections to the Drawings

The Examiner objected to the drawings because elements of claim 7 are not shown. Claim 7 is canceled.

Claim Rejections - 35 USC § 102

Claims 1-2, 4, and 8 stand rejected under 35 USC § 102 as being anticipated by over U.S. Patent No. 6813149 (Faneuf et al.).

Claim 1, as amended, is distinguishable over Fanuef. Faneuf discloses an air cooling system for electronic apparatus. The faceplate of the chassis (1) includes vent intake (6) for fan (11). Faneuf, however, fails to disclose a "a baffle, positioned within the interior space so that it directs the flow of air from the inlet vent through a horizontally non-linear path to the blower inlet port." As shown in Figures 1 and 9 of Faneuf, the blower fan is positioned directly at the front of the chassis, while the air intake is directly linear from the housing inlet vent to the fan inlet port, in a front to back direction. The Examiner has stated that the air intake is shown as non-linear in Fig. 3. However, the path of air intake is vertically non-linear. In contrast, the claimed horizontally non-linear path of air flow is directed along heat producing circuitry devices in the chassis from side to side in area 60 prior to entering the blower inlet 80, as shown in Figure 6. The advantage of the positionable baffle of claim 1 is that the air can be directed in a variety of horizontally non-linear paths, such as in an "S" pattern as shown in Figure 6.

Claim 4 is canceled as it has been incorporated into claim 1. Claims 2 and 8 are dependent upon claim 1, which the Applicants believes is allowable over the cited prior art of record for the same reasons provided above.

Based on the arguments presented above, withdrawal of the 35 USC 102 rejection of claim 1, 2 and 8 is respectfully requested.

Claim Rejections - 35 USC 103

Claim 3 is rejected under 35 USC 103(a) unpatentable over Faneuf. Claims 5 and 6 are rejected under 35 USC 103(a) unpatentable over Faneuf in view of U.S. Patent 6525935 (Casebolt). Claims 3 and 5-6 are also dependent upon claim 1, which the Applicants believes is allowable over the cited prior art of record for the same reasons provided above.

Based on the arguments presented above, the withdrawal of the rejection of claims 3, 5-6 under 35 USC 103(a) is respectfully requested.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1-3, 5-6 and 8-20, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Gorenz, Jr. et al.

By _____
Anthony L. Venezia
Registration No. 48,382

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

ALV/slp

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

24375 7590 01/19/2005

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
CHANG, YEAN HSI	
ART UNIT	**PAPER NUMBER**
2835	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10-20* is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitation "wherein the inlet port is located in a blower perimeter walls and the outlet port is located in the top plane of the blower assembly" claimed in claim 7 is not disclosed in the specification.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the inlet port located in a blower perimeter walls and the outlet port located in the top plane of the blower assembly" claimed in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

No rejection of claim 7 is given in this office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Faneuf et al. (US 2003/0002254 A1/US 6,813,149).

Faneuf teaches an electronic chassis and housing comprising: a housing (1, fig. 1) having a top (26), a base (28) and front (4), back (5), left (2) and right (3) side walls which define an interior space (fig. 1) having a predetermined height (1.75", see page 2, [0025]), as measured between the top and the base, and an inlet vent (6) in at least one side wall (4) and an exhaust vent (in 5, shown fig. 1; not numbered) in an opposed side wall (5), a centrifugal blower assembly (11) having defined top and bottom planes (top of 16 and 31) and perimeter walls (shown in fig. 5), a second predetermined height (height of 16) measured between the top and bottom planes that is less than the predetermined height of the interior space (shown in fig. 3) and inlet and outlet ports (shown in figs. 5 and 6), the blower assembly is mounted within the interior space such that its inlet port is in fluid communication with the inlet vent (fig. 1) and its exhaust port is in fluid communication with the exhaust vent (fig. 1), and a baffle (51, a portion 41 is shown in fig. 3), positioned within the interior space so that it directs the flow of air from the inlet vent through a non-linear path to the blower inlet port (shown in fig. 3) (claim 1); wherein the baffle is positioned between the housing inlet vent and said blower inlet port (shown in fig. 3) (claim 2); wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond the top plane and contacts the top of the housing (contact through 38 in fig. 3) (claim 4); and at least one interior wall (shown in figs. 1-3, 38 may be part of it) dividing the interior space into first and second chambers with the centrifugal blower being in one chamber and both chambers being in fluid communication with the inlet and exhaust vents (claim 8).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al.

Faneuf discloses the claimed invention except the baffle being comprised of foam gasket material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the baffle of Faneuf at the junction portions to the housing with foam gasket material for air-tight purposes, since it has been held to be within the general skill in the art to select a known material on the basis of its suitability for the intended purposes of preventing the exhausted air from returning back to the inlet port of the blower. *In re Leshin,* 125 USPQ 416 (CCPA 1960), MPEP §2144, 07.

7. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Casebolt (US 6,525,935 B2).

Faneuf discloses the claimed invention except the blower is centrally located within the interior space.

Casebolt teaches an electronic chassis (100, fig. 6) comprising a centrifugal blower (126, fig. 6) being centrally located within the interior space (shown in fig. 6) for letting the components being more easily reached for servicing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf with the electronic chassis taught Casebolt for letting the components being more easily reached for servicing.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Stalley (US 5,663,868).

Faneuf discloses the claimed invention except an axial fan located in other chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

Stalley teaches an electronic housing (fig. 1) comprising an axial fan (13, fig. 1) located in a chamber (6, fig. 1) other than the chamber (5, fig. 1) where the blower (8, fig. 1) is located, with an inlet port (not labeled) in fluid communication with the inlet vent (12, fig. 1) and an outlet port (not labeled) in fluid communication with the outlet vent (at location 19, fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf with the axial fan taught by Stalley for discharging air more efficiently through a rear opening.

Allowable Subject Matter

9. Claims 10-20 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record, Faneuf et al. (US 2003/0002254 A1/US 6,813,149), Casebolt (US 6,525,935 B2), Stalley (US 5,663,868), Frank, Jr. et al. (US 6,389,499 B1), and Moss et al. (US 6,144,549), taken alone or in combination, fails to teach or reasonably suggest a printed circuit board chassis comprising: a housing having a height of one rack-unit and a front wall including an inlet vent, a display module, and a jack; a face plate including a billboard surface, display module slot, and a jack slot; and wherein said inlet vent is concealed from view by the billboard surface portion of the face plate as set forth in claims 10, 13-14 and 18. Claims 11-12, 15-17, and 19-20 are dependent claims from independent claims 10, 14, and 18, respectively.

Response to Arguments

11. Applicant's arguments filed Dec. 22, 2004 have been fully considered but part of them are not persuasive. The answers to Applicant's arguments are as follows:

1. A baffle 51 of Faneuf directing the flow of air from the inlet vent 6 passing a portion of the blower, to the inlet port 80 in a non-linear path is shown in fig. 3; and it contacts the top plane through element 38 as shown in fig. 3.

2. The air flowing from one region to another as shown in fig. 1 of Faneuf means there is fluid communications between these two regions.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

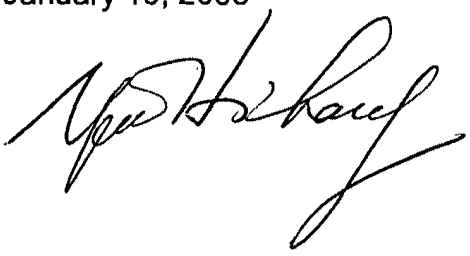
Correspondence

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-2038. The examiner can normally be reached on 07:30 - 16:00.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3431 for regular communications and for After Final communications. There are RightFax numbers and provide the fax sender with an auto-reply fax verifying receipt by the USPTO: Before-Final (703-872-9318) and After-Final (703-872-9319).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang
Primary Examiner
Art Unit: 2835
January 16, 2005



Index of Claims

Application No.	Applicant(s)	
10/414,346	GORENZ ET AL.	
Examiner	**Art Unit**	
Yean-Hsi Chang	2835	

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	1/16/05
	1	√
	2	√
	3	√
	4	√
	5	√
	6	√
	7	√
	8	√
	9	√
	10	=
	11	=
	12	=
	13	=
	14	=
	15	=
	16	=
	17	=
	18	=
	19	=
	20	=
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	
	50	

Claim		Date
Final	Original	
	51	
	52	
	53	
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	
	79	
	80	
	81	
	82	
	83	
	84	
	85	
	86	
	87	
	88	
	89	
	90	
	91	
	92	
	93	
	94	
	95	
	96	
	97	
	98	
	99	
	100	

Claim		Date
Final	Original	
	101	
	102	
	103	
	104	
	105	
	106	
	107	
	108	
	109	
	110	
	111	
	112	
	113	
	114	
	115	
	116	
	117	
	118	
	119	
	120	
	121	
	122	
	123	
	124	
	125	
	126	
	127	
	128	
	129	
	130	
	131	
	132	
	133	
	134	
	135	
	136	
	137	
	138	
	139	
	140	
	141	
	142	
	143	
	144	
	145	
	146	
	147	
	148	
	149	
	150	

Search Notes

Application No.	Applicant(s)	
10/414,346	GORENZ ET AL.	
Examiner	**Art Unit**	
Yean-Hsi Chang	2835	

SEARCHED			
Class	Subclass	Date	Examiner
361	688-692		
165	80.2-80.3		
	168-170	1/16/2005	YHC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
Search up-dated and EAST search note attached.	1/16/2005	YHC

	Type	Hits	Search Text	DBs	Time Stamp
1	IS&R	14	(("4717216") or ("5216579") or ("5282114") or ("5287244") or ("5505533") or ("6011689") or ("6315655")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 13:42
2	BRS	84	(((361/688-692) or (165/80.2,80.3)).CCLS.) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
3	BRS	88	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
4	BRS	69	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:57
5	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:42
6	IS&R	2	("20030002254").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 14:26
7	BRS	143	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
8	BRS	3	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot and jack	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:30

	Type	Hits	Search Text	DBs	Time Stamp
9	BRS	51	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
10	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and display	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:31
11	BRS	19	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:34
12	BRS	76	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:39
13	BRS	0	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)) and (billboard or (bill adj board))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:41
14	BRS	46	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:01
15	BRS	178	(((rack adj mount$4) and electronic) and communication) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:02
16	BRS	121	((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:06

	Type	Hits	Search Text	DBs	Time Stamp
17	BRS	78	(((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and slot	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:07
18	BRS	61	((((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and slot) and display	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:14
19	BRS	57	(((((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and slot) and display) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:01
20	BRS	290	"electronic device" and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:11
21	BRS	15	("electronic device" and (display adj module)) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:12
22	BRS	118	(electronic adj apparatus) and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:13
23	BRS	2	((electronic adj apparatus) and (display adj module)) and ((front adj panel) or (face adj plate))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:12
24	BRS	17	(front adj panel) and (display adj module) and bezel	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:48

