

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7129032

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
Name		Execution Date
IAED TECHNOLOGIES INC		12/03/2021
RECEIVING PARTY DATA		
Name:	ROSEN TECHNOLOGIES LLC	
Street Address:	17330 PRESTON RD	
Internal Address:	ST 200D	
City:	DALLAS	
State/Country:	TEXAS	
Postal Code:	75252	
PROPERTY NUMBERS Total: 18		
Property Type	Number	
Patent Number:	7232075	
Patent Number:	7152806	
Patent Number:	7156318	
Patent Number:	7185825	
Patent Number:	7145110	
Patent Number:	7058477	
Patent Number:	7028912	
Patent Number:	7050026	
Patent Number:	6902117	
Patent Number:	6789739	
Patent Number:	6786421	
Patent Number:	6619555	
Patent Number:	6578770	
Patent Number:	6581846	
Patent Number:	7841542	
Patent Number:	7838803	
Application Number:	13953135	
Application Number:	14313507	

CORRESPONDENCE DATA**Fax Number:**

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: JASON@IPVAL.COM
Correspondent Name: JASON BOURGEOIS
Address Line 1: 4940 BROADWAY STREET
Address Line 2: ST130
Address Line 4: SAN ANTONIO, TEXAS 78209

NAME OF SUBMITTER:	JASON BOURGEOIS
SIGNATURE:	/JASON BOURGEOIS/
DATE SIGNED:	01/19/2022
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3

source=IAED and Rosen Tech Patent Assignment#page1.tif
source=IAED and Rosen Tech Patent Assignment#page2.tif
source=IAED and Rosen Tech Patent Assignment#page3.tif

PATENT ASSIGNMENT AGREEMENT

THIS PATENT ASSIGNMENT AGREEMENT (the "Agreement"), is made and entered into this 3rd day of December, 2021 (the "Effective Date"), is by and between IAED Technologies Inc., a Canadian Company with a principal place of business at 695 Chenin Avila Unit 7 Suite 259, Piedmont, Quebec, J0R1T0 Canada ("Assignor") and Rosen Technologies, LLC, a Texas company organized under the laws of Texas, ("Assignee"). Assignor and Assignee are also referred to in this Agreement each as a "Party" and collectively as the "Parties."

WHEREAS, Assignor is the sole owner of all rights, title and interest in and to the inventions (the "Inventions") as described and claimed in the United States and foreign patents and patent application as listed on Schedule A (United States patent properties) and Schedule B (foreign patent properties) hereto (collectively the "Patents");

NOW, THEREFORE, in consideration of the mutual covenants and agreements of the Parties and pursuant to the Purchase Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is hereby agreed as follows:

I. ASSIGNMENT

1. Assignor hereby sells, transfers, assigns and sets over to Assignee all rights, title and interest (for all countries) in and to the Inventions and the Patents, and all the rights and privileges under any letters patent that may be granted under any continuations, divisions, reissues, reexaminations, renewals and extensions therefor and thereon and all continuations, divisions, reissues, reexaminations, renewals and extensions thereof; and all applications for industrial property protection, including without limitation, all applications for patents, utility models, copyright, and designs which may hereafter be filed for said Inventions and Patents in any country or countries, together with the right to file such applications and the right to claim for the same the priority rights derived from the Inventions and the Patents under the patent laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, copyrights and designs which may hereafter be filed for said Inventions or Patents in any country or countries, together with the right to file such applications; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates, copyrights and designs which may be granted for said Invention and/or Patent in any country or countries and all extensions, renewals and reissues thereof.
2. The rights, title and interest transferred above are subject to Assignor having previously granted a non-exclusive, fully paid up, royalty-free license to the Patents to Verdant Environmental Technologies Inc. dated August 31, 2016 (Verdant License) presently held through acquisition by Emerson Electric Co.. For the avoidance of doubt, Emerson Electric Co. (including its Subsidiaries) or any subsequent acquirer of this pre-existing license. Further, including the right to expand the license in the future to products branded under other trademarks owned by the holding licensee.
3. Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the

