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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,854	06/19/2007	7233086	0175472	4900

7590

05/30/2007

Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 366 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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 (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Scott M. Borden, Rochester, NY;
Randy J. King, Rochester, NY;
Ronald C. Moffatt, Rochester, NY;

AMAZON.COM, INC. ET AL.
EXHIBIT 1010

05-09-07
PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
 or Fax **(571)-273-2885**

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)

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.

7590 02/07/2007

Christopher J. Hayes
 BRYAN CAVE LLP
 211 North Broadway, Ste. 3600
 St. Louis, MO 63102



05/10/2007 LWONDIH2 00000049 10752854

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

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 (571) 273-2885, on the date indicated below.

Denise M. Aleman (Depositor's name)
Denise M. Aleman (Signature)
 May 7, 2007 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,854	01/07/2004	Scott M. Borden	0175472	4900

TITLE OF INVENTION: POWER LINE CONDITIONER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	05/07/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEBERADINIS, ROBERT L	2836	307-147000

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. 46019

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 Bryan Cave LLP
- (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. 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

Belkin International, Inc.

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Compton, CA

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 submitted:

- ☒ Issue Fee
- ☒ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☒ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 02-4467 (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).

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 Walter P. Opaska

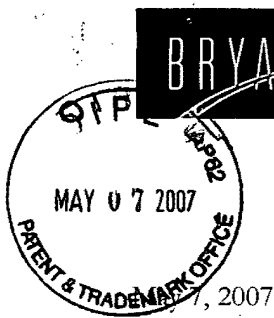
Date May 7, 2007

Typed or printed name Walter P. Opaska

Registration No. 54,349

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.



Walter P. Opaska
Registered Patent Attorney
Voice: 602-364-7280
walter.opaska@bryancave.com

VIA EXPRESS MAIL

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

Re: U.S. Utility Patent Application Serial No. 10/752,854
Inventor: Borden, et al.
Title: Power Line Conditioner
Attorney Docket No.: 0175472

Dear Sir/Madam:

Enclosed herewith for filing in the above-identified application are the following:

1. Transmittal Letter (2 pgs.);
2. Part B – Fee Transmittal (1 pg. + 1 copy);
3. Amendment Under 37 C.F.R. § 1.312 (2 pgs.);
4. Replacement Drawings (2 pgs.);
5. Check no. 3388 in the amount of \$1700.00; and
6. Self-addressed, prepaid postcard to acknowledge receipt of documents.

Please charge any deficiency in the enclosed fee or credit any overpayment to Deposit
Account No. 02-4467.

Sincerely,

Walter P. Opaska
WPO/da
Enclosure

Bryan Cave LLP
One Renaissance Square
Two North Central Avenue
Suite 2200
Phoenix, AZ 85004-4406
Tel (602) 364-7000
Fax (602) 364-7070
www.bryancave.com

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*And Bryan Cave,
A Multinational Partnership,
London*



Commissioner for Patents
May 7, 2007
Page 2

Bryan Cave LLP

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.8.

I hereby certify that this document (and any others referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV574851074US** on **May 7, 2007** and addressed to Mail Stop ISSUE FEE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 5-7-07

Name: Dennis M. Aleman
Printed Name: Dennis M. Aleman



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Date: May 4, 2007
Borden et al. :
Serial No.: 10/752,854 : Group Art Unit: 2836
Filed: January 07, 2004 : Examiner: DeBeradinis, Robert L.

For: POWER LINE CONDITIONER

Amendment under 37 C.F.R. § 1.312

Mail Stop Issue Fee
Commissioner of Patents
Alexandria, VA 22313-1450

This is in response to the Notice of Allowability, mailed February 7, 2007, relating to the above-identified patent application. This Amendment merely corrects formal matters. Applicant includes corrected drawings with this Amendment to correct a few minor errors. Specifically, Applicant adds reference numbers L1 and N1 to the upper left hand portion of FIGs. 2 and 10. Applicant also adds a missing box (in reference number 12), reference numbers W-0K, SW1, VCC, and a couple of +5V to FIG. 10. No new matter is added by any of the aforementioned amendments because all additions are shown in the originally-filed drawings. Applicant's amendment complies with 37 C.F.R. §§1.121 and 1.312, and thus, Applicant respectfully requests that the United States Patent and Trademark Office (USPTO) to enter this amendment. M.P.E.P. §714.16.

CONCLUSION

No fees are believed due with this Amendment under 37 CFR §1.312. However, the Commissioner for Patents is hereby authorized to charge any required fees necessitated by this Amendment under 37 CFR §1.312, or credit any overpayment, to Account No. 02-4467.

If there are matters that can be discussed by telephone to further the prosecution of this application, Applicant invites the USPTO to call the undersigned attorney at the USPTO's convenience.

Respectfully submitted,

Dated: May 7, 2007

Walter P. Opaska

Walter P. Opaska, Reg. No. 54,349
Attorney for Applicant
BRYAN CAVE, LLP
Two North Central Avenue, Suite 2200
Phoenix, Arizona 85004
Telephone: (602) 364-7000
Facsimile: (602) 364-7070

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.10.

I hereby certify that this document (and any others referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV574851074US** on **May 7, 2007** and addressed to Mail Stop Fee Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name:

Printed Name:

Denise M. Aleman
Denise M. Aleman



FIG. 3

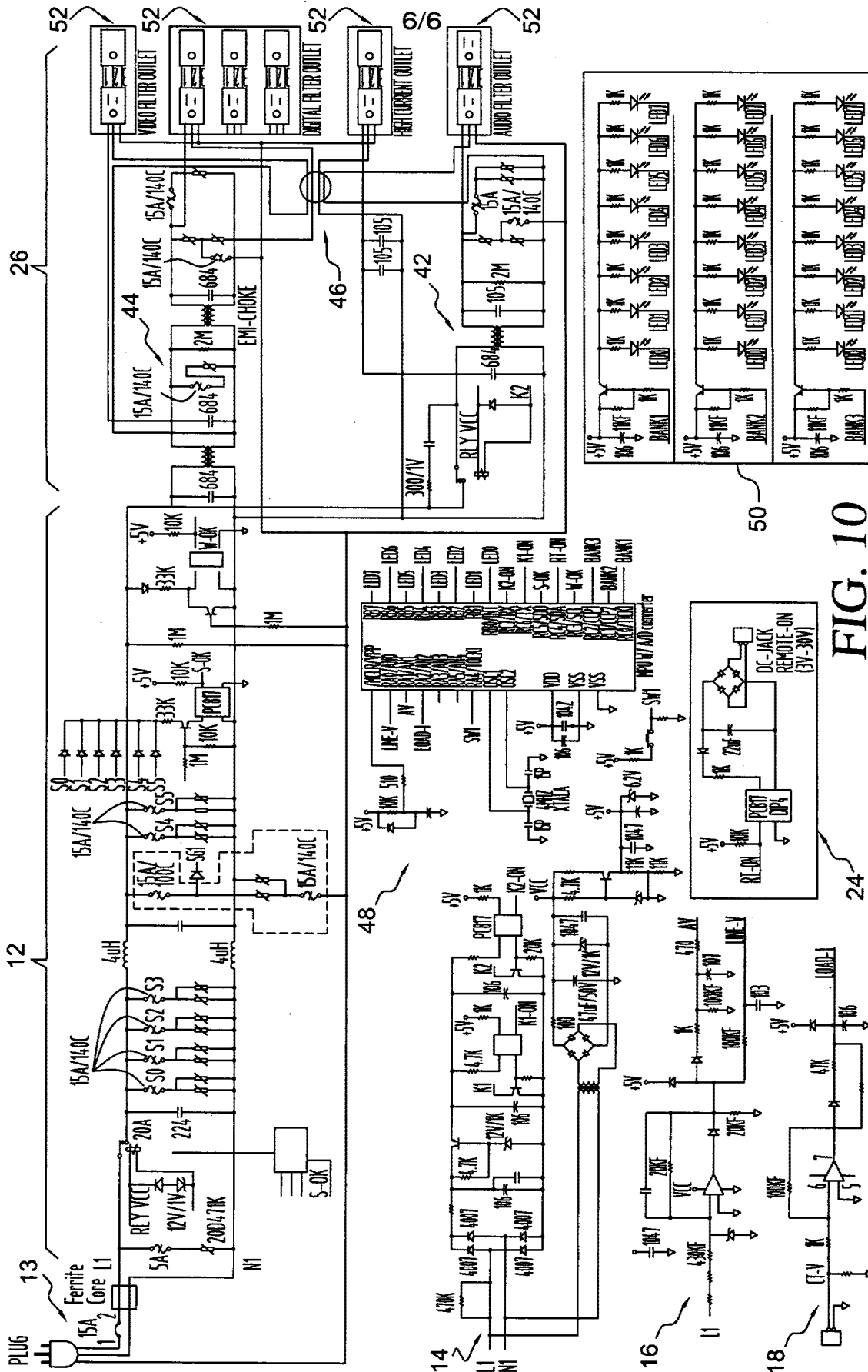


FIG. 10



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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 02/07/2007

Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

EXAMINER

DEBERADINIS, ROBERT L

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 02/07/2007

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,854	01/07/2004	Scott M. Borden	0175472	4900

TITLE OF INVENTION: POWER LINE CONDITIONER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	05/07/2007

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 DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). 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. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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

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Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

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 (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,854	01/07/2004	Scott M. Borden	0175472	4900

TITLE OF INVENTION: POWER LINE CONDITIONER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$0	\$1700	05/07/2007

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEBERADINIS, ROBERT L	2836	307-147000

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 submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, 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).

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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,854	01/07/2004	Scott M. Borden	0175472	4900

7590 02/07/2007

Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

EXAMINER	
DEBERADINIS, ROBERT L	
ART UNIT	PAPER NUMBER

2836
DATE MAILED: 02/07/2007

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 410 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 410 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 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/752,854

Examiner

Robert DeBeradinis

Applicant(s)

BORDEN ET AL.

Art Unit

2836

-- 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 12/20/06.
2. ☒ The allowed claim(s) is/are 4,5,7-11,13-15 and 17-19.
3. ☐ 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.

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

DETAILED ACTION

The response filed 12/20/06 amended claims 4,13,17 cancelled claims 6,12,16,20 and provided arguments related to rejection of claims.

Allowable Subject Matter

Claims 4,5,7-11,13-15,17-19 allowed.

The following is an examiner's statement of reasons for allowance: the prior art of record does not disclose an electrical power conditioning apparatus having the arrangement of parts as claimed and including a current sensor positioned at an output of the filter stage.

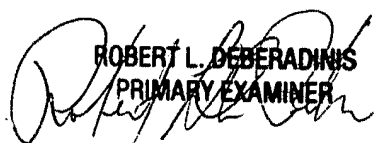
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (571) 272-8300.

RLD

JANUARY 29, 2007


ROBERT L. DEBERADINIS
PRIMARY EXAMINER

Issue Classification 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/752,854	BORDEN ET AL.	
	Examiner	Art Unit	
	Robert DeBeradinis	2836	

ISSUE CLASSIFICATION												
ORIGINAL					CROSS REFERENCE(S)							
CLASS		SUBCLASS			CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
307		147										
INTERNATIONAL CLASSIFICATION												
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(Assistant Examiner) (Date)		 ROBERT L. DEBERADINIS 1/29/07 (Primary Examiner) (Date)		Total Claims Allowed: 13	
 (Legal Instruments Examiner) (Date)				O.G. Print Claim(s)	O.G. Print Fig.
				1	9

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

Application/Control No.

10/752,854

Examiner

Robert DeBeradinis

Applicant(s)/Patent under
Reexamination

BORDEN ET AL.

Art Unit

2836

SEARCHED

Class	Subclass	Date	Examiner
307	147	1/29/2007	RLD

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner
INTERREENCE SEARCH		1/29/2007	RLD

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
TEXT SEARCH	1/29/2007	RLD



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Bib Data Sheet

CONFIRMATION NO. 4900

SERIAL NUMBER 10752,854	FILING OR 371(c) DATE 01/07/2004 RULE	CLASS 307	GROUP ART UNIT 2836	ATTORNEY DOCKET NO. 0175472
APPLICANTS Scott M. Borden, Rochester, NY; Randy J. King, Rochester, NY; Ronald C. Moffatt, Rochester, NY;				
** CONTINUING DATA *****				
** FOREIGN APPLICATIONS *****				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 04/09/2004				
Foreign Priority claimed ☐ yes ☒ no 35 USC 119 (a-d) conditions ☐ yes ☒ no ☐ Met after Allowance <i>RP</i> Verified and Acknowledged _____ Examiner's Signature _____ Initials _____		STATE OR COUNTRY NY	SHEETS DRAWING 5	TOTAL CLAIMS 3
				INDEPENDENT CLAIMS 1
ADDRESS Christopher J. Hayes BRYAN CAVE LLP 211 North Broadway, Ste. 3600 St. Louis, MO 63102				
TITLE Power line conditioner				
FILING FEE RECEIVED 900	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	

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L13	4	(SURGE ADJ CIRCUIT).CLM.	US-PGPUB	OR	OFF	2007/01/29 12:06
L15	28	(OUTLETS AND CHANNELS AND SENSORS).CLM.	US-PGPUB	OR	OFF	2007/01/29 12:08
L16	52	(OUTLETS AND CHANNELS AND SENSOR).CLM.	US-PGPUB	OR	OFF	2007/01/29 12:08

Substitute for Form PTO-875

Application or Docket Number

101752854

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

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- * 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.

CLAIMS ONLY						Application Number 10 752854		Filing Date		
						Applicant(s)				
12-30-06						* May be used for additional claims or amendments				
CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT					
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12-22-06

FW/AF

BRYAN CAVE

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December 20, 2006

VIA U.S. MAIL

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

Re: U.S. Patent Application No. 10/752,854
Inventor: Borden, et al
Title: POWER LINE CONDITIONER
Attorney Docket No.: 0175472

Dear Sir/Madam:

Enclosed herewith for filing in the above-identified application are the following:

1. Transmittal Letter (2 pgs.);
2. Response to Final Office Action (15 pgs.);
3. Formal Drawings (6 pgs.); and
4. Self-addressed, prepaid postcard to acknowledge receipt of documents.