	Type	Hits	Search Text	DBs	Time Stamp
25	BRS	307	(front adj panel) and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:49
26	BRS	85	((front adj panel) and (display adj module)) and slot	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:50
27	BRS	39	(((front adj panel) and (display adj module)) and slot) and port	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:51
28	BRS	1	(PCM adj card) and (display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:07
29	BRS	9	(PCM adj card) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:05
30	BRS	394	(expansion adj card) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:06
31	BRS	565	(expan$4 near function) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:54
32	BRS	79	((expan$4 near function) and lcd) and (display near function)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17
33	BRS	54	((expan$4 near function) and lcd) and (display adj function)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17

	Type	Hits	Search Text	DBs	Time Stamp
34	BRS	0	((expan$4 near function) and lcd) and (add-on adj display)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:55
35	BRS	0	((expansion adj card) and lcd) and (add-on adj display)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:56
36	BRS	0	((expansion adj card) and lcd) and (add-on adj (time adj piece))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
37	BRS	7680	(display adj module)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
38	BRS	2045	((display adj module)) and lcd	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
39	BRS	35	(((display adj module)) and lcd) and (cd adj player)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
40	BRS	9	(((display adj device)) and (time adj piece)) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:27
41	BRS	3	(((display adj device)) and (time adj piece)) and (terminal adj device)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:30
42	BRS	307	((display adj module)) and (front adj panel)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:31

	Type	Hits	Search Text	DBs	Time Stamp
43	BRS	5	(((display adj module)) and (front adj panel)) and (rack adj mount$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:32
44	IS&R	2	("20030002254").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:15
45	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	2005/01/16 12:43
46	BRS	6	("5063477" | "5168171" | "5398161" | "5428503" | "5432674" | "5493474").PN.	US-PGPUB; USPAT; USOCR	2005/01/16 12:55

PTO/SB/06 (08-03)
Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number: 10/414346

CLAIMS AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE	SMALL ENTITY FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY FEE
BASIC FEE (37 CFR 1.16(a))				$____	OR		$____
TOTAL CLAIMS (37 CFR 1.16(c))	minus 20 =	*	X $____ =		OR	X $____ =	
INDEPENDENT CLAIMS (37 CFR 1.16(b))	minus 3 =	*	X $____ =		OR	X $____ =	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))			+ $____ =		OR	+ $____ =	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		OR	TOTAL	

CLAIMS AS AMENDED – PART II

12.22.04

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE	SMALL ENTITY ADDITIONAL FEE	OR	OTHER THAN SMALL ENTITY RATE	OTHER THAN SMALL ENTITY ADDITIONAL FEE
Total (37 CFR 1.16(c))	* 20	Minus	** 20	=	X $25 =		OR	X $50 =	
Independent (37 CFR 1.16(b))	* 5	Minus	*** 5	=	X $100 =		OR	X $200 =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ $180 =		OR	+ $360 =	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
Total (37 CFR 1.16(c))	*	Minus	**	=	X $____ =		OR	X $____ =	
Independent (37 CFR 1.16(b))	*	Minus	***	=	X $____ =		OR	X $____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ $____ =		OR	+ $____ =	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
Total (37 CFR 1.16(c))	*	Minus	**	=	X $____ =		OR	X $____ =	
Independent (37 CFR 1.16(b))	*	Minus	***	=	X $____ =		OR	X $____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ $____ =		OR	+ $____ =	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Index of Claims

Application No.	Applicant(s)	
10/414,346	GORENZ ET AL.	
Examiner	**Art Unit**	
Yean-Hsi Chang	2835	

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	+	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	7/20/04
	1	√
	2	√
	3	√
	4	√
	5	√
	6	√
	7	√
	8	√
	9	√
	10	√
	11	√
	12	√
	13	√
	14	√
	15	√
	16	√
	17	√
	18	√
	19	√
	20	√
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	
	50	

Claim		Date
Final	Original	
	51	
	52	
	53	
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	
	79	
	80	
	81	
	82	
	83	
	84	
	85	
	86	
	87	
	88	
	89	
	90	
	91	
	92	
	93	
	94	
	95	
	96	
	97	
	98	
	99	
	100	

Claim		Date
Final	Original	
	101	
	102	
	103	
	104	
	105	
	106	
	107	
	108	
	109	
	110	
	111	
	112	
	113	
	114	
	115	
	116	
	117	
	118	
	119	
	120	
	121	
	122	
	123	
	124	
	125	
	126	
	127	
	128	
	129	
	130	
	131	
	132	
	133	
	134	
	135	
	136	
	137	
	138	
	139	
	140	
	141	
	142	
	143	
	144	
	145	
	146	
	147	
	148	
	149	
	150	

PTO/SB/21 (09-04)
Approved for use through 07/31/2006.
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Gorenz Jr. et al.
Art Unit	2835
Examiner Name	Yean Hsi Chang
Attorney Docket Number	MOT-D2852

ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
- [X] Fee Attached
- [X] Amendment/Reply
- [ ] After Final
- [ ] Affidavits/declaration(s)
- [X] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
- [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please identify below):

Remarks

OFFICIAL FACSIMILE

17 PAGES SENT VIA FACSIMILE TO 703-872-9306.
PLEASE IMMEDIATELY DELIVER TO EXAMINER YEAN HSI CHANG, GROUP ART UNIT 2835.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	Anthony L. Venezia		
Date	December 22, 2004	Reg. No.	48,382

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being sent Via Facsimile (703-872-9306) addressed to: Examiner Yean Hsi Chang, Group Art Unit 2835, on the date shown below:

Signature			
Typed or printed name	Anthony L. Venezia	Date	December 22, 2004

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:	
Gorenz, Jr. et al.	
Application No.: 10/414,346	Our File: MOT-D2852
Confirmation No.: 6340	Date: December 22, 2004
Filed: April 15, 2003	
For: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM	
Group: 2835	
Examiner: Yean Hsi Chang	

REPLY PURSUANT TO 37 C.F.R. §1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply is responsive to the Office Action dated July 22, 2004 and is submitted in conjunction with an appropriate petition for extension of time. Please amend the application without prejudice or disclaimer as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An electronic chassis and housing having an integrated force air cooling system, comprising:

a) a housing having a top, a base and front, back, left and right side walls which define an interior space having a predetermined height, as measured between the top and the base, and an inlet vent in at least one side wall and an exhaust vent in an opposed side wall;

b) a centrifugal blower assembly having defined top and bottom planes and perimeter walls[[,]]; a second predetermined height measured between the top and bottom planes that is less than the predetermined height of the interior space; and inlet and outlet ports ~~defined in the perimeter walls~~; the blower assembly is mounted within the interior space such that its inlet port is in fluid communication with the inlet vent and its exhaust port is in fluid communication with the exhaust vent; and,

c) a baffle, positioned within the interior space so that it directs the flow of air from the inlet vent through a non-linear path to the blower inlet port.

2. (Original) The invention of claim 1, wherein the baffle is positioned between the housing inlet vent and said blower inlet port.

3. (Original) The invention of claim 1, wherein the baffle is comprised of foam gasket material.

4. (Original) The invention of claim 1, wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond the top plane and contacts the top of the housing.

5. (Original) The invention of claim 1, wherein the blower is centrally located within the interior space and includes a fan having a diameter greater than the predetermined height.

6. (Original) The invention of claim 5, wherein the inlet vent is located in one side wall of the housing, the blower inlet port is directed toward another side wall of the housing and the baffle directs air past the blower assembly before it enters the blower inlet port.

7. (Original) The invention of claim 1, wherein the inlet port is located in a blower perimeter walls and the outlet port is located in the top plane of the blower assembly.

8. (Original) The invention of claim 1 further comprising:

d) at least one interior wall dividing the interior space into first and second chambers with the centrifugal blower being in one chamber and both chambers being in fluid communication with the inlet and exhaust vents.

9. (Original) The invention of claim 8 further comprising:

e) an axial fan located in other chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

10. (Original) A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack; and,

b) a face plate including a bill board surface, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively,

wherein said bill board portion and said vent define parallel, spaced apart planes so that said vent is concealed from view, but in fluid communication with the exterior ambient atmosphere.

11. (Original) The chassis recited in claim 10, wherein said front wall includes a plurality of jack, and a pair of installation handles.

12. (Original) The chassis recited in claim 10, wherein said bill board surface includes identifying indicia thereon.

13. (Original) A face plate for a printed circuit board chassis having a top, bottom, front, back, left and right side walls, a height, measured from the bottom wall to the top wall, which is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack, said face plate comprising:

a) a planar logo surface portion arranged to overlay the inlet vent in a parallel, overlapping but offset plane so that said vent is concealed from view from, but is in fluid communication with, the front exterior of said chassis;

b) a display module slot arranged to overlay the display module; and,

c) a jack slot arranged to overlay the jack.

14. (Original) A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent, said blower housing having a height, measured from the bottom wall to the top wall, that is less than the height of said chassis housing;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port;

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively;

wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

15. (Original) The chassis recited in claim 14, including:

f) a chassis housing interior wall dividing the interior into a first chamber in which the centrifugal blower is located and second chamber, both chambers being in fluid communication with said inlet vent and said exhaust vent; and,

g) an axial fan located in said second chamber, said axial fan having an inlet port in fluid communication with said inlet vent and an outlet port in fluid communication with said outlet vent.

16. (Original) The chassis recited in claim 14, wherein said front wall includes a plurality of jacks, and a pair of installation handles.

17. (Original) The chassis recited in claim 14, wherein said logo surface includes identifying indicia printed or embossed thereon.

18. (Original) A printed circuit board chassis for insertion in a standard communications infrastructure equipment rack, the chassis comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit of approximately 1.75 inches, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent, said blower housing having a height, measured from the bottom wall to the top wall, that is less than 1.75 inches;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port; and

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively.

19. (Original) The chassis of claim 18 wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

20. (Original) The chassis of claim 18 wherein said front wall includes a pair of installation handles.

REMARKS

Claim Objections

The Examiner objected to claim 7 for failing to further limit the independent claim. Claim 1 is amended to remove the reference to perimeter walls. Accordingly, claim 7 properly defines a configuration for the inlet and outlet ports of the blower assembly. The withdrawal of the objection to claim 7 is respectfully requested.

Claim Rejections - 35 USC 102(e)

Claims 1-2, 4, and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2003/0002254 (Faneuf et al.). The Applicants respectfully disagree.