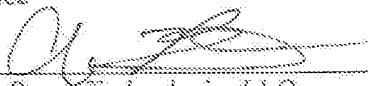
United States and any official of any country or countries foreign to the United States, whose duty is to issue patents or other evidence or forms of industrial property on applications as aforesaid, to issue the same to Assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

4. Assignor agrees that, whenever reasonably requested by Assignee, Assignor will execute all papers, take all rightful oaths, and do all acts which may be reasonably necessary for securing and maintaining patents for the Inventions in any country and for vesting title thereto in Assignee, its successors, assigns and legal representatives or nominees.
5. Assignor authorizes and empowers Assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for the Inventions, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, and to invoke and claim such right of priority without further written or oral authorization from Assignor.
6. Assignor hereby consents that a copy of this Agreement shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document that may be required in any country for any purpose and more particularly in proof of the right of Assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.
7. All of the rights, title and interest in and to the Inventions and the Patents sold, transferred, assigned and set over to Assignee hereunder include all income, royalties, damages and payments now or hereafter due or payable with respect thereto, and all causes of action (whether in law or equity) and the right to sue, counterclaim, and recover for the past, present and future infringement of the rights assigned or to be assigned hereunder.

Assignor


By: IAED Technologies, Inc.
Name: Howard Rosen
Title: Managing Member

Assignee


By: Rosen Technologies LLC
Name: Adam Baumli
Title: Managing Member

SCHEDULE A
UNITED STATES PATENTS AND PATENT APPLICATIONS

U.S. Patent Application Publications

Publication Number	Application Number	Publication Date	Application Date	Issue Date
US20150028114A1	13/953,135	1/29/2015	7/29/2013	Pending
US20150369508A1	14/313,507	12/24/2015	6/24/2014	Pending

U.S. Patent Publications

Patent Number	Application Number	Publication Date	Application Date	Issue Date
US7232075B1	11/039,180	6/19/2007	1/19/2005	6/19/2007
US7152806B1	10/654,230	12/26/2006	9/3/2003	12/26/2006
US7156318B1	10/654,235	1/2/2007	9/3/2003	1/2/2007
US7185825B1	10/875,579	3/6/2007	6/24/2004	3/6/2007
US7145110B1	11/254,078	12/5/2006	10/19/2005	12/5/2006
US7058477B1	10/995,574	6/6/2006	11/23/2004	6/6/2006
US7028912B1	10/878,825	4/18/2006	6/28/2004	4/18/2006
US7050026B1	10/440,474	5/23/2006	5/15/2003	5/23/2006
US6902117B1	10/420,660	6/7/2005	4/21/2003	6/7/2005
US6789739B2	10/287,677	9/14/2004	11/4/2002	9/14/2004
US6786421B2	10/654,236	9/7/2004	9/3/2003	9/7/2004
US6619555B2	10/075,866	9/16/2003	2/13/2002	9/16/2003
US6578770B1	10/119,180	6/17/2003	4/9/2002	6/17/2003
US6581846B1	10/091,767	6/24/2003	3/6/2002	6/24/2003
US7841542B1	11/557,492	11/30/2010	11/7/2006	11/30/2010
US7836803B1	11/852,036	11/23/2010	9/7/2007	11/23/2010



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/440,474	05/15/2003	Howard Rosen	0304.1A4

CONFIRMATION NO. 7930



OC000000018455579

David T. Bracken
 The Law Office of David T. Bracken
 4839 Bond Avenue
 Orange, CA 92869

Date Mailed: 04/04/2006

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/16/2006.

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

FANAYE ASRAT
 PTOSS (703) 305-0677

OFFICE COPY



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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/440,474	05/15/2003	Howard Rosen	0304.1A4

51413
 MARC E. HANKIN, ESQ.
 11414 THURSTON CIRCLE
 LOS ANGELES, CA 90049

CONFIRMATION NO. 7930



OC000000018455595

Date Mailed: 04/04/2006

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/16/2006.