No fees are believed to be due in connection with the filing of these documents. However, the Commissioner is hereby authorized to charge any fees that are due as a result of this filing, or credit any overpayment, to Account No. 02-4467.

Very truly yours,

Walter P. Opaska

Walter P. Opaska

WPO/da
Enclosure

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I hereby certify that this document (and any others referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV574851220US** on **December 20, 2006** and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 12-20-06

Name: Denise Aleman

Printed Name: Denise Aleman



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Date: Dec. 20, 2006
Borden et al. : Confirmation No.: 4900
Serial No.: 10/752,854 : Group Art Unit: 2836
Filed: January 07, 2004 : Examiner: DeBeradinis, Robert L.
For: POWER LINE CONDITIONER

RESPONSE TO FINAL OFFICE ACTION

INTRODUCTORY COMMENTS

Primary Examiner DeBeradinis:

This response addresses the Office Action mailed October 24, 2006 relating to the above-identified patent application. Please reconsider the patent application in view of the amended claims, the amendments to the specification, the remarks presented hereinafter, and the revised drawings enclosed herewith, which are submitted as a full and complete response to the aforementioned Office Action.

Claims 4-5, 7-11, 13-15, and 17-19 remain in the subject patent application. Applicant amends claims 4, 13, and 17, and cancels claims 6, 12, 16, and 20. Applicant's amendment complies with 37 C.F.R. §1.116, and, thus, the USPTO should enter this amendment.

AMENDMENTS TO THE SPECIFICATION

In accordance with 37 C.F.R. §1.121(b), please amend the specification of the application as indicated in marked-up form below, where additions are underlined, deletions are struck through or boxed, and new paragraphs are presented without markings.

Paragraph beginning on line 15 of page 1 (second amendment)

One shortcoming of conventional power conditioners is that they generally do not provide a visual indication of power conditions so that the user can determine if the electronic devices are receiving power at optimal voltage and current conditions. One attempt to overcome this problem is described in Lee et al., U.S. Patent No. 6,456,091. Lee generally describes a power line conditioner having ~~a~~ LED indicators for showing input current ~~and input voltage levels~~ received by the power line conditioner from the wall outlet.

Paragraph beginning on line 22 of page 1 (first amendment)

However, power conditioners are typically used to power multiple electrical devices, such as, separate audio, visual or computer devices, having different power requirements. While Lee generally describes a means for detecting and displaying input ~~voltage~~ and current from the wall outlet, it fails to provide an effective means for monitoring and displaying the voltage and current delivered to the separate outlets for each electrical device. Furthermore, Lee does not provide a means for measuring electrical current conditions after transmission through the circuitry of the power conditioner. It would therefore be highly desirable to provide a power conditioner having the capability of monitoring and displaying voltage and current actually received by the separate electronic devices.

PRESENTATION OF THE CLAIMS

In accordance with 37 C.F.R. §1.121(c), please amend the claims as indicated in marked-up form below, where additions are underlined, deletions are struck through, and new claims are presented without markings.

Claim 1-3 (Cancelled without Prejudice).

Claim 4. (Currently Amended) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a two-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a one-stage filter; and

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels,

wherein:

in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter; and

in each of the one or more second channels, the current sensor circuit is positioned at an output of the one-stage filter.

Claim 5. (Previously Presented) The apparatus of claim 4, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 6. (Cancelled without Prejudice).

Claim 7. (Previously Presented) The apparatus of claim 4, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 8. (Previously Presented) The apparatus of claim 4, further comprising:

one or more third channels, each of the one or more third channels electrically connecting the electrical input to at least a third one of the two or more electrical outlets; and

each of the one or more third channels comprising:

a current sensor circuit capable of measuring the current through the third channel,

wherein:

each of the one or more third channels are devoid of a two-stage filter and a one-stage filter; and

the one or more displays are electrically connected to the current sensor circuits of the one or more third channels, and are capable of providing a visual indication of current measurements from the current sensor circuits of the one or more third channels.

Claim 9. (Previously Presented) The apparatus of claim 8, wherein:

each of the one or more third channels further comprises:

an EMI suppression circuit.

Claim 10. (Previously Presented) The apparatus of claim 9, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 11. (Previously Presented) The apparatus of claim 10, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,
wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 12. (Cancelled without Prejudice).

Claim 13. (Currently Amended) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a two-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels,

wherein:

each of the one or more second channels are devoid of a two-stage filter and a one-stage filter;

in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter.

Claim 14. (Previously Presented) The apparatus of claim 13, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 15. (Previously Presented) The apparatus of claim 13, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 16. (Cancelled without Prejudice).

Claim 17. (Currently Amended) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a one-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels,

wherein:

each of the one or more second channels are devoid of a two-stage filter and a one-stage filter;

in each of the one or more first channels, the current sensor circuit is positioned at an output of the one-stage filter.

Claim 18. (Previously Presented) The apparatus of claim 17, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 19. (Previously Presented) The apparatus of claim 17, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 20. (Cancelled without Prejudice).

REMARKS

I. Formalities

Claims 4-5, 7-11, 13-15, and 17-19 remain in the subject patent application. In this response to the final office action, Applicant amends claims 4, 13, and 17, and cancels claims 6, 12, 16, and 20. Applicant's amendment complies with 37 C.F.R. §1.116, and, thus, the USPTO should enter this amendment.

Applicant amends claims 4, 13, and 17 by incorporating the limitations originally included in claims 6, 16, and 20, respectively. Accordingly, Applicant respectfully submits that no new matter is added by the aforementioned changes. Furthermore, Applicant's amendment only cancels claims and, thus, should be entered in accordance with 37 C.F.R. §1.116(b)(2); M.P.E.P. §714.13.

Additionally, Applicant amends the Background to correct some minor errors and submits more formal drawings. The amendments to the Background and the more formal drawings do not add any new matter to the application.

II. Response to the 35 U.S.C. §103 Rejections

The USPTO rejects claims 4-20 under 35 U.S.C. §103(a) as being allegedly rendered unpatentable by U.S. Patent No. 6,456,091 to Lee et al. ("Lee '091") in view of U.S. Patent No. 5,589,718 to Lee ("Lee '718").

A. Remarks Directed to claims 4-5, and 7-11

Amended independent claim 1 requires, in part, "in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter; and in each of the one or more second channels, the current sensor circuit is positioned at an output of the one-stage filter" (emphasis added). None of Lee '091, Lee '718, or the combination of Lee '091 and Lee '718 disclose, teach, or suggest this claimed feature.

Lee '091 teaches a power line conditioner that measures and displays the input current of the power line conditioner. Specifically, FIGs. 4B and 4D illustrate a power line conditioner 100 with a group of LED indicators 25 for measuring the input current from the power cord 5. In contrast, independent claim 1 requires placing the current sensor circuits at the outputs of the two-stage and one stage filters. This difference is not merely academic. As described in Applicant's application, measuring the current at the at the output of the filters allows the current sensing circuit to accurately measure the current delivered to the outlets by not including the current losses in the filter circuit and other control circuits. Specification page 7, lines 7-9.

Lee '718 does not provide the missing teaching of Lee '091. Lee '718 teaches a power line conditioner with a plurality of outlets mounted on a housing, but fails to teach or suggest measuring or displaying the output current in the power line conditioner. Thus, independent claim 1 and claims 4-5 and 7-11, which depend therefrom, are allowable for at least these reasons.

B. Remarks Directed to Claims 13-15

Amended independent claim 13 requires, in part, "in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter" (emphasis added). As discussed above, none of Lee '091, Lee '718, or the combination of Lee '091 and Lee '718 disclose, teach, or suggest positioning the current sensor circuit at the output of the filter. Lee '091 teaches measuring the input current of the power line conditioner, and Lee '718 does not teach measuring the input or output current of the power line conditioner. Thus, independent claim 13 and claims 14-15, which depend therefrom, are allowable for at least these reasons.

C. Remarks Directed to Claims 17-19

Amended independent claim 17 requires, in part, "in each of the one or more first channels, the current sensor circuit is positioned at an output of the one-stage filter" (emphasis added). As discussed above, none of Lee '091, Lee '718, or the combination of Lee '091 and

Lee '718 disclose, teach, or suggest positioning the current sensor circuit at the output of the filter. Lee '091 teaches measuring the input current of the power line conditioner, and Lee '718 does not teach measuring the input or output current of the power line conditioner. Thus, independent claim 17 and claims 18-19, which depend therefrom, are allowable for at least these reasons.

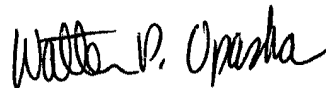
CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. In light of the remarks set forth above, Applicant respectfully requests reconsideration and allowance of all of the pending claims.

No fees appear to be due in connection with this Response to Office Action. However, the Commissioner for Patents is hereby authorized to charge any additional required fees necessitated by this Response to Office Action, or credit any overpayment, to Account No. 02-4467.

If there are matters that can be discussed by telephone to further the prosecution of this application, Applicant invites Primary Examiner DeBeradinis call the undersigned attorney at the Primary Examiner's convenience.

Respectfully submitted,



Walter P Opaska
Attorney for Applicant
Reg. No. 54,349
Tel. (602) 364-7000

BRYAN CAVE LLP
Two North Central Avenue
Suite 2200
Phoenix, AZ 85004-4406

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.10.

I hereby certify that this document (and any referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV574851220US** on **December 20, 2006** and addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Denise Aleman