Faneuf discloses an air cooling system for electronic apparatus. The faceplate of the chassis (1) includes vent intake (6) for fan (11). Faneuf, however, fails to disclose a "a baffle, positioned within the interior space so that it directs the flow of air from the inlet vent through a non-linear path to the blower inlet port." As shown in Figures 1 and 9 of Faneuf, the blower fan is positioned directly at the front of the chassis, while the air intake is directly linear from the housing inlet vent to the fan inlet port, in a front to back direction. In contrast, the claimed non-linear path of air flow is directed along heat producing circuitry devices in area 60 of the chassis prior to entering the blower inlet 80, as shown in Figure 6.

Claims 2, 4, 7 and 8 are dependent upon claim 1, which the Applicants believes is allowable over the cited prior art of record for the same reasons provided above.

Furthermore, with respect to claim 4, the baffle portion (38) that contacts the top of the housing in Faneuf is positioned between the baffle exhaust and the blower inlet to prevent recirculation of exhaust air with inlet air. In contrast, the claimed baffle, as stated in independent claim 1, is positioned to direct the flow of air from the inlet vent to the blower inlet port in a non-linear path. Thus, the claimed position of the baffle is not disclosed in Faneuf.

With respect to claim 7, the air flow as shown in Figures 1-3 and 9-10 of Faneuf is into the top plane of the blower and the outlet is at a side perimeter. The claimed air inlet and outlet is just the reverse. Therefore, Faneuf does not anticipate claim 7.

Regarding claim 8, Faneuf does not disclose or suggest an interior wall to divide the interior space into two chambers, as claimed. The baffle portion 38 disclosed by Faneuf acts as a barrier between the exhaust vent of the housing and the intake port of the blower. As such, there is no fluid communication between the two areas separated by baffle portion 38. In contrast, claim 8 includes the limitation

in which the dividing interior wall creates two chambers, both being in fluid communication with the inlet and the exhaust vents.

Claim Rejections - 35 USC 103

Claim 3 is rejected under 35 USC 103(a) unpatentable over Faneuf. The Applicants disagree. Faneuf does not suggest or teach that the baffle be constructed of a foam material. Further, the Examiner refers to the intended purpose of Faneuf as to prevent exhausted air from returning back to the inlet port of the blower (par. 0042). This is different from the purpose of the claimed gasket, which is to direct the intake and/or the exhaust air of the blower across heat dissipating devices within the chassis. Claim 3 is also dependent upon claim 1, which the Applicants believes is allowable over the cited prior art of record for the same reasons provided above.

Claims 5 and 6 are rejected under 35 USC 103(a) unpatentable over Faneuf in view of U.S. Patent 6525935 (Casebolt). In order for an obviousness rejection to stand, the cited references must teach all of the claimed limitations. (*In re Vaeck,* 947 F.2d 488, MPEP 706.02j) Since the combination of Faneuf and Casebolt fail to disclose or suggest a cooling system with a baffle positioned to direct air flow in a nonlinear path from the chassis inlet vent to the blower assembly, this combination fails to support an obviousness rejection for claims 5 and 6. Further, Claim 6 is

directed to a blower assembly with a baffle that directs the air past the blower prior to entering the inlet port. This is not shown or described in the combination of Faneuf and Casebolt.

Claim 9 is rejected under 35 USC 103(a) as unpatentable over Faneuf in view of U.S. Patent 5663868 (Stalley).

Claims 10-14 and 16-20 are rejected under 35 USC 103(a) as unpatentable over Faneuf in view of U.S. Patent 6389499 (Frank, Jr. et al.) and U.S. Patent 6144549 (Moss et al.).

Frank and Moss fail to disclose or teach a faceplate with billboard display that covers a fan inlet screen on the front perimeter wall, as claimed. Frank discloses a large handle for a chassis larger than one rack unit, whereby a nameplate or logo is not difficult. Also, the vent in Frank is fully visible and not covered by a faceplate. A small logo placed on a handle is hardly suggestive of cosmetically covering the intake fan of Faneuf.

In Moss, the display plate disclosed is intended for a desktop computer chassis, not a one rack unit electronic housing, as claimed. As described in paragraph [0004]:

> In addition to reducing the front panel billboard space, the reduction reduced the available space for logos, labels, I/O connectors, user displays, user controls, and cooling vents. Accordingly, there exists a need for a reduced size front panel that is equally function and display oriented.

The claimed invention recognizes that a one rack unit can by effectively cooled while still covering the front of the inlet vent with a faceplate. None of the cited references recognize the need for a multi-functional front panel that is equally functional and display oriented, such that the space in front of the housing intake vent is utilized as a bill board surface. Therefore, the combination of Faneuf, Frank, and Moss do not support an obviousness rejection over claims 10, 13 and 14. Claims 11-12 are dependent upon claim 10, which the Applicants believe are allowable over the cited prior art of record for the same reasons provided above.

Further, claims 14 and 18 includes a limitation similar to claim 1, that is, a partition that diverts the intake air in an indirect path to the blower inlet port. For the same reasons presented above for claim 1, claims 14 and 18 are believed to be allowable, along with claims 15-17 and 19-20, which are dependent upon claims 14 and 18.

Based on the arguments presented above, the withdrawal of the rejection of claims 3, 5-6, and 9-20 under 35 USC 103(a) is respectfully requested.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this

application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1 - 20, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Gorenz et al.

By _____
Anthony L. Venezia
Registration No. 48,382
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

ALV/
Enclosures

PTO/SB/22 (12-04)
Approved for use through 07/31/2006.
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) FY 2005 *(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)*	Docket Number (Optional) MOT-D2852
Application Number 10/414,346	Filed April 15, 2003
For ELECTRONIC CHASIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM	
Art Unit 2835	Examiner Yean Hsi Chang

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$120	$60	$
☒ Two months (37 CFR 1.17(a)(2))	$450	$225	$ 450.00
☐ Three months (37 CFR 1.17(a)(3))	$1020	$510	$
☐ Four months (37 CFR 1.17(a)(4))	$1590	$795	$
☐ Five months (37 CFR 1.17(a)(5))	$2160	$1080	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☒ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any underpayments, or credit any overpayment, to Deposit Account Number 22-0493. I have enclosed a duplicate copy of this sheet.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the
☐ applicant/inventor.
☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).
☒ attorney or agent of record. Registration Number 48,382
☐ attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34

Signature — Date: 12/22/04

Anthony L. Venezia — Typed or printed name

215-568-6400 — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/17 (12-04)
Approved for use through 07/31/2006.
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 450.00

Complete if Known	
Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Gorenz Jr. et al.
Examiner Name	Yean Hsi Chang
Art Unit	2835
Attorney Docket No.	MOT-D2852

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 22-0493 Deposit Account Name: Volpe and Koenig, P.C.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 20 =	_____	x 50.00	= 0.00

HP = highest number of total claims paid for, if greater than 20

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 3 =	_____	x 200.00	= 0.00

HP = highest number of independent claims paid for, if greater than 3

Multiple Dependent Claims Fee ($)	Fee Paid ($)
_____	0.00

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____ =	0.00

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other: Two Month Extension of Time	450.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 48,382	Telephone 215-568-6400
Name (Print/Type)	Anthony L. Venezia		Date December 22, 2004

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/414,346	04/15/2003	Harold J. Gorenz JR.	MOT-D2852	6340

24375 7590 07/22/2004

VOLPE AND KOENIG, P.C.
DEPT. MOT
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
CHANG, YEAN HSI	

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/15/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In claim 7, "the outlet port is located in the top plane of the blower assembly" is in contradiction with claim 1 from which claim 7 depends.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4, and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Faneuf et al. (US 2003/0002254 A1).

Faneuf teaches an electronic chassis and housing comprising:

- a housing (1, fig. 1) having a top (26, fig. 3), a base (28, fig. 3) and front (4, fig. 1), back (5, fig. 1), left (2, fig. 1) and right (3, fig. 1) side walls which define an interior space having a predetermined height (1.75", see page 2, [0025]), as measured between the top and the base, and an inlet vent (6, fig. 1) in at least one side wall (4) and an exhaust vent (in 5, shown fig. 1; not numbered) in an opposed side wall (5), a centrifugal blower assembly (11, fig. 1) having defined top and bottom planes (top of 16 and 31, fig. 3) and perimeter walls (shown in fig. 5), a second predetermined height (height of 16, fig. 3) measured between the top and bottom planes that is less than the predetermined height of the interior space (shown in fig. 3) and inlet and outlet ports (shown in figs. 5 and 6) defined in the perimeter walls, the blower assembly is mounted within the interior space such that its inlet port is in fluid communication with the inlet vent and its exhaust port is in fluid communication with the exhaust vent (shown in fig. 1), and a baffle (51, part of 100, fig. 1), positioned within the interior space so that it directs the flow of air from the inlet vent through a non-linear path to the blower inlet port (shown in fig. 1, also see page 3, [0038]) (claim 1)
- wherein the baffle is positioned between the housing inlet vent and said blower inlet port (shown in fig. 1) (claim 2)
- wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond the top plane and contacts the top of the housing (38 in fig. 3 indicating this feature) (claim 4)

- wherein the inlet port is located in a blower perimeter walls and the outlet port is located in the top plane of the blower assembly (if top plane is also considered as part of perimeter walls; and the centrifugal blower does not rotate in a reversed direction) (claim 7)
- at least one interior wall (shown in figs. 1-3, 38 may be part of it) dividing the interior space into first and second chambers with the centrifugal blower being in one chamber and both chambers being in fluid communication with the inlet and exhaust vents (claim 8).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al.

Faneuf discloses the claimed invention except the baffle being comprised of foam gasket material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the baffle of Faneuf at the junction portions to the housing with foam gasket material for air-tight purposes, since it has been held to be within the general skill in the art to select a known material on the basis

of its suitability for the intended purposes of preventing the exhausted air from returning back to the inlet port of the blower. *In re Leshin,* 125 USPQ 416 (CCPA 1960), MPEP §2144, 07.

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Casebolt (US 6,525,935 B2).

Faneuf discloses the claimed invention except the blower is centrally located within the interior space.

Casebolt teaches an electronic chassis (100, fig. 6) comprising a centrifugal blower (126, fig. 6) being centrally located within the interior space (shown in fig. 6) for letting the components being more easily reached for servicing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf with the electronic chassis taught Casebolt for letting the components being more easily reached for servicing.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Stalley (US 5,663,868).

Faneuf discloses the claimed invention except an axial fan located in other chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

Stalley teaches an electronic housing (fig. 1) comprising an axial fan (13, fig. 1) located in a chamber (6, fig. 1) other than the chamber (5, fig. 1) where the blower (8,

fig. 1) is located, with an inlet port (not labeled) in fluid communication with the inlet vent (12, fig. 1) and an outlet port (not labeled) in fluid communication with the outlet vent (at location 19, fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf with the axial fan taught by Stalley for discharging air more efficiently through a rear opening.