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

FANAYE ASRAT
 PTOSS (703) 305-0677

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PAGE 12

PTO/SB/82 (04-05)

Approved for use through 11/30/2005. OMB 0851-0035
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.

REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	10/440,474
	Filing Date	5/15/2003
	First Named Inventor	Howard Rosen
	Art Unit	2675
	Examiner Name	Dennis-Doon Chow
	Attorney Docket Number	0304.1A4

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

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint the practitioners associated with the Customer Number:

51413

☒ Please change the correspondence address for the above-identified application to:☒ The address associated with
Customer Number:

51413

OR

☐ Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

Marc@hankinpatentlaw.com

I am the:

☒ Applicant/Inventor.☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)**SIGNATURE of Applicant or Assignee of Record**

Signature

Name

Howard Rosen

Date

March 15, 2006

Telephone

(514) 989-7021

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 1.38. 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.

American LegalNet, Inc.
www.USCourtForms.com

PAGE 12/18 * RCVD AT 3/16/2006 1:28:40 PM [Eastern Standard Time] * SVR:USPTO-EFXXF-1/21 * DNIS:2738300 * CSID:3102748643 * DURATION (mm-ss):06-48



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930
7590	02/16/2006		EXAMINER	
David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange, CA 92869			CHOW, DOON Y	
			ART UNIT	PAPER NUMBER
			2677	

DATE MAILED: 02/16/2006

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

Response to Rule 312 Communication	Application No.	Applicant(s)	
	Examiner	Art Unit	

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

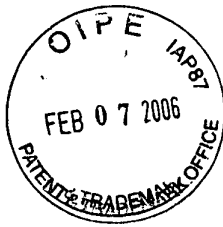
1. ☐ The amendment filed on 2-7-06 under 37 CFR 1.312 has been considered, and has been:

- a) ☐ entered.
- b) ☐ entered as directed to matters of form not affecting the scope of the invention.
- c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

- d) ☐ disapproved. See explanation below.
- e) ☐ entered in part. See explanation below.

Timothy Calhoun
Publishing Division



Regular Patent Application
Docket No. 0304.1A4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX
LCD FOR AN ENVIRONMENTAL
CONTROL DEVICE

Inventor(s): HOWARD ROSEN

Serial No.: 10/440,474

Filing Date: 5/15/2003

Group No.: 2675

Examiner: Dennis-Doon Chow

Attorney Docket No.: 0304.1A4

**AMENDMENT AND REQUEST FOR
RECONSIDERATION**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the last Office Action, Applicant respectfully requests entry of amendments to the above application as follows:

SPECIFICATION: Please amend the specification as follows:

Page 5, line 2, add the new paragraph:

FIG. 4 is a high level process flow chart showing a principal feature of the invention.

REMARKS

In the last office action, a brief description of FIG. 4 was required to be included in the specification. Such description is presently added by amendment.

Consideration of the above amendments and remarks is requested and it is submitted that such amendments and remarks place the application in a condition for issue.

Applicant requests entry of amendments and issue of the application.

Respectfully submitted,

Dated: February 3, 2006



David T. Bracken
Registration No. 37,522
Phone: (714) 744-4798

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or Fax (571) 273-2885

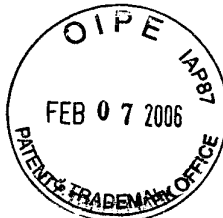
INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence 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)

7590

12/13/2005

David T. Bracken
 The Law Office of David T. Bracken
 4839 Bond Avenue
 Orange, CA 92869



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.