Printed Name: Denise Aleman



REPLACEMENT SHEET

1/6

10

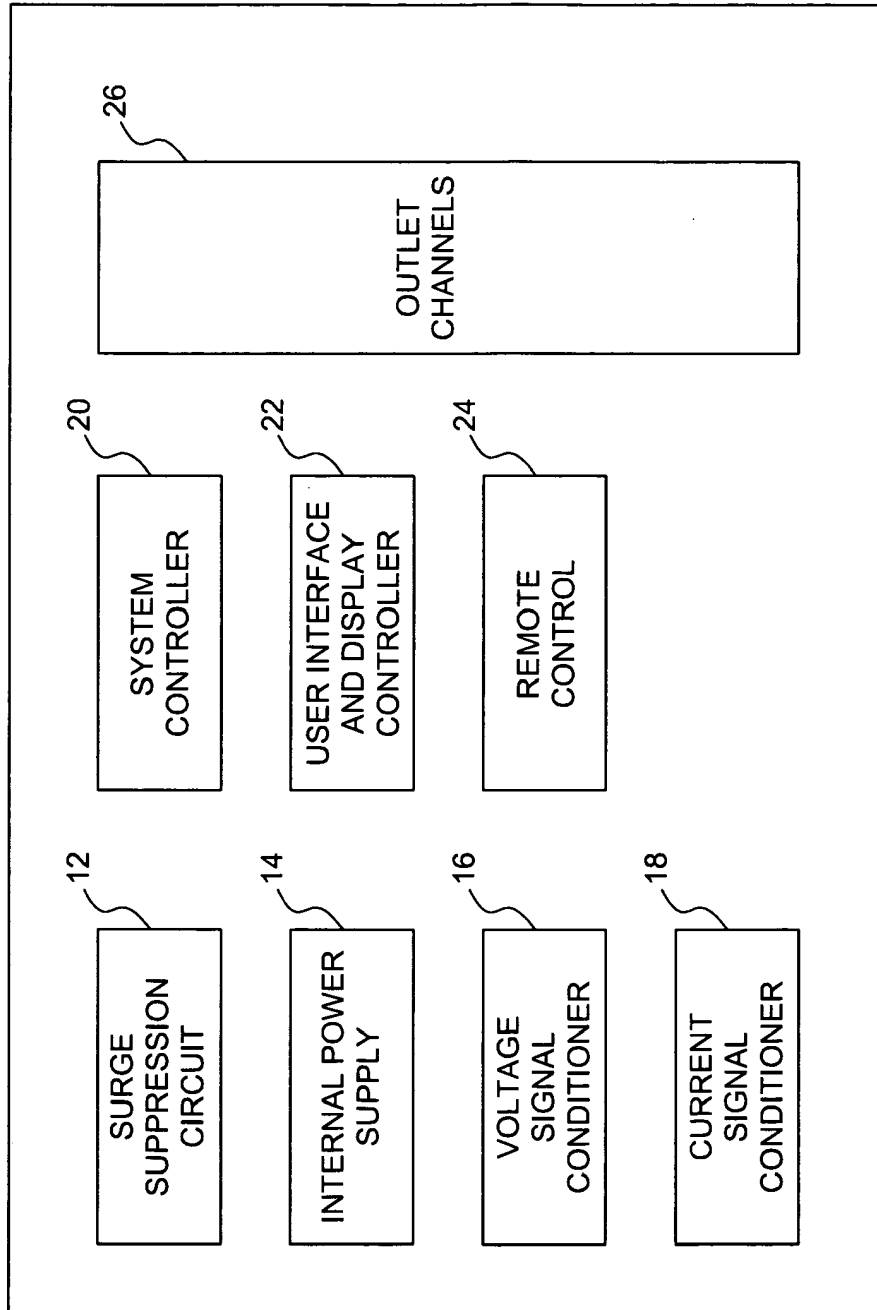


FIG. 1

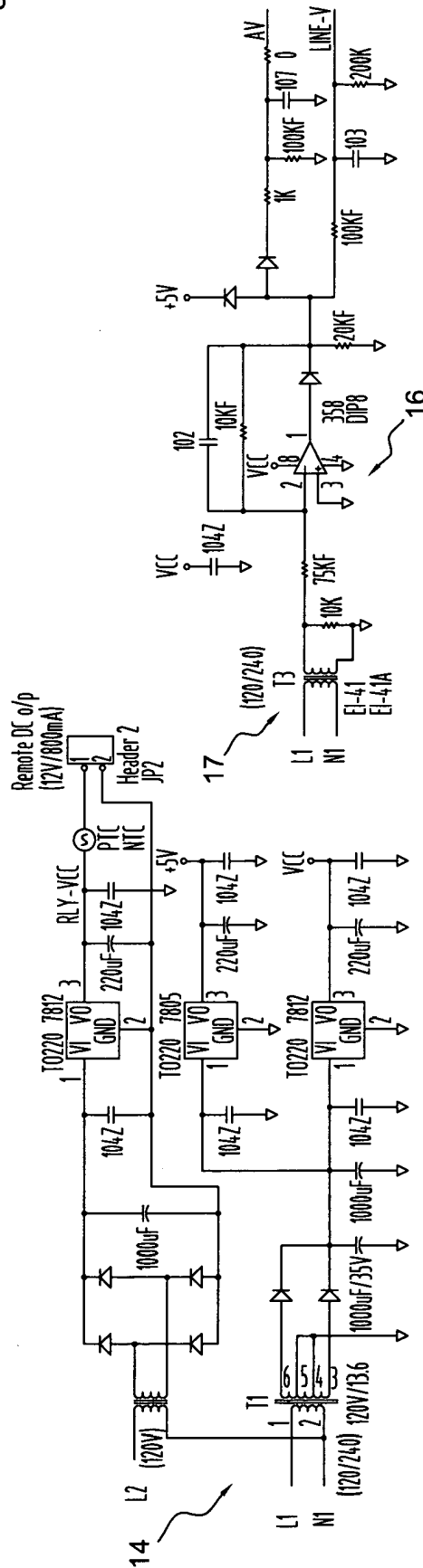
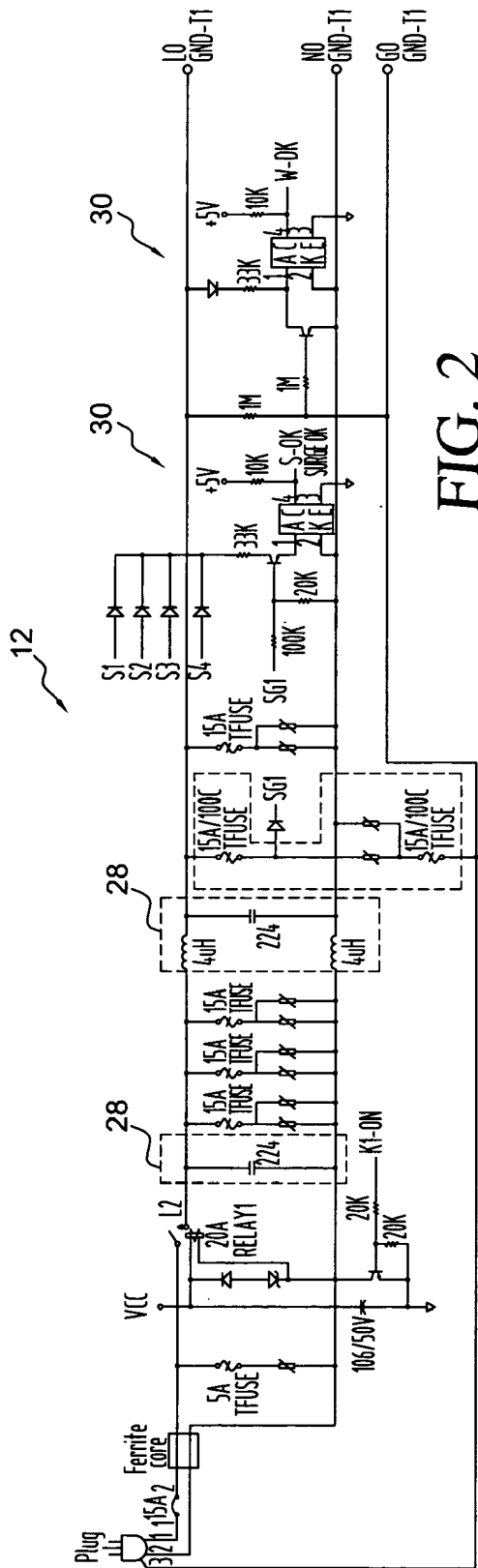
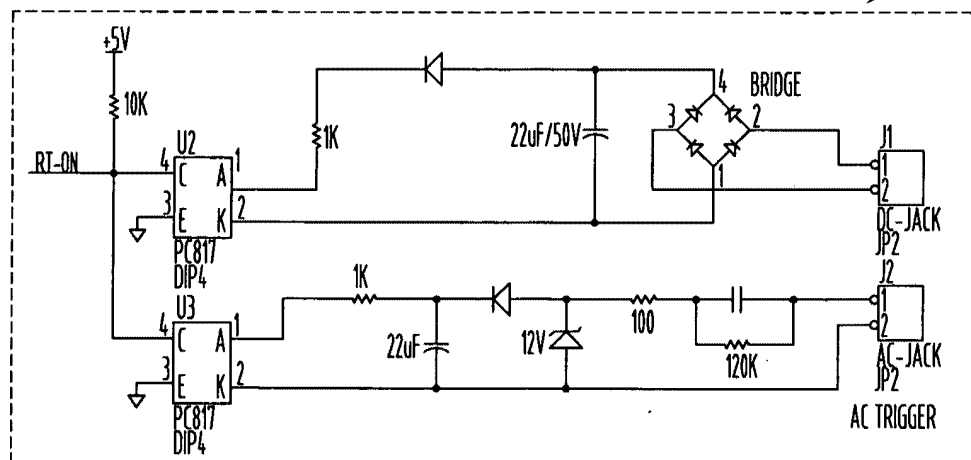


FIG. 4

FIG. 3

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4/6

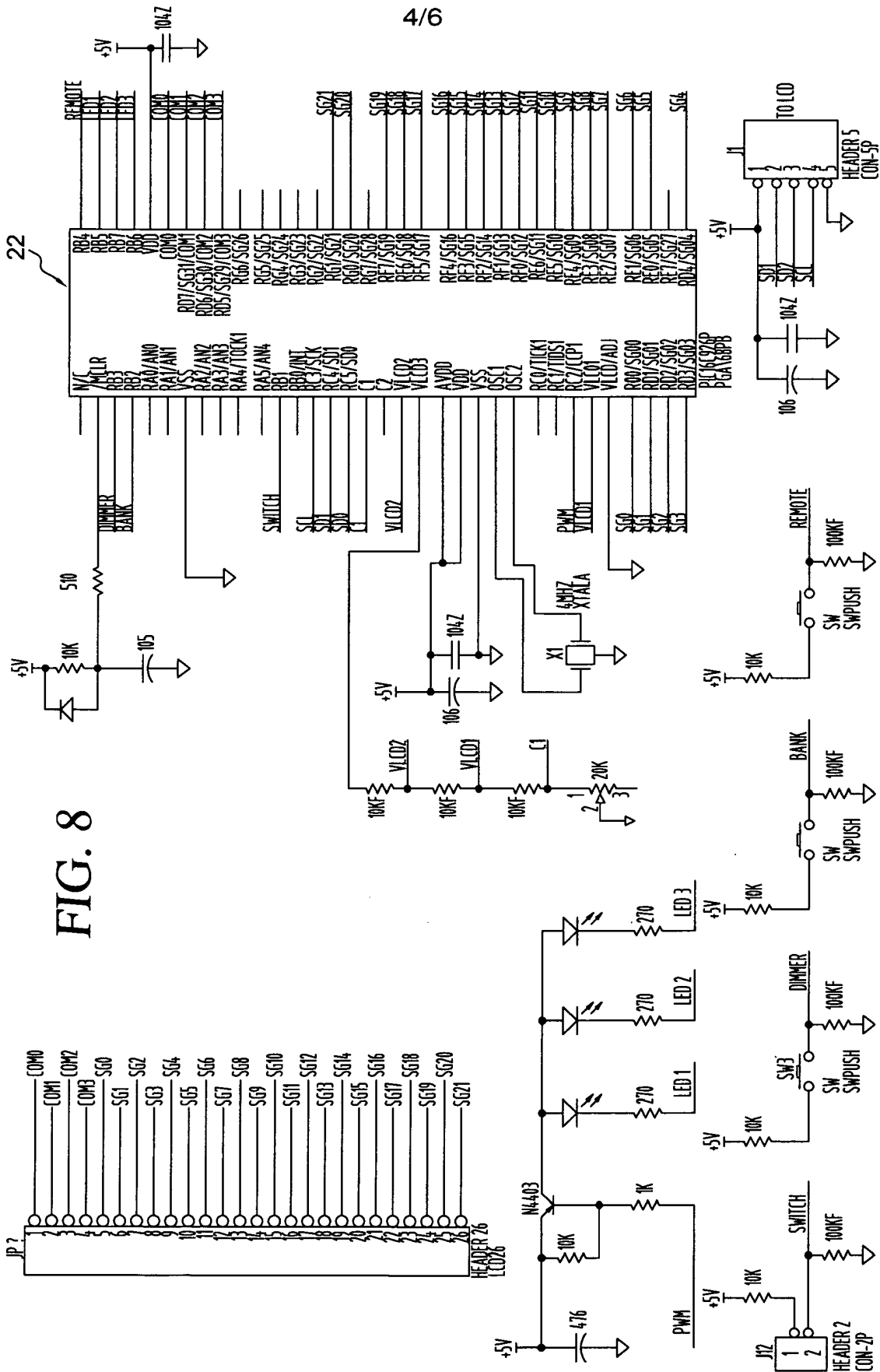


FIG. 9

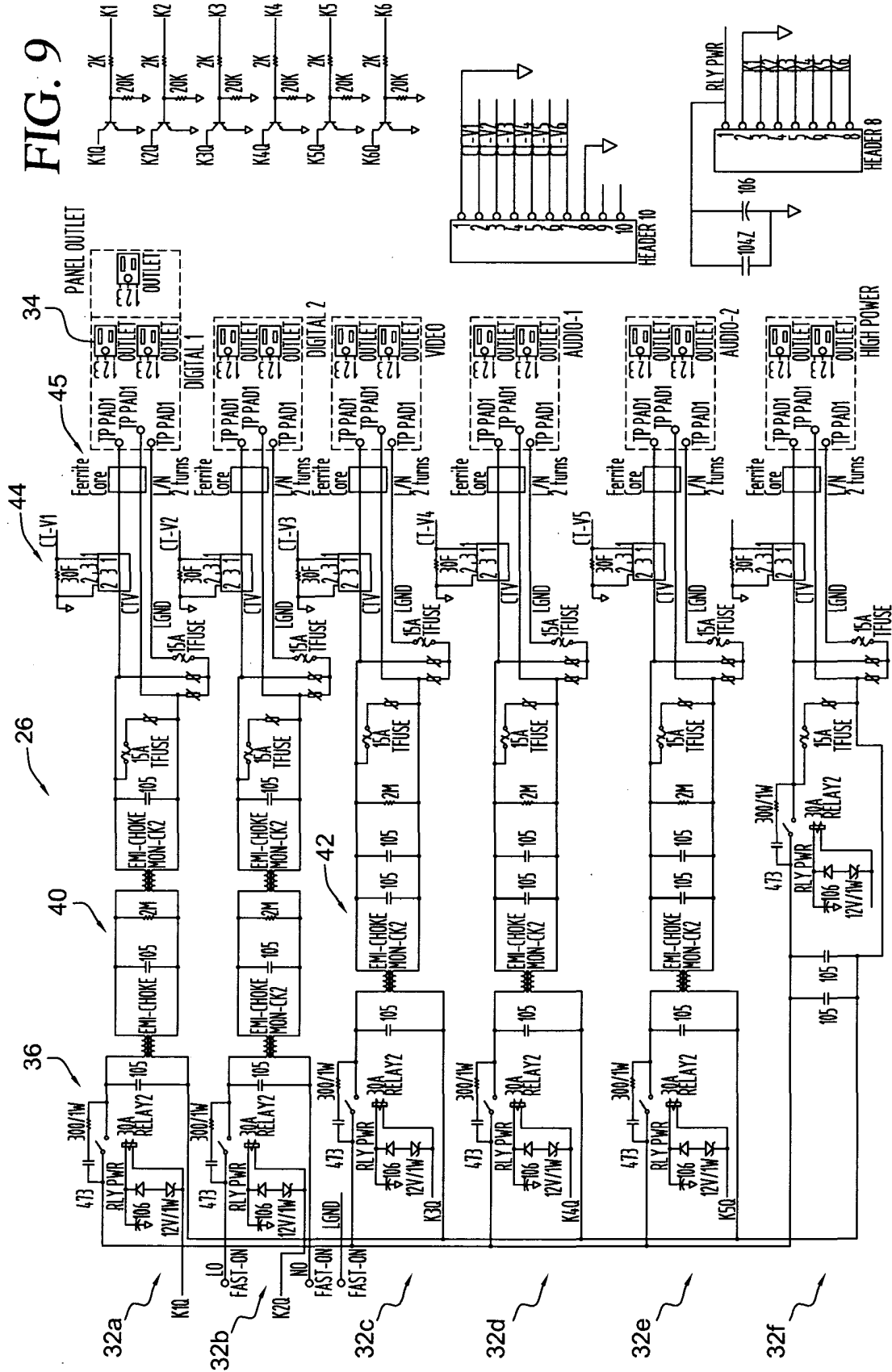


FIG. 10



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.
10/752,854	01/07/2004	Scott M. Borden	0175472	4900

7590 10/24/2006

Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

EXAMINER

DEBERADINIS, ROBERT L

ART UNIT	PAPER NUMBER
----------	--------------

2836

DATE MAILED: 10/24/2006

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

Office Action Summary

Application No.

10/752,854

Applicant(s)

BORDEN ET AL.

Examiner

Robert DeBeradinis

Art Unit

2836

-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 20 July 2006.
- 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) 4-20 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) 4-20 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 _____ 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) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/20/06</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

The reply filed 7/20/06 consists of cancellation of claims 1-3, addition of new claims 4-20 and remarks related to rejection of claims.