8. Claims 10-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Frank, Jr. et al. (US 6,389,499 B1) and Moss et al. (US 6,144,549).

Faneuf discloses the claimed invention as stated in §3, hereinabove, and a pair of installation handles (shown in fig. 1, not labeled) in addition, except a face plate including a bill board surface, display module slot, and a jack slot, arranged to overlay the inlet vent, a display module, and a jack, respectively.

Frank teaches an electronic chassis (110, fig. 4) comprising: a inlet vent (107, fig. 4), a display module (160, fig. 4; see Moss for a display module), a jack (158, fig. 4), and a face plate (181, fig. 4) including a bill board surface (182, fig. 4), display module slot 184, fig. 4), and a jack slot (184, fig. 4), arranged to overlay the inlet vent, the display module, and the jack, respectively.

Moss teaches a display module (140, fig. 1) together with a tray (160, fig. 1) being able to be plugged in a slot (170, fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf with the face plate taught by Frank and Moss for a nice front appearance.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faneuf et al. in view of Frank, Jr. et al. and Moss et al., further in view of Stalley.

Faneuf in view of Frank and Moss discloses the claimed invention except an axial fan located in a second chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

Stalley teaches an electronic housing (fig. 1) comprising an axial fan (13, fig. 1) located in a chamber (6, fig. 1) other than the chamber (5, fig. 1) where the blower (8, fig. 1) is located, with an inlet port (not labeled) in fluid communication with the inlet vent (12, fig. 1) and an outlet port (not labeled) in fluid communication with the outlet vent (at location 19, fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Faneuf modified by Frank and Moss with the axial fan taught by Stalley for discharging air more efficiently through a rear opening.

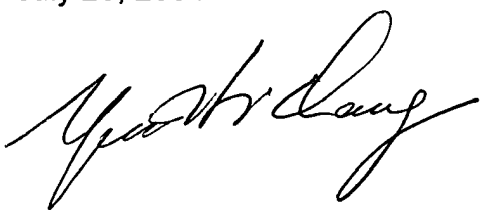
Correspondence

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-2038. The examiner can normally be reached on 07:30-16:00.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3431 for regular communications and for After Final communications. There are RightFax numbers and provide the fax sender with an auto-reply fax verifying receipt by the USPTO: Before-Final (703-872-9318) and After-Final (703-872-9319).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang
Patent Examiner
Art Unit: 2835
July 20, 2004



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO. MOT-D2852	SERIAL NO. 10/414,346
	APPLICANT Gorenz et al.	
	FILING DATE April 15, 2003	GROUP Not Yet Known

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4 7 1 7 2 1 6	01/1988	Hornak			
	AB	5 2 1 6 5 7 9	06/1993	Basara et al.			
	AC	5 2 8 2 1 1 4	01/1994	Stone			
	AD	5 2 8 7 2 4 4	02/1994	Hileman et al.			
	AE	5 5 0 5 5 3 3	04/1996	Kammersqard et al.			
	AF	6 0 1 1 6 8 9	01/2000	Wrycraft			
	AG	6 3 1 5 6 5 5	11/2001	McEwan et al.			
	AH						
	AI						
	AJ						
	AK						
	AL						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER	DATE CONSIDERED
	7/20/04

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited	Application/Control No. 10/414,346	Applicant(s)/Patent Under Reexamination GORENZ ET AL.	
	Examiner Yean-Hsi Chang	Art Unit 2835	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,525,935 B2	02-2003	Casebolt, Matthew P.	361/687
	B	US-5,663,868	09-1997	Stalley, Anthony Donald	361/695
	C	US-6,144,549	11-2000	Moss et al.	361/681
	D	US-6,389,499 B1	05-2002	Frank et al.	710/300
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Faneuf et al. (US 2003/0002254 A1), "HIGH CAPACITY AIR-COOLING SYSTEMFOR ELECTRONIC APPARATUS AND ASSOCIATED METHOD", Jan. 2, 2003.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims

Application No.	Applicant(s)	
10/414,346	GORENZ ET AL.	
Examiner	**Art Unit**	
Yean-Hsi Chang	2835	

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	7/20/04
	1	√
	2	√
	3	√
	4	√
	5	√
	6	√
	7	√
	8	√
	9	√
	10	√
	11	√
	12	√
	13	√
	14	√
	15	√
	16	√
	17	√
	18	√
	19	√
	20	√
	21	
	22	
	23	
	24	
	25	
	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	
	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	
	48	
	49	
	50	

Claim		Date
Final	Original	
	51	
	52	
	53	
	54	
	55	
	56	
	57	
	58	
	59	
	60	
	61	
	62	
	63	
	64	
	65	
	66	
	67	
	68	
	69	
	70	
	71	
	72	
	73	
	74	
	75	
	76	
	77	
	78	
	79	
	80	
	81	
	82	
	83	
	84	
	85	
	86	
	87	
	88	
	89	
	90	
	91	
	92	
	93	
	94	
	95	
	96	
	97	
	98	
	99	
	100	

Claim		Date
Final	Original	
	101	
	102	
	103	
	104	
	105	
	106	
	107	
	108	
	109	
	110	
	111	
	112	
	113	
	114	
	115	
	116	
	117	
	118	
	119	
	120	
	121	
	122	
	123	
	124	
	125	
	126	
	127	
	128	
	129	
	130	
	131	
	132	
	133	
	134	
	135	
	136	
	137	
	138	
	139	
	140	
	141	
	142	
	143	
	144	
	145	
	146	
	147	
	148	
	149	
	150	

Search Notes	Application No.	Applicant(s)	
	10/414,346	GORENZ ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

SEARCHED			
Class	Subclass	Date	Examiner
361	688-692		
165	80.2,80.3	7/19/2004	YHC

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
EAST search note attached.	7/19/2003	YHC

	Type	Hits	Search Text	DBs	Time Stamp
1	IS&R	14	(("4717216") or ("5216579") or ("5282114") or ("5287244") or ("5505533") or ("6011689") or ("6315655")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 13:42
2	IS&R	4038	((361/688-692) or (165/80.2,80.3)).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:48
3	IS&R	0	("2and(rackadjmout$4)").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:43
4	BRS	84	(((361/688-692) or (165/80.2,80.3)).CCLS.) and (rack adj mount$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
5	IS&R	6200	((361/688-692) or (165/80.2,80.3,168-170)).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:14
6	BRS	88	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:56
7	BRS	69	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 13:57
8	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (rack adj mount$4)) and (fan or blower)) and centrifugal	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 14:26
9	IS&R	2	("20030002254").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/19 14:26
10	IS&R	6207	((361/688-692) or (165/80.2,80.3,168-170)).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:14

	Type	Hits	Search Text	DBs	Time Stamp
11	BRS	143	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:05
12	BRS	3	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot and jack	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:30
13	BRS	51	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:40
14	BRS	8	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and display	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:31
15	BRS	19	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (front adj panel)) and slot) and port	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:34
16	BRS	76	(((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:39
17	BRS	0	(((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)) and (billboard or (bill adj board))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 08:41
18	BRS	46	((((361/688-692) or (165/80.2,80.3,168-170)).CCLS.) and (face adj plate)) and (slot or opening)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:01
19	BRS	8264	rack adj mount$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:02
20	BRS	2084	(rack adj mount$4) and electronic	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:03

	Type	Hits	Search Text	DBs	Time Stamp
21	BRS	871	((rack adj mount$4) and electronic) and communication	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:04
22	BRS	486	(((rack adj mount$4) and electronic) and communication) and module	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:04
23	BRS	178	(((rack adj mount$4) and electronic) and communication) and ((front adj panel) or (face adj plate))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:02
24	BRS	121	((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:06
25	BRS	78	(((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:07
26	BRS	61	((((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and slot) and display	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 09:08
27	BRS	57	(((((((rack adj mount$4) and electronic) and communication) and module) and ((front adj panel) or (face adj plate))) and slot) and display) and port	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:01
28	BRS	290	"electronic device" and (display adj module)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:11
29	BRS	15	("electronic device" and (display adj module)) and ((front adj panel) or (face adj plate))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:12

	Type	Hits	Search Text	DBs	Time Stamp
30	BRS	118	(electronic adj apparatus) and (display adj module)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:13
31	BRS	2	((electronic adj apparatus) and (display adj module)) and ((front adj panel) or (face adj plate))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:12
32	BRS	17	(front adj panel) and (display adj module) and bezel	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:48
33	BRS	307	(front adj panel) and (display adj module)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:49
34	BRS	85	((front adj panel) and (display adj module)) and slot	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:50
35	BRS	39	(((front adj panel) and (display adj module)) and slot) and port	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 10:51
36	BRS	1	(PCM adj card) and (display adj module)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:07
37	BRS	9	(PCM adj card) and lcd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:05
38	BRS	394	(expansion adj card) and lcd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:06
39	BRS	565	(expan$4 near function) and lcd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:54

	Type	Hits	Search Text	DBs	Time Stamp
40	BRS	79	((expan$4 near function) and lcd) and (display near function)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17
41	BRS	54	((expan$4 near function) and lcd) and (display adj function)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:17
42	BRS	0	((expan$4 near function) and lcd) and (add-on adj display)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:55
43	BRS	0	((expansion adj card) and lcd) and (add-on adj display)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 14:56
44	BRS	0	((expansion adj card) and lcd) and (add-on adj (time adj piece))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
45	BRS	7680	(display adj module)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
46	BRS	2045	((display adj module)) and lcd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
47	BRS	35	(((display adj module)) and lcd) and (cd adj player)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:10
48	BRS	349933	(display adj device)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:23
49	BRS	227	((display adj device)) and (time adj piece)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:25

	Type	Hits	Search Text	DBs	Time Stamp
50	BRS	9	(((display adj device)) and (time adj piece)) and (front adj panel)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:27
51	BRS	3	(((display adj device)) and (time adj piece)) and (terminal adj device)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:30
52	BRS	307	((display adj module)) and (front adj panel)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:31
53	BRS	5	(((display adj module)) and (front adj panel)) and (rack adj mount$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/07/20 15:32

2835

PTO/SB/21 (05-03)
Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/414,346
Filing Date	April 15, 2003
First Named Inventor	Gorenz et al.
Art Unit	Not Yet Known
Examiner Name	Not Yet Known
Attorney Docket Number	MOT-D2852

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☒ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ After Allowance communication to Group
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) (please Identify below): Form PTO-1449; and 7 references cited thereon

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Anthony S. Volpe Reg. No. 28,377 Volpe and Koenig, P.C.
Signature	Anthony S. Volpe
Date	June 18, 2003

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Anthony S. Volpe		
Signature	Anthony S. Volpe	Date	June 18, 2003

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Gorenz et al.