DAVID BRACKEN	(Depositor's name)
<i>D. Bracken</i>	(Signature)
2/3/2006	(Date)

02/08/2006 MBIZUNE2 00000007 10440474

01 FC:2501

700.00 OP

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930

TITLE OF INVENTION: REVERSE IMAGES IN A DOT MATRIX LCD FOR AN ENVIRONMENTAL CONTROL DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$0	\$700	03/13/2006
EXAMINER	ART UNIT	CLASS-SUBCLASS			
CHOW, DOON Y	2677	345-087000			

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

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

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1	_____
2	_____
3	_____

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

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

(A) NAME OF ASSIGNEE

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

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

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

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

4b. Payment of Fee(s):

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

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

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

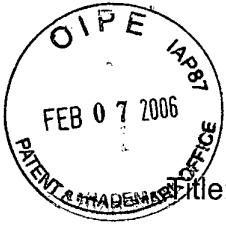
The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature *D. Bracken*Date FEB. 3, 2006Typed or printed name DAVID BRACKENRegistration No. 37522

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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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX LCD
FOR AN ENVIRONMENTAL CONTROL
DEVICE

Inventor(s): HOWARD ROSEN

Serial No.: 10/440,474

Filing Date: 5/15/2003

Group No.: 2675

Examiner: Dennis-Doon Chow

Attorney Docket No.: 0304.1A4

TRANSMITTAL LETTER

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted for filing for the above patent
application are the following:

Papers Enclosed:

- ☒ Amendment - 3 p.
- ☒ Issue Fee Transmittal - 1 p.
- ☒ Credit Card Authorization for \$700.00

CERTIFICATE OF MAILING (37 CFR 1.08)
I, the person below signing this Certificate of
Mailing, hereby certify that this document
and the documents referred to as enclosed
therewith are being deposited with sufficient
postage with the United States Postal
Service on this date in an envelope for first
class service addressed to: Commissioner
for Patents, PO Box 1450, Alexandria, VA
22313-1450

D Bracken

Signature: David T. Bracken
Date of Mailing: January 3, 2006



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930
7590	01/19/2006		EXAMINER	
David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange, CA 92869			CHOW, DOON Y	
			ART UNIT	PAPER NUMBER
			2677	

DATE MAILED: 01/19/2006

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



UNITED STATES PATENT AND TRADEMARK OFFICE

10440474

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF DRAWING INCONSISTENCY WITH SPECIFICATION

The drawings filed 5/15/03 have been received. However, an inconsistency exists between the drawings and the Brief Description of the Drawings in the specification.

Figures _____ are listed in the Brief Description of the Drawings in the specification but not contained in the Drawings.

Figures 4 are contained in the Drawings but not listed in the Brief Description of the Drawings in the specification.

Applicant is required to correct the above-noted inconsistency within a time period of **ONE MONTH or THIRTY (30) DAYS, whichever is longer**, from the mailing date of this Notice, or within the time remaining in the time period set forth in the Notice of Allowability (Form PTOL-37) to file corrected drawings, whichever is longer. **NO EXTENSION OF THIS TIME PERIOD MAY BE GRANTED UNDER EITHER 37 CFR 1.136 (a) OR (b)**

Failure to correct the above noted inconsistency will result in abandonment of the application.

The file will be held in the Publishing Division to await the correction of the inconsistency.

Return Corrected Drawings/Specification to:

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450

Office of Patent Publication/Publishing Division
Customer Service: 703-308-6789
1-888-786-0101

FORM PTO-1631 (REV. 10-03)



UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 12/13/2005

David T. Bracken
The Law Office of David T. Bracken
4839 Bond Avenue
Orange, CA 92869

EXAMINER

CHOW, DOON Y

ART UNIT

PAPER NUMBER

2677

DATE MAILED: 12/13/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930

TITLE OF INVENTION: REVERSE IMAGES IN A DOT MATRIX LCD FOR AN ENVIRONMENTAL CONTROL DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$0	\$700	03/13/2006

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

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

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

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

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

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

If the SMALL ENTITY is shown as NO:

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

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

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

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

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

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

**Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
(571) 273-2885**

or **Fax**

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)

7590 12/13/2005

David T. Bracken
The Law Office of David T. Bracken
4839 Bond Avenue
Orange, CA 92869

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.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930