Claim Rejections - 35 USC § 103

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 negated by the manner in which the invention was made.

Claims 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over LEE 6,456,091 in view of LEE 5,589,718.

Regarding claims 4,5,13-20.

LEE "091" discloses an electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

An electrical input capable of receiving power from the power source;

A surge suppression circuit;

Two or more electrical outlets;

One or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more outlets;

Each of the one or more first channels comprising:

A filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a one-stage filter; and

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of producing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels (fig. 4C, col. 1).

LEE "091" does not disclose two stage filter, however filters having multiple stages are well known in the art, used to further attenuate unwanted signal.

LEE "718" discloses power line conditioner includes a plurality of AC outlets for receiving the AC power plugs from a plurality of electronic components, and contains different circuitry for processing the AC power delivered to the components in a different manner, to accommodate components having different characteristics (col. 4, lines 7-18).

It would have been obvious to one having ordinary skill in the art at the time of this invention to have modified the power line conditioner to have a two stage filter to reduce the line noise further to accommodate more sensitive components.

Regarding claim 6.

LEE "091" teaches current sensor circuit is positioned at an output of the filter.

Regarding claim 7.

LEE "091" teaches EMI suppression circuits in the channels (figure 4C).

Regarding claim 8.

Additional channels is consider as being an obvious duplication of parts.

Regarding claims 9-12.

LEE "091" teaches EMI suppression circuits in channels and visual indication of voltage measurements.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). 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

Art Unit: 2836

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 date of this final action.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (571) 272-8300.

RLD

OCTOBER 4, 2006


ROBERT L. DEBERADINIS
PRIMARY EXAMINER



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. 0175472	SERIAL NO 10/752,854
	APPLICANT Borden et al	
	FILING DATE January 7, 2004	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RD	5,589,718	12/31/96	Lee			
RD	6,456,091	09/24/02	Lee et al			
RD	4,092,591	05/30/78	Lozowski			
RD	4,807,803	02/28/89	Yang			
RD	5,365,395	11/15/94	Callaway			
RD	D382,855	08/26/97	Salmond et al			
RD	5,768,081	06/16/98	Cohen et al			
RD	5,691,872	11/25/97	Cohen			
RD	5,734,542	03/31/98	Cohen			

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
					Yes	NO
					Yes	NO

EXAMINER

/Robert Deberadinis/

10/04/2006

DATE
CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in the conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

Sheet 2 of 3

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. 0175472	SERIAL NO 10/752,854
	APPLICANT Borden et al	
	FILING DATE January 7, 2004	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
RD	6,283,787	09/04/01	Chou	—	—	
RD	6,315,604	11/13/01	Lee	—	—	
RD	6,624,997	09/23/03	Llanos et al	—	—	
RD	6,605,882	08/12/03	Boudrias	—	—	
RD	6,411,482	06/25/02	Funke	—	—	
RD	5,448,443	09/05/95	Muelleman	—	—	
RD	5,115,368	05/19/92	Smith	—	—	
RD	6,323,652	11/27/01	Collier et al	—	—	
RD RD	6,054,849	04/25/00	Collier et al	—	—	
RD	5,583,413	12/10/96	Proctor et al	—	—	
RD	5,339,017	08/16/94	Yang	—	—	
RD	4,912,590	03/27/90	Misencik et al	—	—	
RD	4,092,591	05/30/78	Lozowski	—	—	
RD	US2002/0126433	09/12/02	Hoopes, Michael L.	—	—	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
						Yes	NO
						Yes	NO

EXAMINER /Robert Deberadinis/

10/04/2006

DATE
CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in the conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

Sheet 3 of 3

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. 0175472	SERIAL NO 10/752,854
	APPLICANT Borden et al	
	FILING DATE January 7, 2004	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES NO

RD		Max@5510ACRegenerator@; http://www.panamax.com/products/ProductPage.asp?sName=M5510 ; retrieved from the internet on June 13, 2003; 3 pages.
RD		Max@5100; http://www.panamax.com/products/ProductPage.asp?sName=M5100 ; retrieved from the internet on June 13, 2003; 5 pages.
RD		Max@5300; http://www.panamax.com/products/ProductPage.asp?sName=M5300 ; retrieved from the internet on June 13, 2003; 3 pages.
RD		Max@5500ACRegenerator@; http://www.panamax.com/products/ProductPage.asp?sName=M5500 ; retrieved from the internet on June 13, 2003; 3 pages.
RD		Max@4310; http://www.panamax.com/products/ProductPage.asp?sName=M4310 ; retrieved from the internet on June 13, 2003; 4 pages.
RD		Max@5500 ACRegenerator@; Silver Bezel Max@5500; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
RD		Max@5300; Silver Bezel - Max @5300; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
RD		Max@5100; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
RD		Max@5510 ACRegenerator; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
RD		PowerBrite Pro, PowerBrite, PowerStrip Owners Manual; Samson Technologies Corp.; March 1998; 16 pages.
RD		Monster Cable; Home Theatre Reference PowerCenter™ HTS 5100 with Clean Power™ 4 v2.0; http://www.monstercable.com/productPage.asp?pin=1316 ; retrieved from the internet on January 6, 2004; 8 pages.

EXAMINER /Robert Deberadinis/

10/04/2006

DATE
CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in the conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

Notice of References Cited	Application/Control No. 10/752,854	Applicant(s)/Patent Under Reexamination BORDEN ET AL.	
	Examiner Robert DeBeradinis	Art Unit 2836	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,456,091	09-2002	Lee et al.	324/556
*	B	US-5,589,718	12-1996	Lee, Noel	307/72
	C	US-			
	D	US-			
	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	
	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.

Search Notes

Application/Control No.

10/752,854

Examiner

Robert DeBeradinis

Applicant(s)/Patent under
Reexamination

BORDEN ET AL.

Art Unit

2836

SEARCHED

Class	Subclass	Date	Examiner
307	147	10/4/2006	RLD

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR



Commissioner for Patents

July 20, 2006

Page 2

Bryan Cave LLP

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.8.

I hereby certify that this document (and any others referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV497391988US** on **July 20, 2006** and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date:

7/20/06

Name:

Denise M. Aleman

Printed Name:

Denise M. Aleman



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Date: July 20, 2006
Borden et al. : Confirmation No.: 4900
Serial No.: 10/752,854 : Group Art Unit: 2836
Filed: January 07, 2004 : Examiner: DeBeradinis, Robert L.
For: POWER LINE CONDITIONER

RESPONSE TO OFFICE ACTION

INTRODUCTORY COMMENTS

Examiner DeBeradinis:

This is in response to the Office Action mailed April 21, 2006 relating to the above-identified patent application. Please reconsider the patent application in view of the amended claims and specification, and the remarks presented hereinafter, which are submitted as a full and complete response to the aforementioned Office Action.

AMENDMENTS TO THE SPECIFICATION

In accordance with 37 C.F.R. §1.121(b), please amend the specification of the application as indicated in marked-up form below, where additions are underlined, deletions are struck through, and new paragraphs are presented without markings.

Paragraph beginning on line 15 of page 1

One shortcoming of conventional power conditioners is that they generally do not provide a visual indication of power conditions so that the user can determine if the electronic devices are receiving power at optimal voltage and current conditions. One attempt to overcome this problem is described in Lee et al., U.S. Patent No. 6,456,091. Lee generally describes a power line conditioner having a ~~having~~ LED indicators for showing input current and input voltage levels received by the power line conditioner from the wall outlet.

Paragraph beginning on line 20 of page 7

The apparatus includes a plurality of parallel outlet channels **52a**, **52b**, **52c**, and **52d**. The embodiment illustrated in FIG. 10 differs most significantly from the embodiment illustrated in FIGS. 2-9 in that the current sensing device **46** is configured to detect the sum of the current through each of the plurality of parallel channels **52a**, **52b**, **52c** and **52d**, and transmit an AC signal to current conditioner **18**. As in the embodiment illustrated above, the version of the apparatus illustrated in FIG. 10 includes a two-stage filter structure **44** on channel **52b** and a single stage filter structure **42** on channel **52d**.

PRESENTATION OF THE CLAIMS

In accordance with 37 C.F.R. §1.121(c), please amend the claims as indicated in marked-up form below, where additions are underlined, deletions are struck through, and new claims are presented without markings.

Claim 1-3 (Cancelled without Prejudice).

Claim 4 (New) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a two-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a one-stage filter; and

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels.

Claim 5 (New) The apparatus of claim 4, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays, wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 6 (New) The apparatus of claim 4, wherein:

in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter; and

in each of the one or more second channels, the current sensor circuit is positioned at an output of the one-stage filter.

Claim 7 (New) The apparatus of claim 4, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 8 (New) The apparatus of claim 4, further comprising:

one or more third channels, each of the one or more third channels electrically connecting the electrical input to at least a third one of the two or more electrical outlets; and

each of the one or more third channels comprising:

a current sensor circuit capable of measuring the current through the third channel,

wherein:

each of the one or more third channels are devoid of a two-stage filter and a one-stage filter; and

the one or more displays are electrically connected to the current sensor circuits of the one or more third channels, and are capable of providing a visual indication of current measurements from the current sensor circuits of the one or more third channels.

Claim 9 (New) The apparatus of claim 8, wherein:

each of the one or more third channels further comprises:

an EMI suppression circuit.

Claim 10 (New) The apparatus of claim 9, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 11 (New) The apparatus of claim 10, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 12 (New) The apparatus of claim 11, wherein:

in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter; and

in each of the one or more second channels, the current sensor circuit is positioned at an output of the one-stage filter.

Claim 13 (New) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a two-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels,

wherein:

each of the one or more second channels are devoid of a two-stage filter and a one-stage filter.

Claim 14 (New) The apparatus of claim 13, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 15 (New) The apparatus of claim 13, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 16 (New) The apparatus of claim 13, wherein:

in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter.

Claim 17 (New) An electrical power conditioning apparatus electrically connecting a power source to two or more electrical devices, the apparatus comprising:

an electrical input capable of receiving power from the power source;

a surge suppression circuit;

two or more electrical outlets;

one or more first channels, each of the one or more first channels electrically connecting the electrical input to at least a first of the two or more electrical outlets;

each of the one or more first channels comprising:

a one-stage filter; and

a current sensor circuit capable of measuring the current through the first channel;

one or more second channels, each of the one or more second channels electrically connecting the electrical input to at least a second of the two or more electrical outlets;

each of the one or more second channels comprising:

a current sensor circuit capable of measuring the current through the second channel; and

one or more displays electrically connected to the current sensor circuits of the one or more first and second channels, and capable of providing a visual indication of current measurements from the current sensor circuits of the one or more first and second channels,

wherein:

each of the one or more second channels are devoid of a two-stage filter and a one-stage filter.

Claim 18 (New) The apparatus of claim 17, wherein:

each of the one or more first channels further comprises:

an EMI suppression circuit; and

each of the one or more second channels further comprises:

an EMI suppression circuit.

Claim 19 (New) The apparatus of claim 17, further comprising:

one or more voltage measuring circuits electrically connected to the one or more displays,

wherein:

the one or more displays are capable of providing a visual indication of voltage measurements by the one or more voltage measuring circuits.

Claim 20 (New) The apparatus of claim 17, wherein:

in each of the one or more first channels, the current sensor circuit is positioned at an output of the one-stage filter.

REMARKS

I. Formalities

Claims 4-20 remain in the subject patent application. Claims 1-3 have been cancelled without prejudice.

New claims 4-20 have been added to better scope the invention. Claims 4-20 are supported by, at least, pages 4-7 of the original Specification. Additionally, the specification has been amended to obviate minor grammatical errors. Accordingly, Applicants respectfully submits that no new matter has been added herein.

II. Response to the 35 U.S.C. §103 Rejections

Claims 1-3 are rejected under 35 U.S.C. §103(a) as being allegedly rendered unpatentable by U.S. Patent No. 5,278,771 to Nyenya in view of U.S. Patent No. 4,875,152 to Foster et al. Claims 1-3 are cancelled herein so the rejection of claims 1-3 is rendered moot.

III. Remarks Regarding the New Claims 4-20

New claims 4-20 are supported by, at least, pages 4-7 of the original Specification. Accordingly, Applicants respectfully submits that no new matter is added herein. Applicants further respectfully submits that Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest every element of claims 4-20.

A. Remarks Directed to New Claims 4-12

More specifically, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest in independent claim 4: (1) “one or more first channels, ...each of the one or more first channels comprising: a two-stage filter; and a current sensor circuit capable of measuring the current through the first channel;” and (2) “one or more second channels, ...each of the one or more second channels comprising: a one-stage filter; and a current sensor circuit capable of measuring the current through the second channel.” Nyenya teaches using a single filter and surge suppressor 24 with all three wires 21, 22, and 23 (FIG. 3). Foster teaches an

electrical tap switch for allowing a user to control two power outlets and does not disclose the use of filters. Thus, independent claim 4 and claims 5-13, which depend therefrom, are allowable for at least these reasons.

Regarding claims 6 and 12, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest: (1) “in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter;” and (2) “in each of the one or more second channels, the current sensor circuit is positioned at an output of the one-stage filter.” Claims 6 and 12 are therefore still further allowable for at least these additional reasons.

Regarding claims 7 and 10, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest: (1) “each of the one or more first channels further comprises: an EMI suppression circuit;” and (2) “each of the one or more second channels further comprises: an EMI suppression circuit.” Claims 7 and 10 are therefore still further allowable for at least these additional reasons.

Regarding claim 8, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest: (1) “each of the one or more third channels comprising: a current sensor circuit capable of measuring the current through the third channel,” and (2) “each of the one or more third channels are devoid of a two-stage filter and a one-stage filter.” Claim 8 is therefore still further allowable for at least these additional reasons.