Application No.: 10/414,346

Confirmation No.: Not Yet Known

Filed: April 15, 2003

For: ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

Group: Not Yet Known

Examiner: Not Yet Known

Our File: MOT-D2852

Date: June 18, 2003

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to Applicants' Duty of Disclosure pursuant to 37 C.F.R. §1.56, Applicants wish to bring to the Examiner's attention the material cited on the enclosed PTO-1449 form.

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the PTO-1449 form indicating his consideration of the cited materials.

Respectfully submitted,

Gorenz et al.

By _____
Anthony S. Volpe
Registration No. 28,377
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103

ASV/lhc

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	ATTY. DOCKET NO. MOT-D2852	SERIAL NO. 10/414,346
	APPLICANT Gorenz et al.	
	FILING DATE April 15, 2003	GROUP Not Yet Known

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4 7 1 7 2 1 6	01/1988	Hornak			
	AB	5 2 1 6 5 7 9	06/1993	Basara et al.			
	AC	5 2 8 2 1 1 4	01/1994	Stone			
	AD	5 2 8 7 2 4 4	02/1994	Hileman et al.			
	AE	5 5 0 5 5 3 3	04/1996	Kammersqard et al.			
	AF	6 0 1 1 6 8 9	01/2000	Wrycraft			
	AG	6 3 1 5 6 5 5	11/2001	McEwan et al.			
	AH						
	AI						
	AJ						
	AK						
	AL						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES	TRANSLATION NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

4-16-03 10414346.041503

jc882 U.S. PTO 04/15/03

PTO/SB/05 (03-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box → ⊞

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	MOT-D2852
First Inventor	Gorenz et al.
Title	ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM
Express Mail Label No.	EV202560842US

10/414346 U.S. PTO 04/15/03

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [X] Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [ ] Applicant claims small entity status. See 37 CFR 1.27.
3. [X] Specification [*Total Pages* 16] *(preferred arrangement set forth below)*
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. [X] Drawing(s) *(35 U.S.C. 113)* [*Total Sheets* 4]
5. Oath or Declaration [*Total Pages* 3]
   a. [X] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 CFR 1.63 (d)) *(for continuation/divisional with Box 18 completed)*
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [X] Application Data Sheet. See 37 CFR 1.76
7. [ ] CD-ROM or CD-R in duplicate, large table or Computer Program *(Appendix)*
8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies

ADDRESS TO: Commissioner for Patents, Box Patent Application, Washington, DC 20231

ACCOMPANYING APPLICATION PARTS

9. [X] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [ ] Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. [ ] Other: .....

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No.: _____/_____

Prior application information: *Examiner* _____ *Group Art Unit:* _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

[X] *Customer Number or Bar Code Label* 3624 *(Insert Customer No. or Attach bar code label here)* or [ ] *Correspondence address below*

Name	VOLPE AND KOENIG, P.C.				
Address					
City		*State*		*Zip Code*	
Country		*Telephone*		*Fax*	

Name (Print/Type)	Anthony S. Volpe	*Registration No. (Attorney/Agent)*	28,377
Signature	Anthony S. Volpe	*Date*	April 15, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

Express Mail Label No. EV202560842US

PTO/SB/17 (01-03)
Approved for use through 01/31/2003. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 958

Complete if Known	
Application Number	Not Yet Known
Filing Date	Not Yet Known
First Named Inventor	Gorenz et al.
Examiner Name	Not Yet Known
Art Unit	Not Yet Known
Attorney Docket No.	MOT-D2852

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☒ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit Account Number: 22-0493

Deposit Account Name: Volpe and Koenig, P.C.

The Commissioner is authorized to: *(check all that apply)*

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) during the pendency of this application — charge any deficiencies

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	750
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 750

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

			Extra Claims		Fee from below	Fee Paid
Total Claims	20	- 20 =	0	x	18	= 0
Independent Claims	5	- 3 =	2	x	84	= 168
Multiple Dependent					0	= 0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 168

***or number previously paid, if greater; For Reissues, see above*

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 40

SUBMITTED BY

(Complete *(if applicable)*)

Name (Print/Type)	Anthony S. Volpe	*Registration No. (Attorney/Agent)*	28,377	*Telephone*	215-568-6400
Signature	Anthony S. Volpe			*Date*	April 15, 2003

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, Washington, DC 20231.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Express Mail Label No. EV202560842US

APPLICATION DATA SHEET
UNDER 37 CFR §1.76

(1) Inventor Information

Inventor One Given Name::	Harold J.
Family Name::	Gorenz, Jr.
Postal Address Line One::	580 Spruce Lane
City::	Lisle
State or Province::	IL
Postal or ZIP Code::	60532
Citizenship Country::	United States of America
Residence::	Lisle, IL, United States of America

Inventor Two Given Name::	William R.
Family Name::	Groves
Postal Address Line One::	730 Torrington Drive
City::	Naperville
State or Province::	IL
Postal or ZIP Code::	60565
Citizenship Country::	United States of America
Residence::	Naperville, IL, United States of America

Inventor Three Given Name::	Roger W.
Family Name::	Ady
Postal Address Line One::	728 W. Jackson, Unit 1102
City::	Chicago
State or Province::	IL
Postal or ZIP Code::	60661
Citizenship Country::	United States of America
Residence::	Chicago, IL, United States of America

(2) Assignee Information

Name Line One::	General Instrument Corporation
Address Line One::	101 Tournament Drive
City::	Horsham
State or Province::	PA, U.S.A.
Postal or ZIP Code::	19044

(3) Correspondence Information

(3) Correspondence Information

Customer No.::	24375
Name Line One::	Anthony S. Volpe
Name Line Two::	Volpe and Koenig, P.C., DEPT MOT
Telephone No.::	215-568-6400

(4) Application Information

Title Line One::	ELECTRONIC CHASSIS AND HOUSING
Title Line Two::	HAVING AN INTEGRATED FORCED AIR
Title Line Three::	COOLING SYSTEM
Total Drawing Sheets::	4
Drawing Type::	Formal
Application Type::	Utility
Docket No.::	MOT-D2852

(5) Representative Information

Representative Customer No.:: 24375

MOT-D2852

Express Mail Label No. EV202560842US

[0001] ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

[0002] BACKGROUND OF THE INVENTION

[0003] The present invention relates generally to rack-mounted electronics chassis systems and, more particularly, to a chassis and housing having an integrated forced air cooling system that preserves the front panel and display appearance generally associated with a rack-mounted electronics chassis system.

[0004] There exists a trend toward a more compact chassis for a cable modem termination system (CMTS). The reduction in the overall size of the chassis causes two distinct problems. One, a reduction in the size of the chassis requires a corresponding reduction in the size of the front panel and display module. Most chassis manufacturers use variations of material finish (i.e. paint), printed logos, labels, etc. on the front panel to differentiate their products. In addition to reducing the front panel billboard space, the reduction reduced the available space for logos, labels, I/O connectors, user displays, user controls, and cooling vents. Accordingly, there exists a need for a reduced size front panel that is equally function and display oriented. Two, the reduced size is an obstacle to maintaining the internal circuitry at a suitable operating temperature. The internal circuitry is electrically driven and generates substantial amounts of heat energy. Larger chassis systems are able to maintain the desired operating temperature by having more space for fans and vents located on the

exterior walls. However, a reduction in the size creates an associated reduction in room for such airflow features.

[0005] Chassis cooling systems in the prior art that provide for front-to-back cooling typically feature 40mm axial fans that do not have the strength or capacity to pull and/or push air through the high static pressure for a 1 rack-unit (herein after "1U") chassis. Existing chassis designs have placed the axial fans adjacent to the front or rear panels which is not feasible for a 1U chassis that requires substantial area for I/O connectors, user interface, and various other components.

[0006] The prior art also discloses cooling systems for conventionally-sized chassis (e.g. 2U or larger) with centrally located blowers designed to create a low pressure on one side of an internal wall, and high pressure on the other side to achieve front-to-back cooling. However, the prior art centrally located blowers do not direct the path of air intake or divide the airflow exiting the blower.

[0007] BRIEF DESCRIPTION OF THE DRAWING(S)

[0008] The present invention will hereinafter be described in conjunction with the appended drawing figures wherein like numerals denote like elements.

[0009] FIG. 1 is a front perspective view of the chassis of the present invention with the front panel and display module in place.

[0010] FIG.2 is a perspective view of the front panel and display module portions detached from the chassis and each other.

[0011] FIG. 3 is a partial top view of the front portion of the chassis with the front panel and display module attached and the top panel removed, showing the internal circuitry and the air intake slot.

[0012] FIG. 4 is a front perspective view of the chassis with the front panel partially installed.

[0013] FIG. 5 is a top perspective view of the chassis without the front and top panels, but with the display module, showing the internal components and centrifugal blower.

[0014] FIG. 6 is a top plain view of the chassis illustrating the internal air flow through the chassis.

[0015] FIG. 7 is a rear perspective view of the chassis illustrating the exhaust ports and vents.

[0016] SUMMARY OF THE INVENTION

The invention provides a chassis for housing printed circuit boards comprising: a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit. The front wall includes an inlet vent, a display module, and a jack and the back side wall includes an exhaust vent. A centrifugal blower is provided inside the chassis housing to establish the air flow pattern. A front wall face plate

overlies the inlet vent, display module and jack, respectively so the inlet vent are arranged in parallel, overlapping but offset planes.

[0017] DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

[0018] The ensuing detailed description provides preferred exemplary embodiments only, and is not intended to limit the scope, applicability, or configuration of this invention. Rather, the ensuing detailed description of the preferred exemplary embodiments will provide those skilled in the art with an enabling description for implementing the invention. It being understood that various changes may be made in the function and arrangement of elements without departing from the spirit and scope of the invention as set forth in the appended claims.

[0019] FIGS. 1 and 3 through 5 show a chassis 10 for a single "rack-unit" which is commonly referred to as a 1RU cable modem termination system (CMTS). Under current industry standard a "rack-unit" equals approximately 1.75 inches, 2RU equals approximately 3.5 inches and etcetera. As seen best in FIGS. 1 and 4, the chassis 10 includes a base 12 having a rear 14, left 16 and right 18 side walls, a front panel 20, and a top 22, combined to form the base enclosure or housing 24. As shown in FIG. 2, the front panel 20 includes a display module slot 26, an air inlet vent 30 and jack slots 32, 33. In this embodiment, the front panel 20 includes left and right handles, 36 and 37 respectively, to aid the user with inserting and removing the chassis 10 from an industry standard communications infrastructure equipment rack (not shown). A

display module 28 is detachably secured to the front panel 20 to house a module such as an LCD, and functional switches 27, such scroll, enter select, abort and mode selection, and displays 29, such as LEDs for indicating status or warning signals (thermal conditions or power) for various modules and functions within the chassis.