TITLE OF INVENTION: REVERSE IMAGES IN A DOT MATRIX LCD FOR AN ENVIRONMENTAL CONTROL DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$0	\$700	03/13/2006

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHOW, DOON Y	2677	345-087000

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

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

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1	_____
2	_____
3	_____

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

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

(A) NAME OF ASSIGNEE

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

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

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

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

4b. Payment of Fee(s):

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

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

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



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930
7590	12/13/2005		EXAMINER	
David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange, CA 92869			CHOW, DOON Y	
			ART UNIT	PAPER NUMBER
			2677	

DATE MAILED: 12/13/2005

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

The Patent Term Adjustment to date is 292 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 292 day(s).

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

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

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

Notice of Allowability	Application No.	Applicant(s)	
	10/440,474	ROSEN, HOWARD	
	Examiner	Art Unit	
	Dennis-Doon Chow	2677	

-- 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 the amendment filed 10/24/05.
2. ☒ The allowed claim(s) is/are 1,5,6,9,10 and 14-16.
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 (PTO-152) |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. ☐ Information Disclosure Statements (PTO-1449 or 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 _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David Bracken on 11/28/2005.

The application has been amended as follows:

Claim 9, line 1, change " 7 " to – 1 --.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 571-272-7767. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis-Doon Chow
Primary Examiner
Art Unit 2677

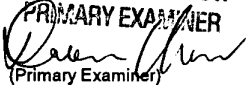
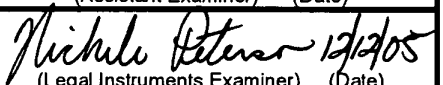
D. Chow
November 28, 2005



DENNIS-DOON CHOW
PRIMARY EXAMINER

Issue Classification 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/440,474	ROSEN, HOWARD	
	Examiner	Art Unit	
	Dennis-Doon Chow	2677	

ISSUE CLASSIFICATION									
ORIGINAL				CROSS REFERENCE(S)					
CLASS		SUBCLASS		CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
345		87		345	102				
INTERNATIONAL CLASSIFICATION				236	94				
G	0	9	G	/					
				/					
				/					
				/					
				/					

(Assistant Examiner) (Date)		DENNIS-DOON CHOW PRIMARY EXAMINER  (Primary Examiner) (Date)		Total Claims Allowed: 8	
 (Legal Instruments Examiner) (Date)				O.G. Print Claim(s)	O.G. Print Fig.
				1	3

☐ Claims renumbered in the same order as presented by applicant										☐ CPA		☐ T.D.		☐ R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		31		61		91		121		151		181		
	2		32		62		92		122		152		182		
	3		33		63		93		123		153		183		
	4		34		64		94		124		154		184		
2	5		35		65		95		125		155		185		
3	6		36		66		96		126		156		186		
	7		37		67		97		127		157		187		
	8		38		68		98		128		158		188		
4	9		39		69		99		129		159		189		
5	10		40		70		100		130		160		190		
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	12		42		72		102		132		162		192		
	13		43		73		103		133		163		193		
6	14		44		74		104		134		164		194		
7	15		45		75		105		135		165		195		
8	16		46		76		106		136		166		196		
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	26		56		86		116		146		176		206		
	27		57		87		117		147		177		207		
	28		58		88		118		148		178		208		
	29		59		89		119		149		179		209		
	30		60		90		120		150		180		210		

Index of Claims



Application/Control No.

10/440,474

Examiner

Dennis-Doon Chow

Applicant(s)/Patent under Reexamination

ROSEN, HOWARD

Art Unit

2677

√	Rejected
=	Allowed

—	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date									
Final	Original	11/28/05									
1	1	=									
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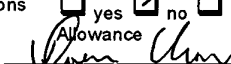
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 P.O. Box 1450
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Bib Data Sheet