B. Remarks Directed to New Claims 13-16

Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest in independent claim 13: (1) “one or more first channels, ...each of the one or more first channels comprising: a two-stage filter; and a current sensor circuit capable of measuring the current through the first channel;” (2) “one or more second channels, ... each of the one or more second channels comprising: a current sensor circuit capable of measuring the current through the second channel;” and (3) “each of the one or more second channels are devoid of a two-stage filter and a one-stage filter.” Independent claim 13 and claims 14-16, which depend therefrom, are therefore allowable for at least these reasons.

Regarding claim 14, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest: (1) “each of the one or more first channels further comprises: an EMI suppression circuit;” and (2) “each of the one or more second channels further comprises: an EMI suppression circuit.” Claim 14 is therefore still further allowable for at least these additional reasons.

Regarding claim 16, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest “in each of the one or more first channels, the current sensor circuit is positioned at an output of the two-stage filter.” Claim 16 is therefore still further allowable for at least this additional reason.

C. Remarks Directed to New Claims 17-20

Nyenya, Foster and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest in independent claim 17: (1) “one or more first channels, ...each of the one or more first channels comprising: a one-stage filter; and a current sensor circuit capable of measuring the current through the first channel;” (2) “one or more second channels, ... each of the one or more second channels comprising: a current sensor circuit capable of measuring the current through the second channel;” and (3) “each of the one or more second channels are devoid of a two-stage filters and a one-stage filter.” Independent claim 17 and claims 18-20, which depend therefrom, are therefore allowable for at least these reasons.

Regarding claim 18, Nyenya, Foster, and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest: (1) “each of the one or more first channels further comprises: an EMI suppression circuit;” and (2) “each of the one or more second channels further comprises: an EMI suppression circuit.” Claim 18 is therefore still further allowable for at least these additional reasons.

Regarding claim 20, Nyenya, Foster and the combination of Nyenya and Foster fail to show, disclose, teach, or suggest “in each of the one or more first channels, the current sensor circuit is positioned at an output of the one-stage filter.” Claim 20 is therefore still further allowable for at least this additional reason.

In summary, new claims 4-20 are allowable for at least the foregoing reasons. Accordingly, Applicants respectfully request that the new claims 4-20 be allowed.

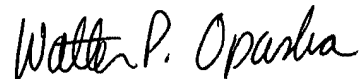
CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. In light of the remarks set forth above, Applicants respectfully request reconsideration and allowance of all of the pending claims.

No fees believed to be due in connection with this Response to Office Action. However, the Commissioner for Patents is hereby authorized to charge any additional required fees necessitated by this Response to Office Action, or credit any overpayment, to Account No. 02-4467.

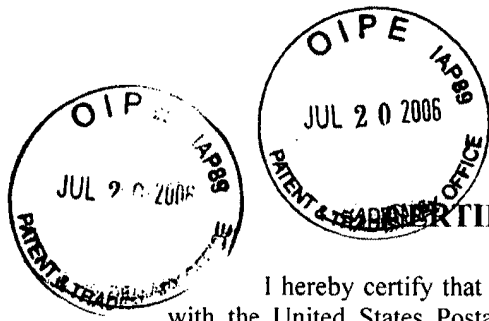
If there are matters that can be discussed by telephone to further the prosecution of this application, Applicants invite Examiner DeBeradinis call the undersigned attorney at the Examiner's convenience.

Respectfully submitted,



Walter P Opaska
Attorney for Applicants
Reg. No. 54,349
Tel. (602) 364-7000

BRYAN CAVE LLP
Two North Central Avenue
Suite 2200
Phoenix, AZ 85004-4406



CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.10.

I hereby certify that this document (and any referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV497391988US** on **July 20, 2006** and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Denise M. Aleman
Printed Name: Denise M. Aleman



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Borden et al

Serial No.: 10/752,854

Filed: January 7, 2004

Title: POWER LINE CONDITIONER

:
: Group Art Unit: 2836
:
:
: Examiner: DeBeradinis, Robert L.
:
:
:

INFORMATION DISCLOSURE STATEMENT

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

Sir:

Attached hereto is a completed Form PTO-1449 listing patents, publications, applications, or other information, which the applicant believes may be material to the examination of the subject patent application. Copies of any foreign patents and any non-patent literature are submitted herewith, as required by 37 C.F.R. §1.98(a)(2). Copies of any cited U.S. patents and U.S. patent application publications are not submitted herewith, in accordance with the notice published in the Official Gazette of August 5, 2003. It is requested that the cited patents, publications, applications, or other information be made of record in the examination of this application. The filing of this information disclosure statement is not to be construed as an admission that the information cited in the statement is, or is considered to be, material to the patentability of the invention claimed in the above-identified application.

This information disclosure statement is being filed following the mailing of a first Office Action on the merits but prior to the mailing date of any of: a final action under § 1.113; a notice of allowance under § 1.311; or an action that otherwise closes prosecution in the application. In

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-1-

accordance with 37 C.F.R. §1.97(c), this information disclosure statement is accompanied by a check in the amount of \$180. The commissioner is authorized to charge any additional fee required by this paper or credit any overpayment to Deposit Account No. 02-4467.

No representation is made that a search has been performed. No admission is made that the information cited in this statement is, or is considered to be, material to the patentability of the subject patent application.

Respectfully submitted,

Dated: 7/20/04

By: Walter P. Opaska
Walter P. Opaska, Reg. No. 54,349
2 North Central Avenue, Suite 2200
Phoenix, Arizona 85004-4406
Telephone: (602) 364-7000
Facsimile: (602) 364-7070

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. §1.10.

I hereby certify that this document (and any as referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EV497391988US** on **July 20, 2006** and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Denise M. Aleman
Printed Name: Denise M. Aleman



FORM PTO-1449

U.S. DEPARTMENT OF
COMMERCE

ATTY. DOCKET NO.

SERIAL NO
10/752,854

0175472

PATENT AND
TRADEMARK OFFICEINFORMATION DISCLOSURE
STATEMENT BY APPLICANTAPPLICANT
Borden et al

(Use several sheets if necessary)

FILING DATE
January 7, 2004

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,589,718	12/31/96	Lee			
	6,456,091	09/24/02	Lee et al			
	4,092,591	05/30/78	Lozowski			
	4,807,803	02/28/89	Yang			
	5,365,395	11/15/94	Callaway			
	D382,855	08/26/97	Salmond et al			
	5,768,081	06/16/98	Cohen et al			
	5,691,872	11/25/97	Cohen			
	5,734,542	03/31/98	Cohen			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
						Yes	NO
						Yes	NO

EXAMINER

DATE
CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in the conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

Sheet 2 of 3

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. 0175472	SERIAL NO 10/752,854
	APPLICANT Borden et al	
	FILING DATE January 7, 2004	GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,283,787	09/04/01	Chou			
	6,315,604	11/13/01	Lee			
	6,624,997	09/23/03	Llanos et al			
	6,605,882	08/12/03	Boudrias			
	6,411,482	06/25/02	Funke			
	5,448,443	09/05/95	Muelleman			
	5,115,368	05/19/92	Smith			
	6,323,652	11/27/01	Collier et al			
	6,054,849	04/25/00	Collier et al			
	5,583,413	12/10/96	Proctor et al			
	5,339,017	08/16/94	Yang			
	4,912,590	03/27/90	Misencik et al			
	4,092,591	05/30/78	Lozowski			
	US2002/0126433	09/12/02	Hoopes, Michael L.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
						Yes	NO
						Yes	NO

EXAMINER**DATE
CONSIDERED**

EXAMINER: Initial citation considered. Draw line through citation if not in the conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

Sheet 3 of 3

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO. 0175472	SERIAL NO 10/752,854
	PATENT AND TRADEMARK OFFICE	APPLICANT Borden et al	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		FILING DATE January 7, 2004	GROUP
(Use several sheets if necessary)			

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
						YES NO

		Max@5510ACRegenerator@; http://www.panamax.com/products/ProductPage.asp?sName=M5510 ; retrieved from the internet on June 13, 2003; 3 pages.
		Max@5100; http://www.panamax.com/products/ProductPage.asp?sName=M5100 ; retrieved from the internet on June 13, 2003; 5 pages.
		Max@5300; http://www.panamax.com/products/ProductPage.asp?sName=M5300 ; retrieved from the internet on June 13, 2003; 3 pages.
		Max@5500ACRegenerator@; http://www.panamax.com/products/ProductPage.asp?sName=M5500 ; retrieved from the internet on June 13, 2003; 3 pages.
		Max@4310; http://www.panamax.com/products/ProductPage.asp?sName=M4310 ; retrieved from the internet on June 13, 2003; 4 pages.
		Max@5500 ACRegenerator@; Silver Bezel Max@5500; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
		Max@5300; Silver Bezel – Max @5300; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
		Max@5100; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
		Max@5510 ACRegenerator; http://www.panamax.com/searchresults.asp ; retrieved from the internet on June 13, 2003; 1 page.
		PowerBrite Pro, PowerBrite, PowerStrip Owners Manual; Samson Technologies Corp.; March 1998; 16 pages.
		Monster Cable; Home Theatre Reference PowerCenter™ HTS 5100 with Clean Power™ 4 v2.0; http://www.monstercable.com/productPage.asp?pin=1316 ; retrieved from the internet on January 6, 2004; 8 pages.

EXAMINER

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CONSIDERED

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(Form PTO-1449)



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.

**CHANGE OF
CORRESPONDENCE ADDRESS
Application**Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	10/752,854
Filing Date	January 7, 2004
First Named Inventor	Borden et al
Art Unit	2836
Examiner Name	Robert L. DeBeradinis
Attorney Docket Number	0175472

Please change the Correspondence Address for the above-identified patent application to:

☐ The address associated with
Customer Number:

OR

☒ Firm or
Individual Name **Bryan Cave LLP**

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Zip

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Country

United States

Telephone

(602) 364-7000

Email

walter.opaska@bryancave.com

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I am the:

☐ Applicant/Inventor☐ Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).☒ Attorney or agent of record. Registration Number 54,349☐ Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____

Signature

*Walter P. Opaska*Typed or Printed
Name

Walter P. Opaska

Date

July 20, 2006

Telephone

(602) 364-7076

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.

This collection of information is required by 37 CFR 1.33. 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 3 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.

07-24-06

IFW #

BRYAN CAVE

Walter P. Opaska
Registered Patent Attorney
Voice: 602-364-7280
walter.opaska@bryancave.com



July 20, 2006

VIA U.S. MAIL

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

Re: U.S. Patent Application No. 10/752,854
Inventor: Borden et al
Title: Power Line Conditioner
Attorney Docket No.: 0175472

Dear Sir/Madam:

Enclosed herewith for filing in the above-identified application are the following:

1. Transmittal Letter (2 pgs.);
2. Response to Office Action (16 pgs.);
3. Information Disclosure Statement + 11 references (5 pgs.);
4. Change of Correspondence Address Application (1 pg.);
5. Check number 2588 in the amount of \$180.00; and
6. Self-addressed, prepaid postcard to acknowledge receipt of documents.

No fees are believed to be due in connection with the filing of these documents. However, the Commissioner is hereby authorized to charge any fees that are due as a result of this filing, or credit any overpayment, to Account No. 02-4467.

Very truly yours,

Walter P. Opaska

WPO/da
Enclosure

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/752,854

01/07/2004

Scott M. Borden

0175472

4900

7590

04/21/2006

Christopher J. Hayes
BRYAN CAVE LLP
211 North Broadway, Ste. 3600
St. Louis, MO 63102

EXAMINER

DEBERADINIS, ROBERT L

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 04/21/2006

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

Office Action Summary

Application No.

10/752,854

Applicant(s)

BORDEN ET AL.

Examiner

Robert DeBeradinis

Art Unit

2836

-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 11 May 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) 1-3 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) 1-3 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 07 January 2004 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:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ 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

Claim Rejections - 35 USC § 103

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 negated by the manner in which the invention was made.

Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over NYENYA 5,278,771 in view of FOSTER 4,875,152.

Regarding claim 1.

NYENYA discloses an electrical conditioning apparatus electrically connecting a power source to a plurality of electrical devices, the apparatus comprising an electrical input (14) for receiving power from the power source, a surge suppression circuit (fig. 3), a plurality of electrical outlets (16-18), a plurality of parallel channels, each channel electrically connecting the input to at least one of the plurality of outlets, at least one of the plurality of channels comprising a filter circuit (24) and a display that displays the ac line voltage.

NYENYA does not disclose a current sensor circuit for measuring the current through the channel and one or more displays electrically connected to the current measuring circuits for providing a visual indication of current measurements.

FOSTER discloses a current sensor circuit for measuring the current through an electrical tap switch and a display for displaying the measured current.

Art Unit: 2836

It would have been obvious to one having ordinary skill in the art at the time of this invention to have modified the power conditioning apparatus to include current sensor and a display for measuring and displaying the current supplied to each channel.

Regarding claim 2.

NYENYA in view of FOSTER disclose the apparatus of claim 1.

NYENYA discloses a voltage measuring circuit electrically connected to one or more displays for providing a visual indication of voltage measurements (col. 5, lines 45-50).

Regarding claim 3.

NYENYA in view of FOSTER disclose the apparatus of claim 1.

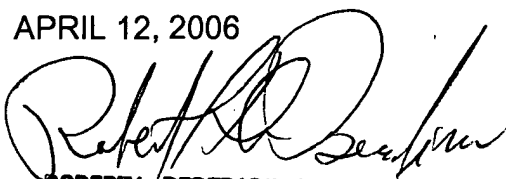
It would be obvious to one having ordinary skill in the art to position a sensor in a position that would not be susceptible to erroneous errors due to surrounding circuits.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (703) 872-9306.

RLD

APRIL 12, 2006


ROBERT L. DEBERADINIS
PRIMARY EXAMINER

Notice of References Cited	Application/Control No. 10/752,854	Applicant(s)/Patent Under Reexamination BORDEN ET AL.	
	Examiner Robert DeBeradinis	Art Unit 2836	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,278,771	01-1994	Nyenya, Seth S.	700/293
*	B	US-4,875,152	10-1989	Foster, William H.	363/146
	C	US-			
	D	US-			
	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	
	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.