[0020] As shown in FIG. 4, the preferred face bar 38 is detachable from the front panel 20 to ease access for service and cleaning. The face bar 38 may display a logo on the billboard surface 40. The face bar 38 includes a slot 39 for the display module 28 and cut out 41 around jack slots 32 and 33. The face bar 38 also serves to cover and conceal the air inlet vent 30. In this embodiment, the face bar 38 is removably secured to the front panel 20 by outwardly biased exterior tabs, 44 and 45, which engage behind a respective handle 36 or 37. The face bar 38 is additionally secured by mounting clips, 48 and 49 which mate to the display module with a respective tab, 50 or 51. As best shown in FIGS. 1 and 3, an air intake slot 52 is formed by spacing the face bar 38 when it is secured to the front panel 20. The air intake slot 52 permits air from above and below the face bar 38 ingress into the air inlet vent 30 (see FIG. 4). The design of the face bar 38 accommodates the preferred functional requirements for the front of the chassis 10 while maintaining an attractive appearance.

[0021] FIGS. 5 through 7 show an internal view of the chassis 10 with the face bar 38 and top plate 22 removed. As best shown in FIG. 6, the chassis 10 is preferably divided into three (3) internal chambers, 58, 60, and 62, by an intake dividing wall 54 and a central dividing wall 56. In this embodiment, the chambers include a power

supply circuitry chamber 58, a digital printed wiring assembly (PWA) chamber 60, and a radio frequency ("RF") PWA chamber 62. The RF PWA chamber 62 may be further divided by an exhaust dividing wall 64 into a receiving PWA chamber 66 and a transmitting PWA chamber 68. The RF PWA chamber 62 may be divided into additional chambers by the use of exhaust dividing walls.

[0022] As best shown in FIG. 6, the intake air flowing into the air inlet vent 30 initially enters the power supply circuitry chamber 58 and the digital PWA chamber 60. One or more axial fans 70, 71 secured to the base plate 12 and located within the power supply circuitry chamber 58, sweep air from the front of the chamber 58 to the rear of the chamber 58 to cool the internal circuitry of the chamber 58, including power supply circuitry 72. One example of an axial fan is the Panasonic model 4Bko4f.

[0023] As shown in FIG. 6, the path of air entering the digital PWA chamber 60 is influenced by the centrifugal blower 74. The centrifugal blower 74 is centrally located within the digital PWA chamber 60 with its blower facing up. One acceptable blower is available from Comair Rotron as model BD12B7, also known as Biscuit (r) DC. This unit occupies a footprint of no more than 4.75 inches squared and has a height or thickness of 1.25 inches. A digital PWA 76 (see FIG. 5) is located within the digital PWA chamber 60. The digital PWA 76 is the most temperature sensitive component within the chassis 10, and accordingly requires a sufficient flow of air to maintain its operating temperature. One or more baffles 78, 79, may be secured to the top plate 22 to direct air flowing through the digital PWA chamber 60 over as much of

the circuitry as possible. In this embodiment, the baffles are made of foam and are carried by the top plate 22. By placing the baffles 78, 79 in an L-shape, the centrifugal blower 74 pulls the intake air in a non-linear path through the circuitry within the digital PWA chamber 60. Of course, the baffles 78, 79 may be placed in the required configuration for the desired airflow to cool each particular circuit design.

[0024] The centrifugal blower 74 pulls the intake air into its intake port 80. The blower intake port 80 faces upward to move the hotter air outwardly through the blower exhaust ports 82, 83 and into the RF PWA chamber 62 (see FIG. 7). Air exiting the centrifugal blower 74 is forced into the RF PWA chamber 62 at a high velocity to cool receiving PWA 84 and transmitting PWA 86 (see FIG. 5). Air exiting the centrifugal blower 74 may be separately directed by wall 64 into the receiving PWA chamber 66 and transmitting PWA chamber 68 (see FIG. 7). The exhaust dividing wall 64 may also be located to direct a higher volume of air to either the receiving PWA chamber 66 or transmitting PWA chamber 68. The final air egress from the RF PWA chamber 62 is through one or more exhaust vents 88, 89 located on the rear wall 14 (see FIG. 7). The use of a dividing wall 64 and multiple ports on the exhaust side of the blower 74 allows the cooling system of the present invention to effectively cool many different components of the internal circuitry.

[0025] While principles of the invention have been described above in connection with the specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation on the scope of the invention.

* * *

CLAIMS

What we claim is:

1. An electronic chassis and housing having an integrated force air cooling system, comprising:

a) a housing having a top, a base and front, back, left and right side walls which define an interior space having a predetermined height, as measured between the top and the base, and an inlet vent in at least one side wall and an exhaust vent in an opposed side wall;

b) a centrifugal blower assembly having defined top and bottom planes and perimeter walls, a second predetermined height measured between the top and bottom planes that is less than the predetermined height of the interior space and inlet and outlet ports defined in the perimeter walls; the blower assembly is mounted within the interior space such that its inlet port is in fluid communication with the inlet vent and its exhaust port is in fluid communication with the exhaust vent; and,

c) a baffle, positioned within the interior space so that it directs the flow of air from the inlet vent through a non-linear path to the blower inlet port.

2. The invention of claim 1, wherein the baffle is positioned between the housing inlet vent and said blower inlet port.

3. The invention of claim 1, wherein the baffle is comprised of foam gasket material.

4. The invention of claim 1, wherein the baffle is comprised of at least one blower assembly side wall that extends upwardly beyond the top plane and contacts the top of the housing.

5. The invention of claim 1, wherein the blower is centrally located within the interior space and includes a fan having a diameter greater than the predetermined height.

6. The invention of claim 5, wherein the inlet vent is located in one side wall of the housing, the blower inlet port is directed toward another side wall of the housing and the baffle directs air past the blower assembly before it enters the blower inlet port.

7. The invention of claim 1, wherein the inlet port is located in a blower perimeter walls and the outlet port is located in the top plane of the blower assembly.

8. The invention of claim 1 further comprising:

d) at least one interior wall dividing the interior space into first and second chambers with the centrifugal blower being in one chamber and both chambers being in fluid communication with the inlet and exhaust vents.

9. The invention of claim 8 further comprising:

e) an axial fan located in other chamber with an inlet port in fluid communication with the inlet vent and an outlet port in fluid communication with the outlet vent.

10. A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack; and,

b) a face plate including a bill board surface, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively,

wherein said bill board portion and said vent define parallel, spaced apart planes so that said vent is concealed from view, but in fluid communication with the exterior ambient atmosphere.

11. The chassis recited in claim 10, wherein said front wall includes a plurality of jack, and a pair of installation handles.

12. The chassis recited in claim 10, wherein said bill board surface includes identifying indicia thereon.

13. A face plate for a printed circuit board chassis having a top, bottom, front, back, left and right side walls, a height, measured from the bottom wall to the top wall, which is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack, said face plate comprising:

a) a planar logo surface portion arranged to overlay the inlet vent in a parallel, overlapping but offset plane so that said vent is concealed from view from, but is in fluid communication with, the front exterior of said chassis;

b) a display module slot arranged to overlay the display module; and,

c) a jack slot arranged to overlay the jack.

14. A chassis for housing printed circuit boards comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent, said blower housing having a height, measured from the bottom wall to the top wall, that is less than the height of said chassis housing;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port;

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively;

wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

15. The chassis recited in claim 14, including:

f) a chassis housing interior wall dividing the interior into a first chamber in which the centrifugal blower is located and second chamber, both chambers being in fluid communication with said inlet vent and said exhaust vent; and,

g) an axial fan located in said second chamber, said axial fan having an inlet port in fluid communication with said inlet vent and an outlet port in fluid communication with said outlet vent.

16. The chassis recited in claim 14, wherein said front wall includes a plurality of jacks, and a pair of installation handles.

17. The chassis recited in claim 14, wherein said logo surface includes identifying indicia printed or embossed thereon.

18. A printed circuit board chassis for insertion in a standard communications infrastructure equipment rack, the chassis comprising:

a) a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit of approximately 1.75 inches, said front wall including an inlet vent, a display module, and a jack;

b) an exhaust vent in said back side wall;

c) a centrifugal blower inside said chassis housing, said blower having a housing with top, bottom, and side walls, an inlet port in fluid communication with said inlet vent, and an exhaust port in fluid communication with said exhaust vent,

said blower housing having a height, measured from the bottom wall to the top wall, that is less than 1.75 inches;

d) a partition intermediate said housing inlet vent and said blower inlet port, said partition diverting the flow of air along an indirect path within the housing from said inlet vent to said blower inlet port; and

e) a front wall face plate including a planar logo surface portion, display module slot, and a jack slot, arranged to overlay said inlet vent, display module and jack, respectively.

19. The chassis of claim 18 wherein said logo surface portion and said inlet vent are arranged in parallel, overlapping but offset planes so that said vent is concealed from view, but is in fluid communication with, the front exterior of said chassis.

20. The chassis of claim 18 wherein said front wall includes a pair of installation handles.

ABSTRACT

The invention provides a chassis for housing printed circuit boards comprising: a housing having a top, bottom, front, back, left and right side walls, and having a height, measured from the bottom wall to the top wall, that is equal to a 1 rack-unit. The front wall includes an inlet vent, a display module, and a jack and the back side wall includes an exhaust vent. A front wall face plate overlies the inlet vent, display module and jack, with the inlet vent arranged in parallel, overlapping but offset planes. A centrifugal blower is provided inside the chassis housing.