CONFIRMATION NO. 7930

SERIAL NUMBER 10/440,474	FILING DATE 05/15/2003 RULE	CLASS 345	GROUP ART UNIT 2675	ATTORNEY DOCKET NO. 0304.1A4	
APPLICANTS Howard Rosen, Montreal, CANADA; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** SMALL ENTITY ** ** 07/16/2003					
Foreign Priority claimed ☐ yes ☒ no 35 USC 119 (a-d) conditions met ☐ yes ☒ no ☐ Met after Allowance Verified and Acknowledged  Examiner's Signature Initials		STATE OR COUNTRY CANADA	SHEETS DRAWING 2	TOTAL CLAIMS 17	INDEPENDENT CLAIMS 3
ADDRESS David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange , CA 92869					
TITLE Reverse images in a dot matrix LCD for an environmental control device					
FILING FEE RECEIVED 440	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 _____		

Search Notes 		Application/Control No. 10/440,474		Applicant(s)/Patent under Reexamination ROSEN, HOWARD	
		Examiner Dennis-Doon Chow		Art Unit 2677	

SEARCHED			
Class	Subclass	Date	Examiner
345	87	11/28/2005	CHOW
	102		
236	94		

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
EAST		11/28/2005	CHOW

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
EAST	11/28/2005	CHOW

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	84	howard near2 rosen	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	OFF	2005/11/28 12:10
L2	335847	(liquid crystal or lcd)	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:10
L3	14	1 and 2	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:23
L4	0	11/039180	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:17
L5	947	236/94.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:25
L6	74	2 and 5	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:25
L7	8	backlight\$4 and 6	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:27
L8	4030	345/87.ccls. or 345/102.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:31
L9	202	8 and flash\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:33

L10	70	rever\$6 and 9	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:34
L11	813606	transparen\$4 or opaque\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:35
L12	43	10 and 11	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:35
L13	87623	transparen\$4 same opaque\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:35
L14	165	13 and 8	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:35
L15	7	13 and 10	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:37
L16	1	"5646645".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; IBM_TDB	ADJ	ON	2005/11/28 12:37



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX
LCD FOR AN ENVIRONMENTAL
CONTROL DEVICE

Inventor(s): HOWARD ROSEN

Serial No.: 10/440,474

Filing Date: 5/15/2003

Group No.: 2675

Examiner: Dennis-Doon Chow

Attorney Docket No.: 0304.1A4

**AMENDMENT AND REQUEST FOR
RECONSIDERATION**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the last Office Action, Applicant respectfully requests entry of amendments to the above application as follows:

Claims: Please cancel claims 2-4, 7, 8, 11-13, and 17 and amend claims 1, 6, 10, 14, 15, and 16 as follows:

1. (currently amended) A method for operating a dot matrix type liquid crystal digital display that is optionally backlighted by a backlight for viewing by a user in a room where the liquid crystal digital display is located, where display elements of the liquid crystal digital display are driven by inputs from a programmable environmental control device that comprises control means for environmental control equipment comprising:
 - (a) one or more data items capable of being displayed on the display, where each data item consists of one or more image sections and each image section is substantially surrounded by a surrounding section;
 - (b) each image section is determined by the control means to be a set of substantially continuously adjacent display elements required for viewing by the user;
 - (c) each surrounding section is determined by the control means to be a set of display elements required to substantially outline its image section;
 - (d) presetting requirements of a first condition in the control means and determination by the control means that the first condition has occurred;
 - (e) causing the image sections of a data item to be non-opaque and its surrounding sections to be partially or completely opaque;
 - (f) presetting requirements of a second condition in the control means and determination by the control means that the second condition has occurred; and
 - (g) causing the image sections of a data item to be partially or completely opaque and its surrounding sections to be non-opaque; and
 - (h) the first condition is a first time of day and the second condition is a second time of day.