Search Notes

Application/Control No.

10/752,854

Examiner

Robert DeBeradinis

Applicant(s)/Patent under
Reexamination

BORDEN ET AL.

Art Unit

2836

SEARCHED

Class	Subclass	Date	Examiner
307	147	4/12/2006	RLD

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR



05-19-01

IPW / \$

Kenneth A. Nelson
Registered Patent Attorney
Voice: 602-364-7280
KANELSON@BRYANCAVE.COM

May 11, 2004

VIA U.S. MAIL

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

Re: U.S. Patent Application Serial No. 10/752,854
Inventor: Borden, et al.
Title: Power Line Conditioner
Attorney Docket No.: 0175472

Dear Sir/Madam:

Enclosed herewith for filing in the above-identified application are the following:

1. Joint Declaration and Power of Attorney for Utility Patent Application (4 pgs.);
2. Copy of Notice of Missing Parts (2 pgs.);
3. Assignment and Cover Sheet (6 pgs.);
4. Check No. 32950 in amount of \$170.00; and
5. Self-addressed, prepaid postcard to acknowledge receipt of documents.

Please charge any deficiency in the enclosed fee or credit any overpayment to Deposit Account No. 02-4467.

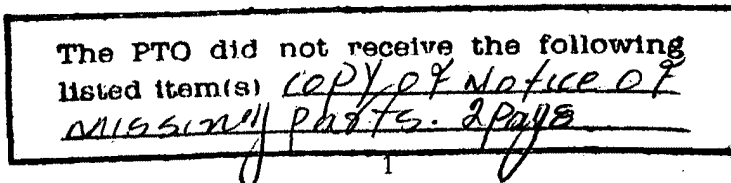
Very truly yours,

Kenneth A. Nelson

KAN:mtr

Enclosure

PX01DOCS\459560.1



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Washington, DC

And Bryan Cave,
A Multinational Partnership,
London

05/17/2004 ZJUHR1 00000044 10752854 130.00 BP 01 FC:1051

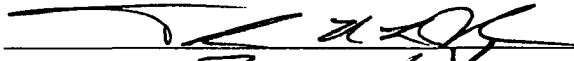
Commissioner for Patents
Serial No. 10/752,854
May 11, 2004
Page 2

Bryan Cave LLP

CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. 1.10.

I hereby certify that this document (and any as referred to as being attached or enclosed) is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service, mailing label No. **EL452287407US** on **May 11, 2004** and addressed to Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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 Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Printed Name: Thomas L. Vance



**JOINT DECLARATION AND POWER OF
ATTORNEY FOR UTILITY PATENT APPLICATION**

As the below named inventors, we hereby declare that:

Our residences, mailing addresses, and citizenship are as stated below next to our names.

We believe that we are original, first, and joint inventors of the invention entitled **POWER LINE CONDITIONER**, the specification of which was filed on 01/07/2004, as United States Application Number 10/752,854 (We hereby authorize and request attorney Christopher J. Hayes, of Bryan Cave LLP, 211 North Broadway, Suite 3600, St. Louis, MO 63102-2750, to insert the application number of said application when known.).

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

We acknowledge the duty to disclose information that is material to the examination of this application and any continuation or divisional application in accordance with 37 Code of Federal Regulations § 1.56.

We hereby claim foreign priority benefits under 35 United States Code §§ 119 and 365 of any foreign application(s) for the patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Applications: Not applicable.

We hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Maurice B. Stiefel, Reg. No. 18,479; Lawrence G. Kurland, Reg. No. 24,895; Stephen P. Gilbert, Reg. No. 27,893; Mark E. Waddell, Reg. No. 31,803; David A. Roodman, Reg. No. 35,663; N. Whitney Wilson, Reg. No. 38,661; Daniel A. Crowe, Reg. No. 39,644; Stephen M. Haracz, Reg. No. 33,397; Warren K. MacRae, Reg. No. 37,876; George C. Chen, Reg. No. 39,935; Kevin C. Hooper, Reg. No. 40,402; Kathleen Gersh, Reg. No. 41,806; Christopher J. Hayes, Reg. No. 41,822; Robert G. Lancaster, Reg. No. 43,736; Roxanna Wizorek, Reg. No. 46,110; Bosco B. Kim, Reg. No. 41,896; Charles T.J. Weigell, Reg. No. 43,398; Angel Herrera, Reg. No. 46,767, Kenneth A. Nelson, Reg. No. 48,677; of the firm of Bryan Cave LLP.

Address all telephone calls and correspondence to:

Christopher J. Hayes
BRYAN CAVE LLP
211 N. Broadway, Suite 3600
St. Louis, Missouri 63102-2750
Tele. (314) 259-2953
Facs. (314) 259-2020

We hereby declare that all statements made herein of our 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 Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First Joint Inventor: Scott M. Borden

Inventor's signature: Scott M Borden

Date: 2/12/04

Residence: City: Rochester

State: New York

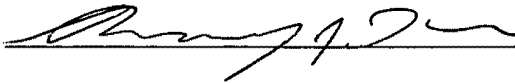
Country: USA

Citizenship: USA

Mailing Address: 751 Shorecliff Dr
Rochester NY 14612

Full Name of Second Joint Inventor: Randy J. King

Inventor's signature:



Date:

FEB. 12, 2004

Residence:

City: ROCHESTER

State: NEW YORK

Country: U. S. A.

Citizenship:

U. S. A.

Mailing Address:

139 PILOT ST.

ROCHESTER, NY 14606

Full Name of Third Joint Inventor: Ronald C. Moffatt

Inventor's signature:

Ronald C Moffatt

Date:

2/12/04

Residence:

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State: NY

Country: USA

Citizenship:

USA

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ROCHESTER NY 14609



UNITED STATES PATENT AND TRADEMARK OFFICE

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 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/752,854	01/07/2004	Scott M. Borden	0133072

Christopher J. Hayes
 BRYAN CAVE LLP
 211 North Broadway, Ste. 3600
 St. Louis, MO 63102

CONFIRMATION NO. 4900

FORMALITIES LETTER



OC000000012329490

Date Mailed: 04/12/2004

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted***Items Required To Avoid Abandonment:**

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$130** for a Large Entity

- **\$130** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts
 Commissioner for Patents
 P.O. Box 1450
 Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*



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PART 3 - OFFICE COPY

010704

22855 U.S. PTO

PTO/SB/05 (08-03)

Approved for use through 07/31/2006. 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.

UTILITY PATENT APPLICATION TRANSMITTAL

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

Attorney Docket No. 0133072
First Inventor BORDEN, Scott M.
Title POWER LINE CONDITIONER
Express Mail Label No. EV 316054832 US

22141 U.S. PTO
10/752854

010704

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

1. ☒ 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. ☒ Specification [Total Pages 10]
(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. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 5]
5. Oath or Declaration [Total Sheets]
 - a. ☐ 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) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ 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

ACCOMPANYING APPLICATION PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement of Attorney (when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449
13. ☐ Preliminary Amendment
14. ☐ 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 the first sentence of the specification following the title, 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

Art Unit:

For CONTINUATION OF 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

☐ Customer Number: OR ☒ Correspondence address below

Name Christopher J. Hayes
Address BRYAN CAVE LLP
211 North Broadway, Ste. 3600
City St. Louis State MO Zip Code 63102
Country United States Telephone 314-259-2000 Fax 314-259-2020

Name (Print/Type) Christopher J. Hayes Registration No. (Attorney/Agent) 41,822
Signature [Signature] Date 01/07/2004

This collection of information is required by 37 CFR 1.56(b). 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: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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22856 U.S. PTO
010704

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 770.00)

Complete if Known

Application Number
Filing Date 01/07/2004
First Named Inventor BORDEN, Scott M.
Examiner Name
Art Unit
Attorney Docket No. 0133072

METHOD OF PAYMENT (check all that apply)

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

☒ Deposit Account:

Deposit Account Number 02-4467

Deposit Account Name BRYAN CAVE LLP

The Director is authorized to: (check all that apply)

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

☒ Charge any additional fee(s) or any underpayment of fee(s)

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

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	770.00
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$ 770.00)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

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

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	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	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	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	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	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)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be, examined (37 CFR 1.129(b))	
1801	770	2801	385	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) (\$)

SUBMITTED BY

Name (Print/Type) Christopher Hayes

Registration No. 41,822
(Attorney/Agent)

(Complete if applicable)

Telephone 314-259-2000

Signature

Date 01/07/03

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, 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.

POWER LINE CONDITIONER

FIELD OF THE INVENTION

The invention relates to the field of power line devices for electrical power
5 distribution, and more specifically, to a multi-outlet power line conditioner that allows
several electrically powered devices to be coupled to a single outlet and provides surge
protection, filtering and visual voltage and current indications.

BACKGROUND

Multi-outlet power conditioners provide high purity electrical power to multiple
10 electronic devices powered using a single wall outlet. Such devices often contain surge
protection circuits for protecting consumer electronics, such as computers, televisions and
other audio/visual equipment, from damage resulting from random power surges and
voltage spikes. Power conditioners also typically contain filtering elements for reducing
AC power line noise.

15 One shortcoming of conventional power conditioners is that they generally do not
provide a visual indication of power conditions so that the user can determine if the
electronic devices are receiving power at optimal voltage and current conditions. One
attempt to overcome this problem is described in Lee et al., U.S. Patent No. 6,456,091.
Lee generally describes a power line conditioner having a having LED indicators for
20 showing input current and input voltage levels received by the power line conditioner
from the wall outlet.

However, power conditioners are typically used to power multiple electrical
devices, such as, separate audio, visual or computer devices, having different power
requirements. While Lee generally describes a means for detecting and displaying input

voltage and current from the wall outlet, it fails to provide an effective means for monitoring and displaying the voltage and current delivered to the separate outlets for each electrical device. Furthermore, Lee does not provide a means for measuring electrical current conditions after transmission through the circuitry of the power conditioner. It would therefore be highly desirable to provide a power conditioner having the capability of monitoring and displaying voltage and current actually received by the separate electronic devices.

The present invention provides these and other advantages over conventional power line conditioners.

10

SUMMARY

An electrical power conditioning apparatus in accordance with the present invention generally includes an electrical input for receiving power from the power source, a surge suppression circuit and a plurality of electrical outlets. A plurality of parallel channels connect the input to at least one of the plurality of outlets. At least one of the plurality of channels includes a filter circuit and a current sensor circuit for measuring the current through the channel. One or more displays are electrically connected to the current measuring circuits to provide a visual indication of voltage and current measurements.

DRAWINGS

These and other features, aspects and advantages of the present invention will become more fully apparent from the following detailed description, appended claims, and accompanying drawings where:

5 FIG. 1 is a block diagram of an embodiment of a power conditioner apparatus in accordance with the present invention;

FIG. 2 is a schematic of an embodiment of a surge suppression circuit;

FIG. 3 is a schematic of an embodiment of an internal power supply;

FIG. 4 is a schematic of an embodiment of a voltage signal conditioner;

10 FIG. 5 is a schematic of an embodiment of a current signal conditioner;

FIG. 6 is a schematic of an embodiment of a system controller;

FIG. 7 is a schematic of an embodiment of a remote control;

FIG. 8 is a schematic of an embodiment of a user interface and display controller;

FIG. 9 is a schematic of an embodiment of outlet channels; and

15 FIG. 10 is a schematic of an embodiment of a power conditioner apparatus of the present invention having a single current sensing circuit.

For simplicity and clarity of illustration, the drawing figures illustrate the general elements of the apparatus. Description and details of well-known features and techniques are omitted to avoid unnecessarily obscuring the invention.

DESCRIPTION OF PREFERRED EMBODIMENTS

5 An electrical power conditioning apparatus in accordance with the present invention comprises an electrical input for receiving power from the power source, a surge suppression circuit, a plurality of electrical outlets and plurality of parallel channels connecting the input to one or more of the outlets. One or more of the plurality of channels includes a filter circuit and a current sensor circuit for measuring the current
10 through each channel. A display is electrically connected to the current measuring circuit to provide a visual indication of current measurements.

 Referring to FIG. 1, a preferred embodiment of the power line conditioner apparatus 10 comprises the following main components: surge suppression circuit 12, internal power supply 14, voltage signal conditioner 16, current signal conditioner 18,
15 system controller 20, user interface and display controller 22, remote control 24, and outlet channels 26. The apparatus 10 may be electrically coupled to received power from a standard wall outlet via a plug and/or cord or, alternatively, may be directly connected to a source of power without a plug and/or cord.

 FIG. 2 illustrates an embodiment of a surge suppression circuit 12. In the
20 illustrated example, the surge suppression circuit is electrically coupled to an electrical power source via an electrical input, such as a plug 13. The surge suppression circuit 12 can include one or more filters 28, which are preferably configured to filter higher

frequency noise. The surge suppression circuit **12** can also include various monitoring circuits **30** for monitoring the condition of the surge suppression circuits. These monitoring circuits may provide output as shown indicating whether there has been a failure in the surge protection circuit or whether the source of power is operationally useful (e.g., whether a proper ground exists or whether the hot and neutral conditions are proper). Various other surge protection devices known in the art can be also be used.

FIG. 3 illustrates an embodiment of an internal power supply circuit **14** for generating voltages required for various internal components of the apparatus. Various other internal power supply devices known in the art can be also be used.

FIG. 4 illustrates an embodiment of a voltage signal conditioner **16**. Voltage signal conditioner **16** is electrically connected to one or more voltage sensor circuits **17**. The voltage signal conditioner **16** receives an AC signal from one or more voltage sensor circuits **17** and converts the signal to a proportional DC signal, which is transmitted to the system controller **20** (FIG. 6).

FIG. 5 illustrates an embodiment of a current signal conditioner **18**. The current signal conditioner **18** is electrically connected to a plurality of current sensor circuits **44** (shown in FIG. 9). Current signal conditioner **18** receives an AC signal from the current sensor **44** and converts the signal to a proportional DC signal, which is transmitted to the system controller **20** (FIG. 6).