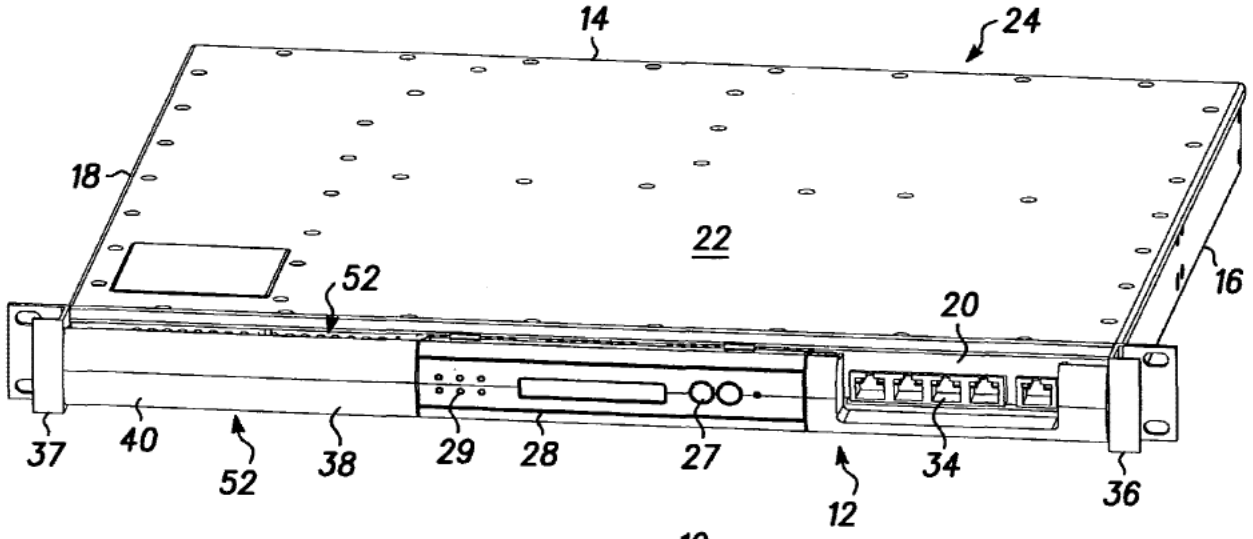

14
24
18
22
52
16
20
37
40
52
38
29
28
27
34
36
12
10

FIG. 1

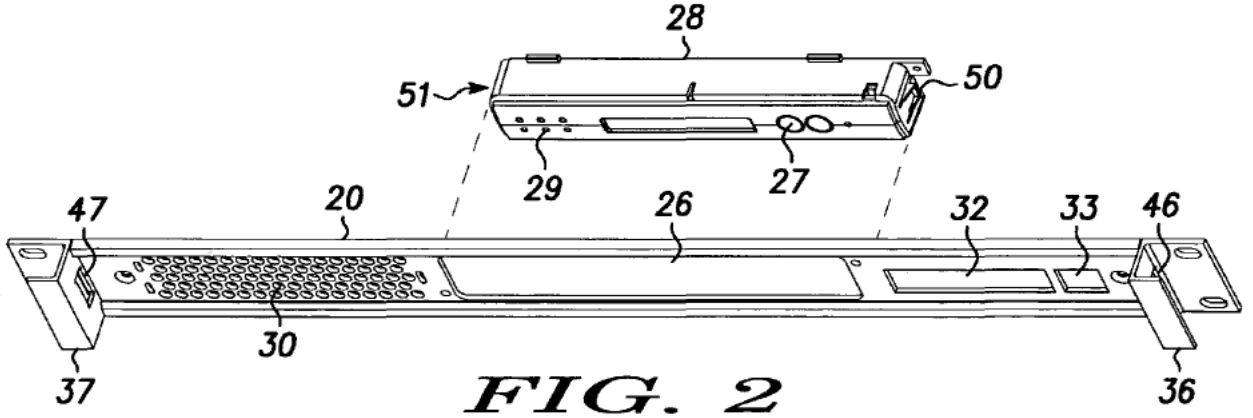

28
51
50
29
27
47
20
26
32
33
46
30
37
36

FIG. 2

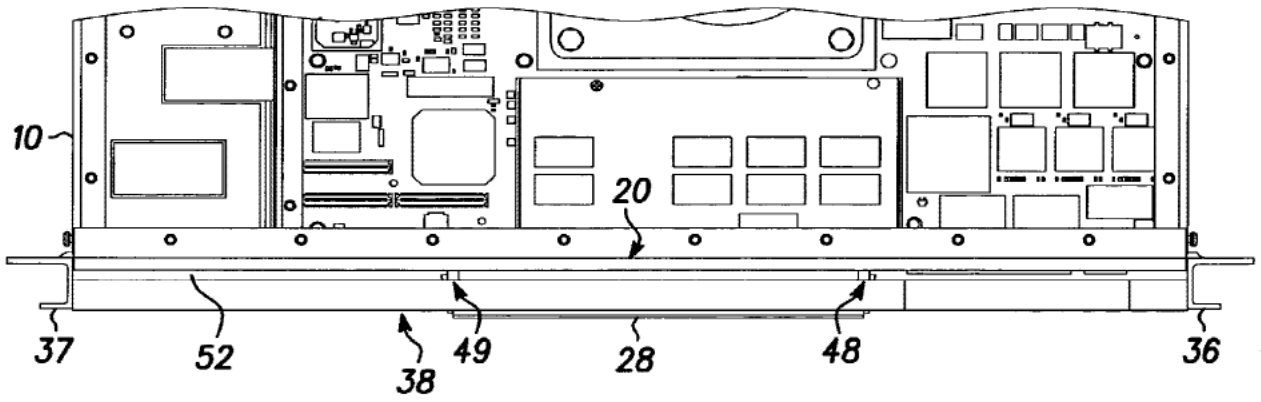

10
20
37
52
38
49
28
48
36

FIG. 3

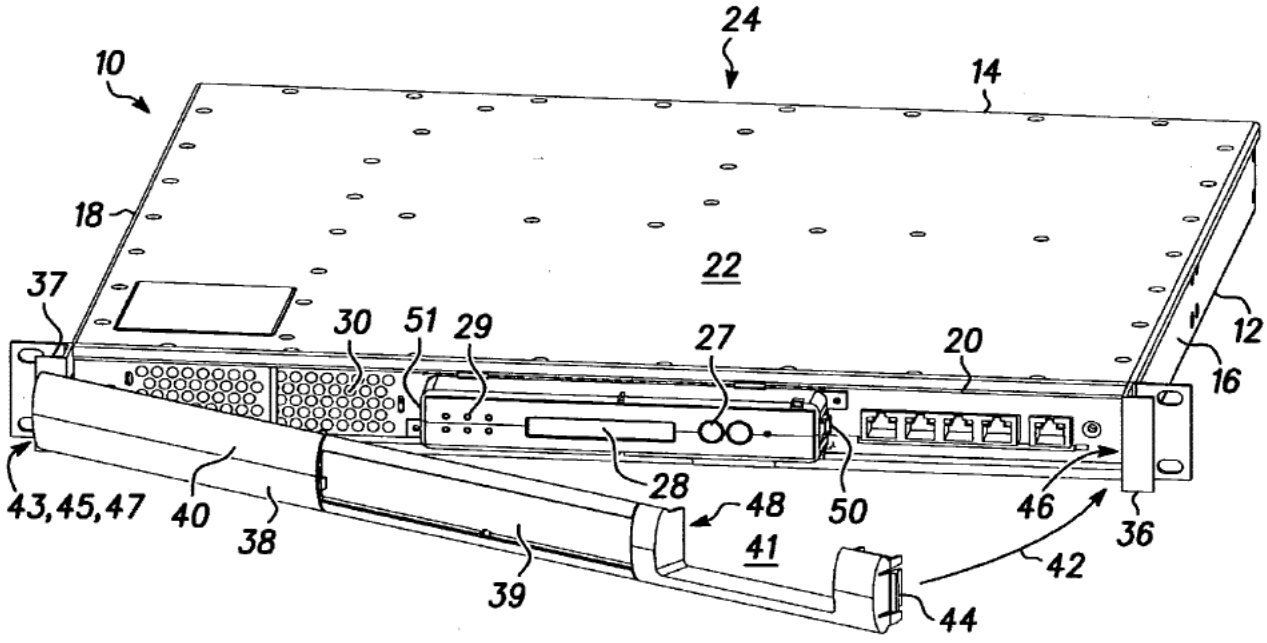

24
10
14
18
22
37
30
51
29
27
20
12
16
43,45,47
40
38
28
48
50
46
36
41
42
39
44

FIG. 4

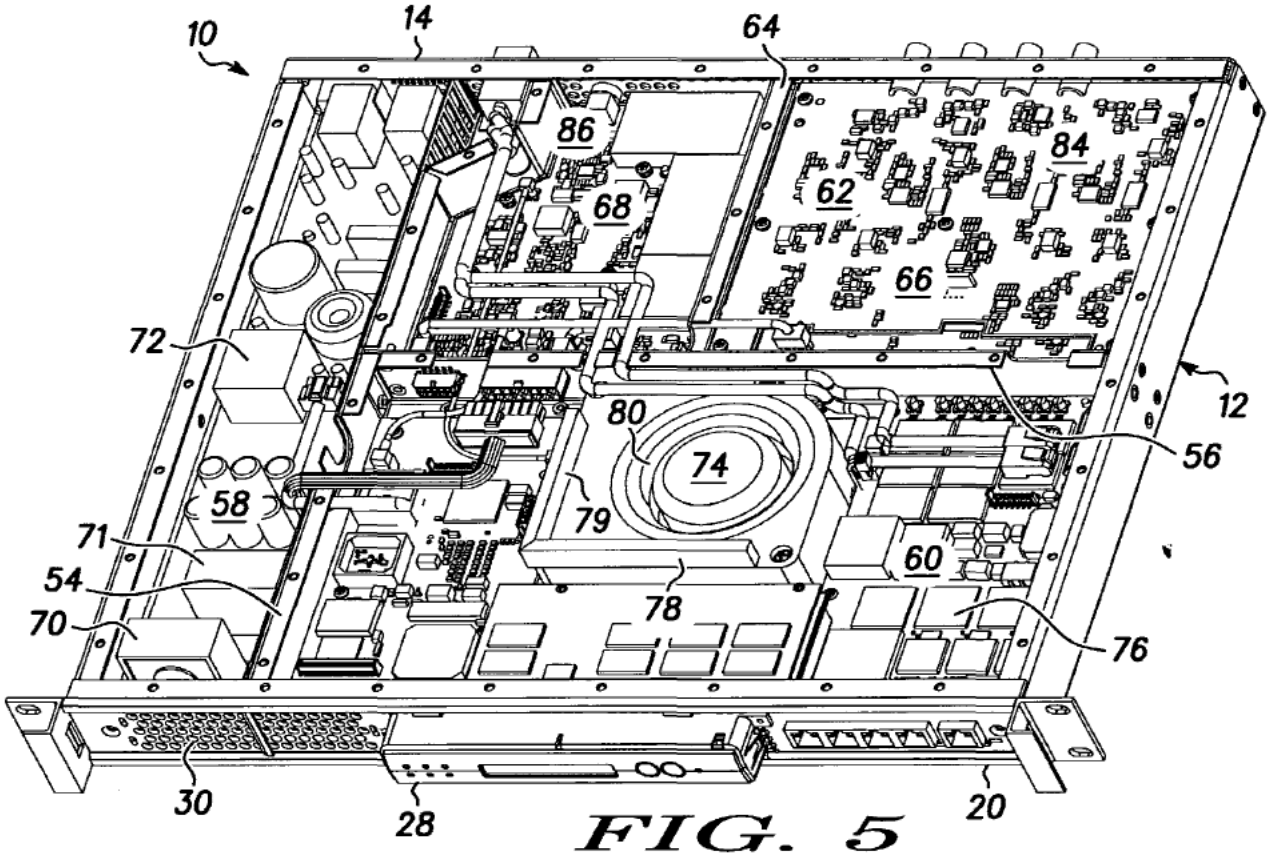

10
14
64
86
84
62
68
66
72
12
80
74
56
58
79
71
60
54
78
70
76
30
28
20

FIG. 5

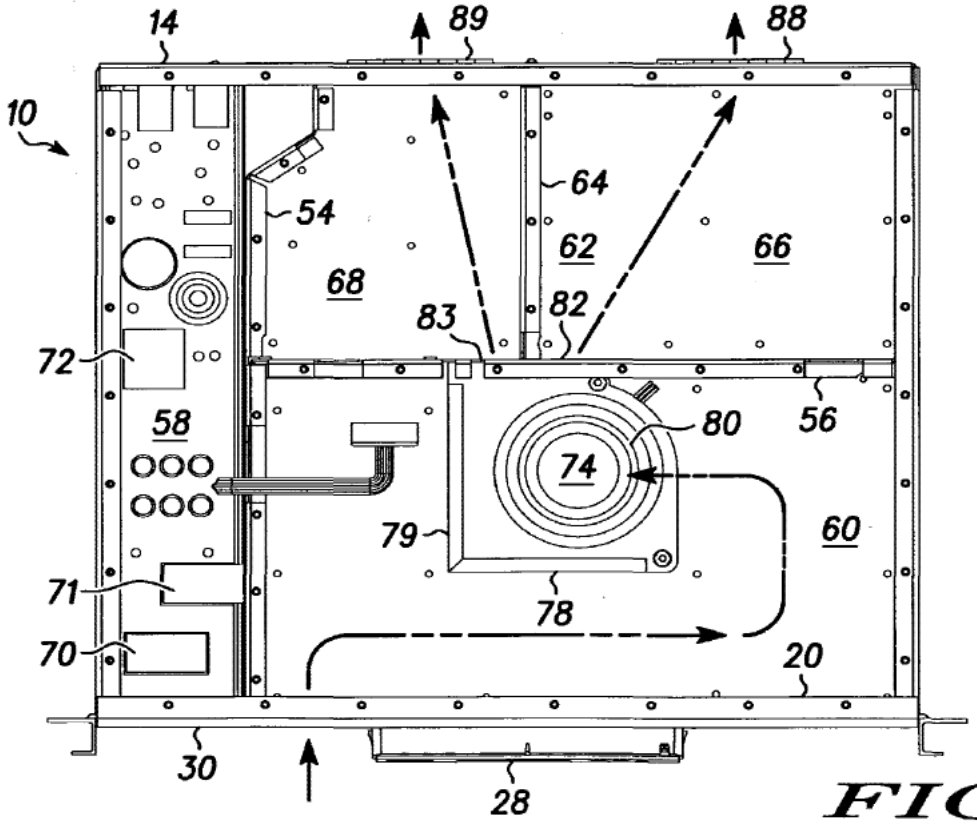

14
89
88
10
64
54
62
66
68
83
82
72
56
58
80
74
79
60
71
78
70
20
30
28

FIG. 6

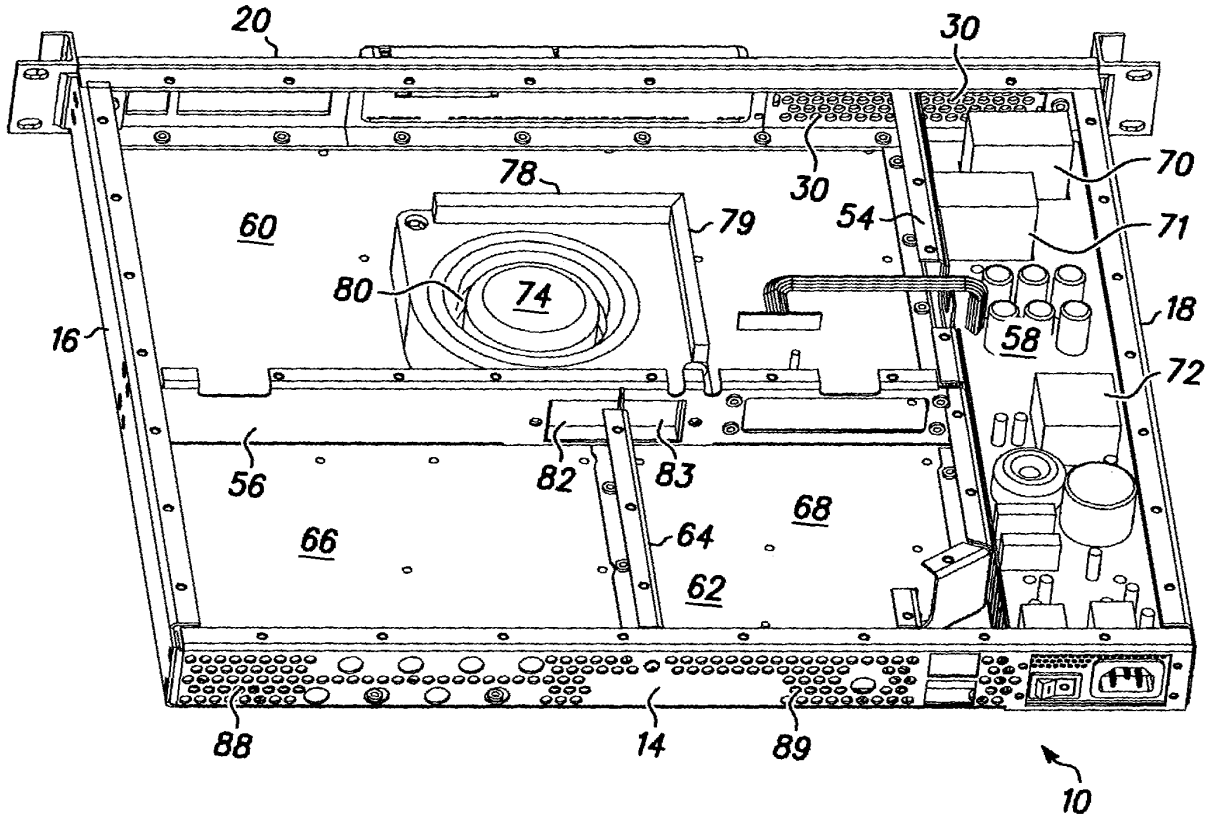

20
30
78
30
70
60
79
54
71
80
74
18
16
58
72
56
82
83
68
66
64
62
88
14
89
10

FIG. 7

Express Mail Label No. EV202560842

Please type a plus sign (+) inside this box → [+]

PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☒ Declaration Submitted with Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	MOT-D2852
First Named Inventor	Gorenz et al.
COMPLETE IF KNOWN	
Application Number	Not Yet Known
Filing Date	Not Yet Known
Group Art Unit	Not Yet Known
Examiner Name	Not Yet Known

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

ELECTRONIC CHASSIS AND HOUSING HAVING AN INTEGRATED FORCED AIR COOLING SYSTEM

(Title of the Invention)

the specification of which
☒ is attached hereto
OR
☐ was filed on (MM/DD/YYYY) [ ] as United States Application Number or PCT International Application Number [ ] and was amended on (MM/DD/YYYY) [ ] (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
	USA		☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → [+]

PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (If applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☒ Customer Number 24375 → *Place Customer Number Bar Code Label here*
OR
☐ Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number
Namely, the Attorneys of Volpe and Koenig, P.C.			

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☒ Customer Number or Bar Code Label 24375 *OR* ☐ Correspondence address below

Name	VOLPE AND KOENIG, P.C. DEPT MOT				
Address					
Address					
City		State		ZIP	
Country		Telephone		Fax	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Harold J.	Gorenz, Jr.

Inventor's Signature	Harold J. Gorenz Jr.					Date	4/14/01
Residence: City	Lisle	State	IL	Country	USA	Citizenship	USA
Post Office Address	580 Spruce Lane						