2. – 4. (cancelled)

5. (original) The method of claim 1 wherein the first condition is a first time of day near sunrise and the second condition is a second time of day near sunset, whereafter the backlight is powered to shine through non-opaque or partially opaque display elements.
6. (currently amended) The method of claim 1 wherein, for at least one flashing data item, ~~the first condition is a passage of a first time period since the occurrence of a second condition and~~ the second time of day of the second conditions condition is a second time period since the occurrence of the first time of day of the a first condition.
7. – 8. (cancelled)
9. (currently amended) The method of claim 7 wherein the occurrence of a third condition changes the first and second times of day, respectively, of the first and second conditions.
10. (currently amended) A method for operating a dot matrix type liquid crystal digital display that is optionally backlit by a backlight for viewing by a user in a room where the liquid crystal digital display is located, where display elements of the liquid crystal digital display are driven by inputs from a programmable environmental control device for controlling environmental control equipment comprising:
 - (a) one or more data items capable of being displayed on the display, where each data item consists of one or more image sections and each image section is substantially surrounded by a surrounding section;
 - (b) occurrence of a first condition;
 - (c) causing the image sections of one or more of the data items to be non-opaque and its surrounding sections to be partially or completely opaque;
 - (d) occurrence of a second condition; and
 - (e) causing the image sections of a data item to be partially or completely opaque and its surrounding sections to be non-opaque; and

- (f) the first condition is a first time of day and the second condition is a second time of day.

11.-13 (cancelled)

14. (currently amended) The method of claim 4 10 wherein the first condition is a first time of day near sunrise and the second condition is a second time of day near sunset, whereafter the backlight is powered to shine through non-opaque or partially opaque display elements.
15. (currently amended) The method of claim 10 wherein, for at least one flashing data item, ~~the first condition is a passage of a first time period since the occurrence of a second condition and~~ the second time of day of the second conditions condition is a second time period since the occurrence of the first time of day of the a first condition.
16. A method for operating a liquid crystal digital display panel that is optionally backlighted by a backlight panel for viewing by a viewer in a room in which the liquid crystal digital display panel is located, where the liquid crystal digital display panel is driven by inputs from a programmable environmental control device that controls the operation of environmental control equipment comprising:
- (a) the liquid crystal digital display panel displaying one or more data items, each display item comprising:
 - (i) an image section determined by the environmental control device to be display elements required for viewing by the viewer and driven to a first state;
 - (ii) a surrounding section determined by the environmental control device to be display elements surrounding the viewer elements and driven to a second state, where the second state is different from first state so that the viewer of the data item field can see a contrast between the viewer section and the surrounding section;

- (b) determination by the programmable environmental control device of a first time of day or receipt of a signal generated by manual switching by a user using a user interface as a first condition; and
- (c) after determination of the first condition, causing the display elements of the image section to be driven in the second state and the surrounding section to be driven in the first state, resulting in a visible image reversal to the viewer.

17. (cancelled)

REMARKS

In the last office action, Claims 2 and 11 were said to be allowable if written in independent form including all of the limitations of the base claim and any intervening claims. Claims 1 and 10 are amended to incorporate all the limitations of Claims 2 and 11 respectively, and Claims 2 and 11 are cancelled from the application. Therefore, Claims 1 and 10 are in allowable form.

Consequently, Claims 5, 6, 14, and 15, which depend from allowable, independent claims are also allowable. Claims 5 and 14 are essentially unchanged and were found in the last office action to be allowable. Claims 6 and 15 are amended to provide that a time period between the first and second conditions may determine the time of day of the second condition. Claim 9 is amended so that the occurrence of a third condition changes the times of day of the first and second conditions.

Claim 16 was said in the last office action to be obvious under 25 USC 103 in consideration of Saegusa and Applicant's prior art. Claim 16 is amended so that the first condition may be either the occurrence of a first time of day or a manual input from a user. Neither Saegusa or said prior art disclose a change in contrast for a data item for a programmable thermostat upon receipt of a manual input signal from a user.

Consideration of the above amendments and remarks is requested and it is submitted that such amendments and remarks place the application in a condition for allowance for claims 1, 5, 6, 9, 10, and 14-16. Applicant requests entry of amendments and allowance of such claims.