FIG. 6 illustrates an embodiment of a system controller **20**. A function of the system controller is to receive DC signals from the voltage signal conditioner **16** and current signal conditioner **18**, process those signals, and transmit control signals to the

user interface and display control **22** (FIG. 8). The system controller **20** also includes a processor and associated circuitry for controlling the overall operation of the apparatus.

FIG. 7 illustrates an embodiment of a remote control circuit **24**. Functions of the remote control **24** include permitting the apparatus to receive external signals from other devices to turn the apparatus on and off.

FIG. 8 illustrates an embodiment of a user interface and display controller **22**. The display provides a visual indication of current and voltage measurements and other indications.

FIG. 9 illustrates an embodiment of circuitry for the outlet channels **26**, which includes a plurality of parallel channels **32a**, **32b**, **32c**, **32d**, **32e** and **32f**. Each channel transmits electrical power to one or more electrical outlets **34**. Each channel can include a power relay or switch **36** for independently turning the channel on and off. One or more channels can include filter circuits of various configurations. For example, the illustrated embodiment channels **32a** and **32b** have a two-stage filter **40**, whereas channels **32c** and **32d** have a single stage filter configuration **42**. The apparatus can also include one or more unfiltered channels. Such channels may be preferable for use for high power devices, such as stereo amplifiers. The illustrated embodiment includes one such unfiltered channel **32f**. Each channel can also include an EMI suppression circuit **45** for suppressing high frequency noise transmitted to or from the outlets (e.g., from electrical devices plugged into the apparatus). The EMI suppression circuit can comprise, for example, a Ferrite core device.

One or more of the channels includes a current sensing circuit **44** for sensing the current through the channel. In the illustrated embodiment, each channel **32a-32f** includes a current sensing circuit **44**. The current sensing circuit can be located anywhere on the outlet channel, but is preferably located at the output of the filter (e.g., filters **40** and **42**) close to the electrical outlets **34**. Such positioning allows the current sensing circuit to accurately measure current delivered to the outlets **34** and not include current losses in the filter circuit and other control circuits of the apparatus. Thus, the apparatus provides an accurate measurement of the current of each separate channel as actually delivered to the electrical devices powered through the power conditioning apparatus.

FIG. 10 illustrates an example of an alternative embodiment of the power conditioning apparatus having a single current sensing circuit **46** for measuring the sum of the current through the plurality of channels. In the illustrated embodiment, the power conditioning apparatus generally includes surge suppression circuitry **12**, internal power supply **14**, voltage signal conditioner **16**, current signal conditioner **18**, and remote control **24**, which have a similar structure and function to the corresponding elements of the multiple current sensing embodiment described above. The illustrated embodiment of the apparatus has a controller **48**, which receives DC signals from the voltage signal conditioner **16** and current signal conditioner **18**, processes those signals and transmits control signals to the voltage and current status indicators **50**.

The apparatus includes a plurality parallel outlet channels **52a**, **52b**, **52c**, and **52d**. The embodiment illustrated in FIG. 10 differs most significantly from the embodiment illustrated in FIGS. 2-9 in that the current sensing device **46** is configured to detect the sum of the current through each of the plurality of parallel channels **52a**, **52b**, **52c** and

52d, and transmit an AC signal to current conditioner **18**. As in the embodiment illustrated above, the version of the apparatus illustrated in FIG. 10 includes a two-stage filter structure **44** on channel **52b** and a single stage filter structure **42** on channel **52d**.

Although the invention has been described with reference to specific
5 embodiments, it should be understood that various changes may be made without departing from the spirit or scope of the invention. Accordingly, the disclosed examples are intended to be illustrative of the scope of the invention and are not intended to be limiting. The scope of the invention is defined as set forth in the appended claims.

We claim

1. An electrical power conditioning apparatus electrically connecting a power source to a plurality of electrical devices, the apparatus comprising:

an electrical input for receiving power from the power source;

5 a surge suppression circuit;

a plurality of electrical outlets;

a plurality of parallel channels, each channel electrically connecting the input to at least one of the plurality of outlets, at least one of the plurality of channels comprising:

10 a filter circuit;

a current sensor circuit for measuring the current through the channel; and

one or more displays electrically connected to the current measuring circuits for providing a visual indication of current measurements.

2. The apparatus of claim 1 further comprising one or more voltage measuring
15 circuits electrically connected to the one or more displays for providing a visual indication of voltage measurements.

3. The apparatus of claim 1, wherein the current sensor circuit is positioned at the output of the filter circuit so as not to measure any internal current losses of the apparatus.

ABSTRACT

An electrical power conditioning apparatus in accordance with the present invention generally includes an electrical input for receiving power from the power source, a surge suppression circuit and a plurality of electrical outlets. A plurality of parallel channels connect the input to at least one of the plurality of outlets. At least one of the plurality of channels includes a filter circuit and a current sensor circuit for measuring the current through the channel. One or more displays are electrically connected to the current measuring to a visual indication of voltage and current measurements.

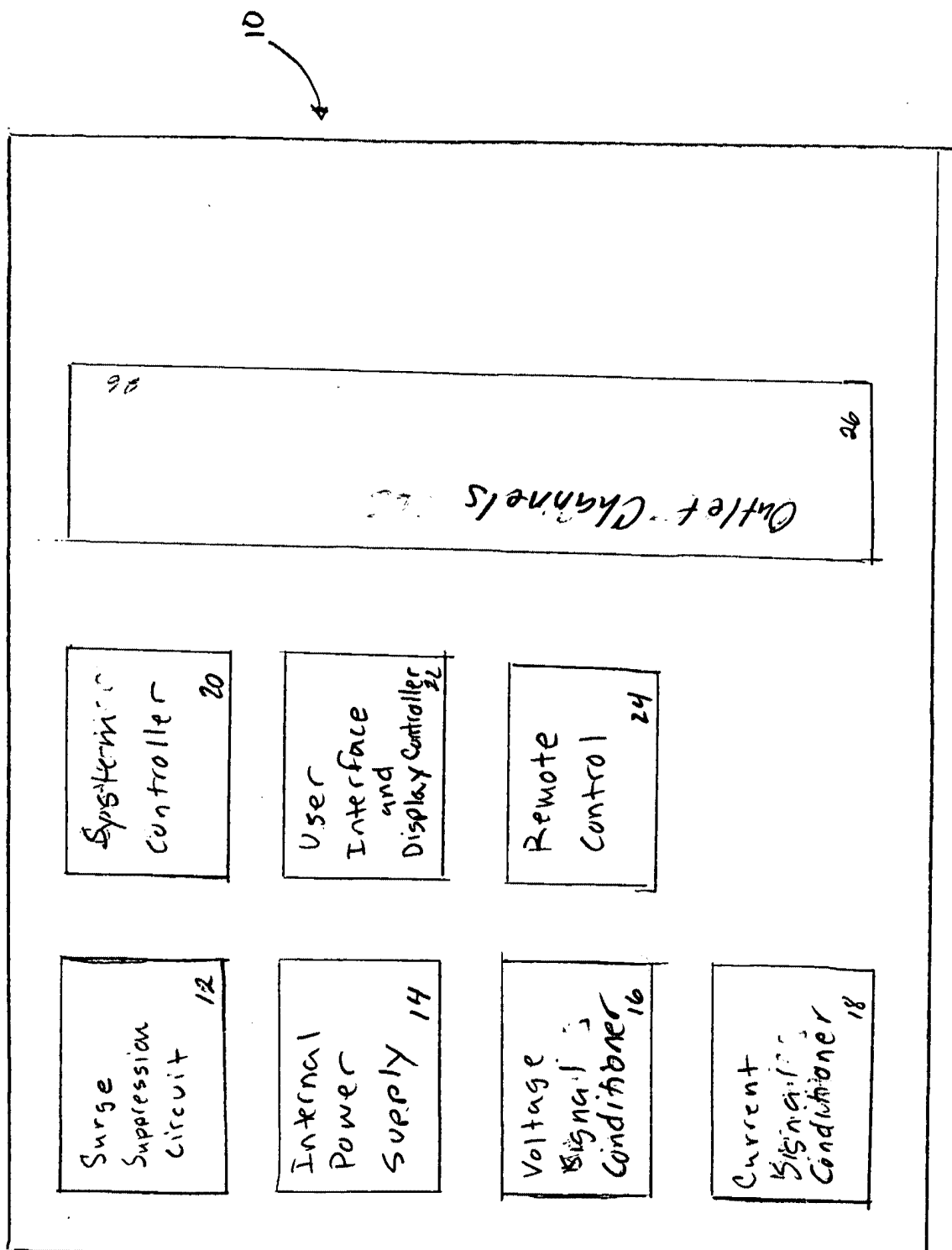


FIG. 1

12

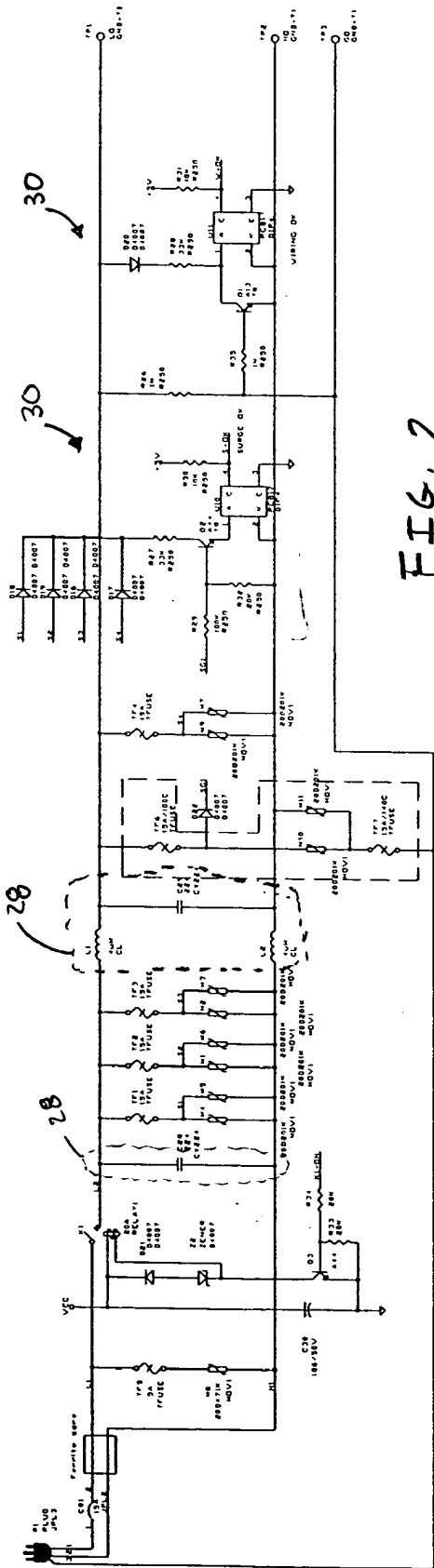


FIG. 2

20

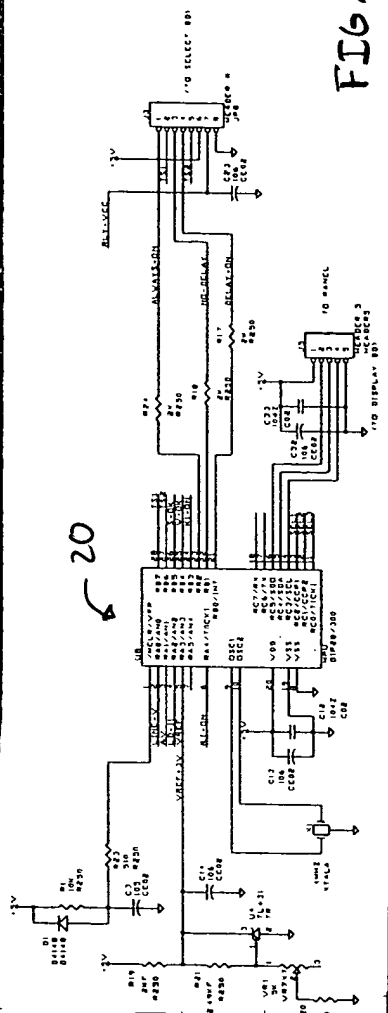


FIG. 6

14

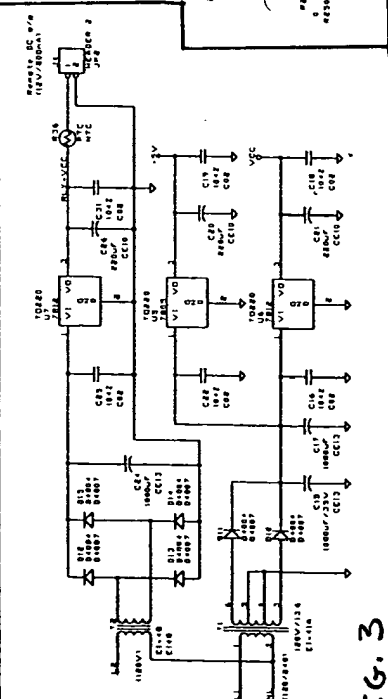


FIG. 3

17

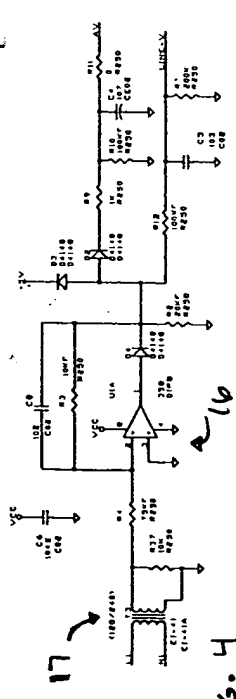


FIG. 4

16

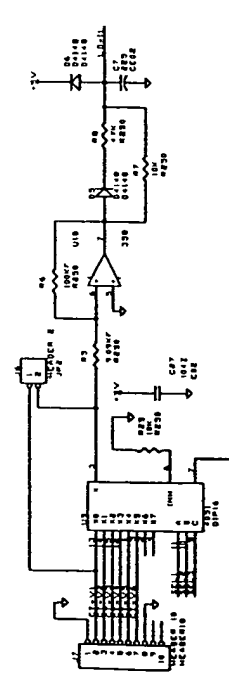
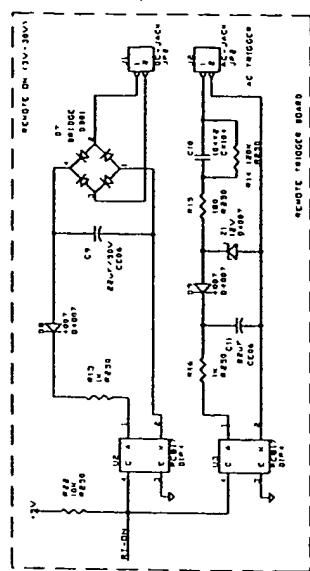