Post Office Address							
City	Lisle	State	IL	ZIP	60532	Country	USA

☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

Please type a plus sign (+) inside this box → [+]

PTO/SB/02A (11-00)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

DECLARATION

ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle [if any])	Family Name or Surname		
William R.	Groves		
Inventor's Signature			Date 4/15/03
Residence: City Naperville	State IL	Country USA	Citizenship USA
Mailing Address 730 Torrington Drive			
Mailing Address			
City Naperville	State IL	ZIP 60565	Country USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle [if any])	Family Name or Surname		
Roger W.	Ady		
Inventor's Signature			Date 4/15/03
Residence: City Chicago	State IL	Country USA	Citizenship USA
Mailing Address 728 W. Jackson, Unit 1102			
Mailing Address			
City Chicago	State IL	ZIP 60661	Country USA

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle [if any])	Family Name or Surname		
Inventor's Signature			Date
Residence: City	State	Country	Citizenship
Mailing Address			
Mailing Address			
City	State	ZIP	Country

PATENT APPLICATION FEE DETERMINATION RECORD
Effective January 1, 2003

Application or Docket Number: 10/411,434

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	20	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	20 minus 20=	*
INDEPENDENT CLAIMS	5 minus 3 =	* 2
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	375.00	OR	BASIC FEE	750.00
X$ 9=		OR	X$18=	
X42=		OR	X84=	168
+140=		OR	+280=	
TOTAL		OR	TOTAL	918

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

1,1013 14 18

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X42=		OR	X84=	
+140=		OR	+280=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

04/17/2003 SDIRETA1 00000043 10414346

01 FC:1001	750.00 OP
02 FC:1201	168.00 OP
03 FC:8021	40.00 OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

SERIAL NO.	FILING DATE
APPLICANT(S)	

CLAIMS

	AS FILED		AFTER 1ST AMENDMENT		AFTER 2ND AMENDMENT	
	IND	DEP	IND	DEP	IND	DEP
1	1					
2						
3						
4						
5						
6						
7						
8						
9						
10	1					
11						
12						
13	1					
14	1					
15						
16						
17						
18	1					
19						
20	→ 4					
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
TOTAL IND.	5					
TOTAL DEP.	15					
TOTAL CLAIMS	20					

	IND	DEP	IND	DEP	IND	DEP
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						
TOTAL IND.						
TOTAL DEP.						
TOTAL CLAIMS						