FIG. 5

24



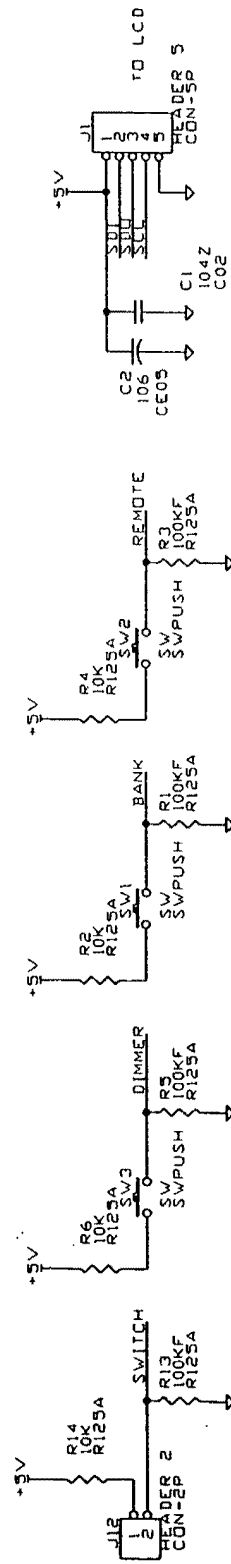
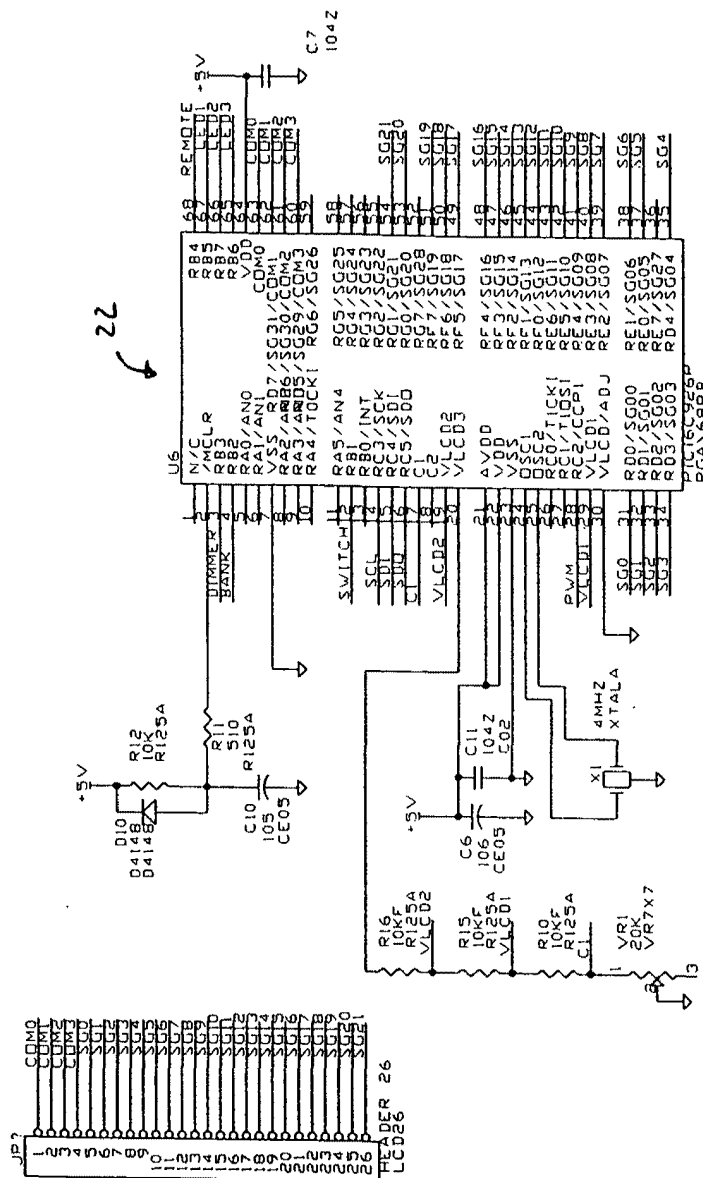
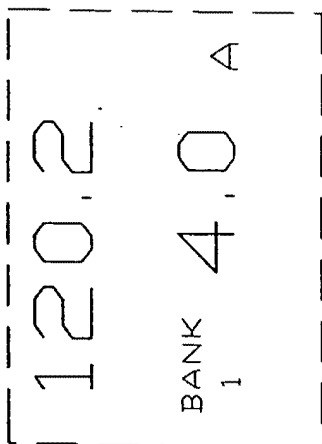
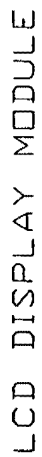


FIG. 8

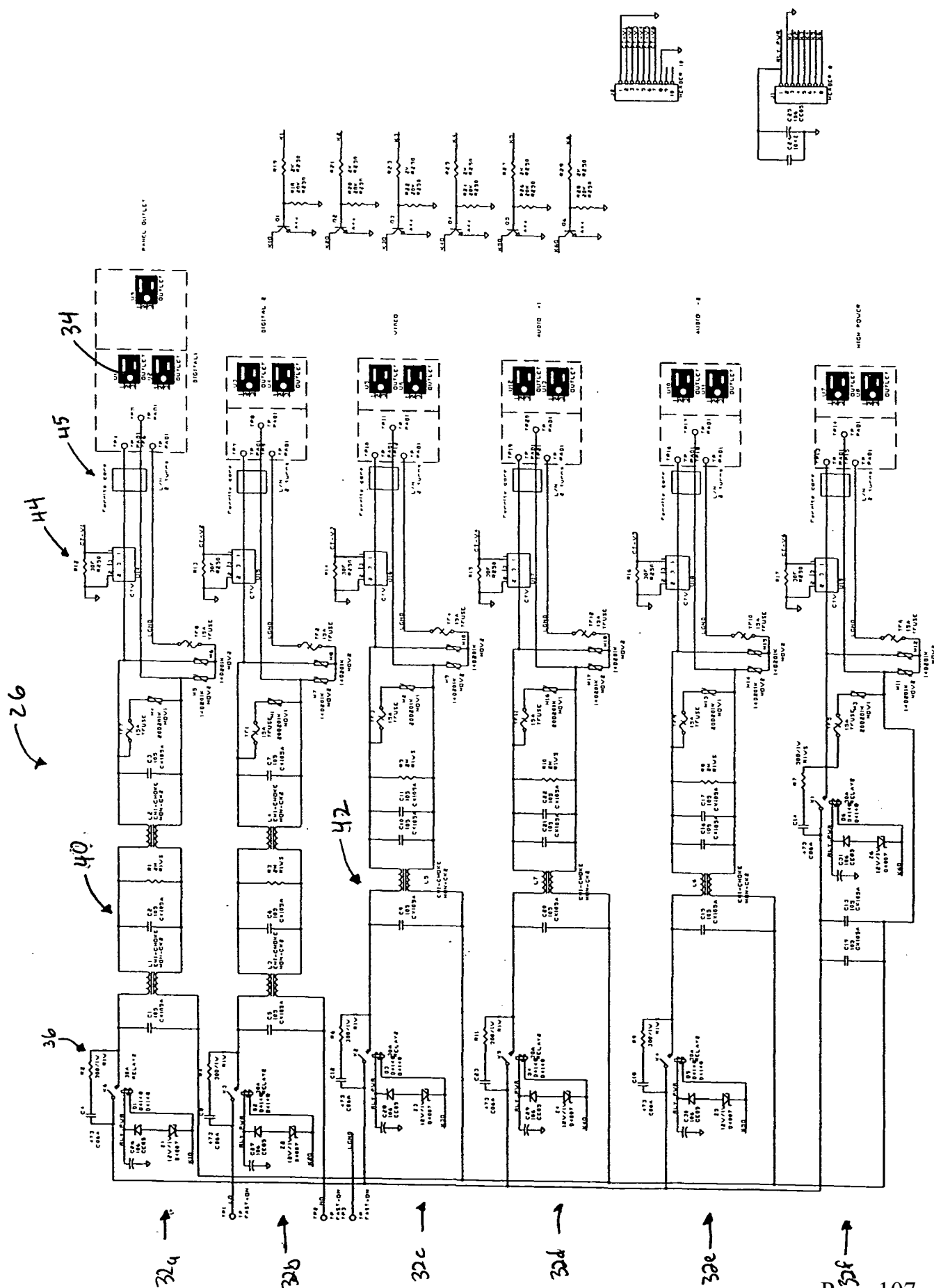


FIG. 9

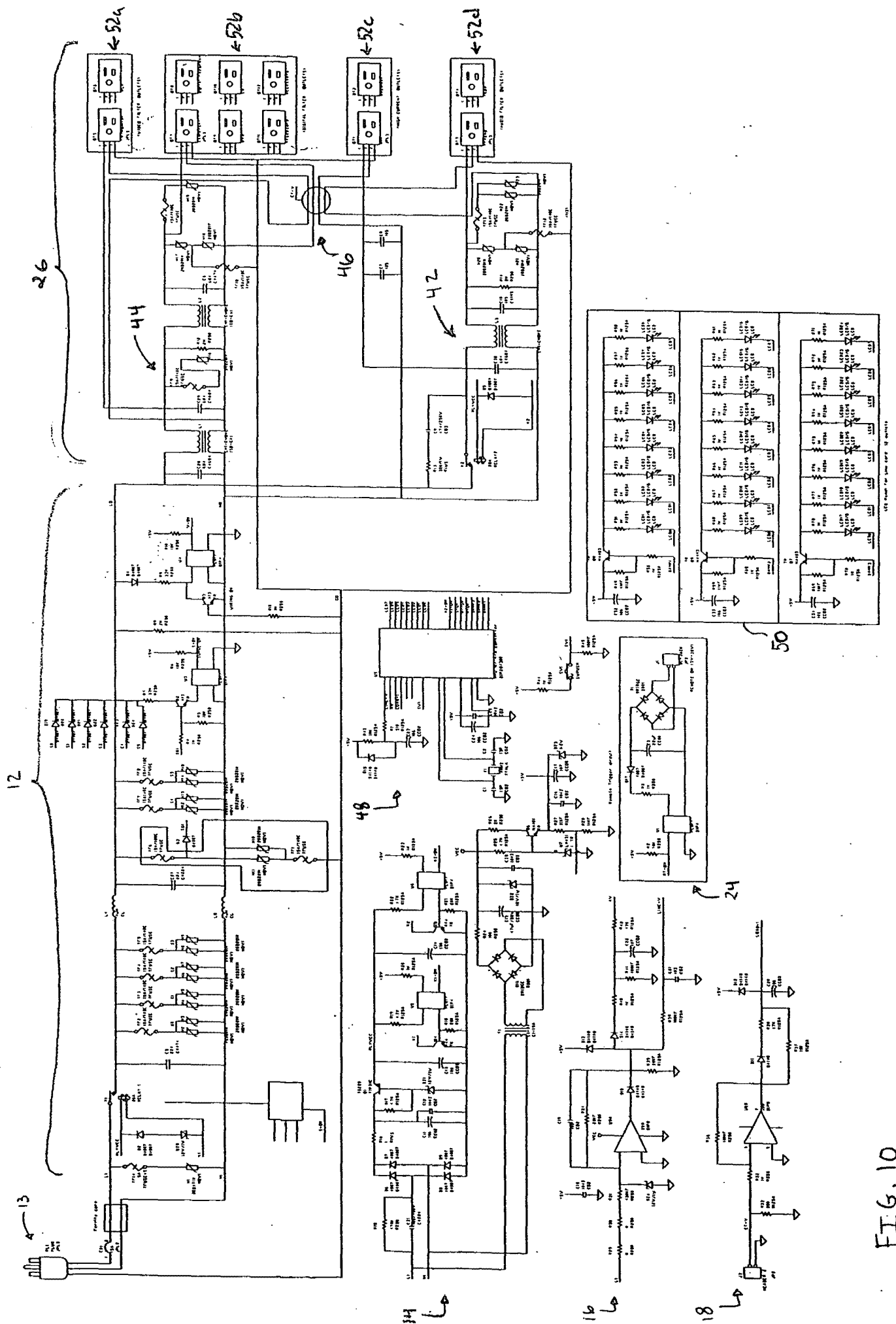


FIG. 10

PATENT APPLICATION SERIAL NO. _____

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

01/12/2004 WASFAW1 00000003 024467 10752854

01 FC:1001 770.00 DA

PATENT APPLICATION FEE DETERMINATION RECORD

Effective October 1, 2003

Application or Docket Number

0133072

CLAIMS AS FILED - PART I

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

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

SMALL ENTITY TYPE ☐

RATE	FEE
BASIC FEE	385.00
X\$ 9=	
X43=	
+145=	
TOTAL	

OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	770.00
X\$18=	
X86=	
+290=	
TOTAL	770

CLAIMS AS AMENDED - PART II

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

SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDIT. FEE	

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
TOTAL	
ADDIT. FEE	

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

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
TOTAL	
ADDIT. FEE	

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

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
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.