Respectfully submitted,

Dated: October 20, 2005



David T. Bracken
Registration No. 37,522
Phone: (714) 744-4798



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX
LCD FOR AN ENVIRONMENTAL
CONTROL DEVICE

Inventor(s): HOWARD ROSEN

Serial No.: 10/440,474

Filing Date: 5/15/2003

Group No.: 2675

Examiner: Dennis-Doon Chow

Attorney Docket No. 0304.1A4

**PETITION FOR EXTENSION OF TIME
PURSUANT TO 37 CFR §1.136 AND
§1.17(a) TO (d)**

Last, pending office action mailed: 6/13/2005
Original period for response expired: 9/13/2005
Request for extension of 2 month(s) to: 11/13/2005
Petition fee (small entity) enclosed: \$225.00

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant(s) respectfully petition that the period of response to the last, pending office action indicated above be extended for the additional months indicated above. A response to the last, pending office action and the above Petition Fee is enclosed.

Respectfully submitted,

Dated: October 20, 2005

D. Bracken

David T. Bracken
Registration No. 37,522
The Law Office of David T. Bracken
4839 East Bond Avenue
Orange, CA 92869
Phone: 714-744-4798 FAX: 714-771-3968

10/25/2005 HDEMESS1 00000064 10440474

01 FC:2252

225.00 0P



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX LCD
FOR AN ENVIRONMENTAL CONTROL
DEVICE

Inventor(s): HOWARD ROSEN

Serial No.: 10/440,474

Filing Date: 5/15/2003

Group No.: 2675

Examiner: Dennis-Doon Chow

Attorney Docket No.: 0304.1A4

TRANSMITTAL LETTER

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted for filing for the above patent
application are the following:

Papers Enclosed:

- ☒ Amendment - 6 p.
- ☒ Petition for Extension of Time - 1 p.
- ☒ Check for \$225.00

CERTIFICATE OF MAILING (37 CFR 1.08)
I, the person below signing this Certificate of
Mailing, hereby certify that this document
and the documents referred to as enclosed
therewith are being deposited with sufficient
postage with the United States Postal
Service on this date in an envelope for first
class service addressed to: Commissioner
for Patents, PO Box 1450, Alexandria, VA
22313-1450

David T. Bracken

Signature: David T. Bracken

Date of Mailing: *OCT. 20, 2005*

PATENT APPLICATION FEE DETERMINATION RECORD
Effective December 8, 2004

10/440474

CLAIMS AS FILED - PART I

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

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

CLAIMS AS AMENDED - PART II

10/24/05

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 8	Minus ** 20	= 0
Independent	* 3	Minus *** 3	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE		OR	BASIC FEE	
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL		OR	TOTAL	

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X\$ 25=	0	OR	X\$50=	
X100=	0	OR	X200=	
+180=	0	OR	+360=	
TOTAL ADDIT. FEE	0	OR	TOTAL ADDIT. FEE	

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

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	
TOTAL ADDIT. FEE		OR	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	OR	RATE	ADDITIONAL FEE
X\$ 25=		OR	X\$50=	
X100=		OR	X200=	
+180=		OR	+360=	



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/440,474	05/15/2003	Howard Rosen	0304.1A4	7930
7590	06/13/2005			
David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange, CA 92869			EXAMINER CHOW, DOON Y	
			ART UNIT 2675	PAPER NUMBER

DATE MAILED: 06/13/2005

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

Office Action Summary	Application No. 10/440,474	Applicant(s) ROSEN, HOWARD	
	Examiner Dennis-Doon Chow	Art Unit 2675	

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

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

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

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 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, -4, 6-10, 12-13 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 2, 5, 11 and 14 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)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/15/03</u> . | 6) ☐ Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 5 and 14 are objected to because of the following informalities: Claims 5 and 14 are identical. Appropriate correction is required.

Claim Rejections - 35 USC § 102

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

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6-10, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Saegusa (5646645).

Regarding to claims 1 and 10, Saegusa discloses a method for operating a dot matrix type Liquid crystal digital display that is lighted for viewing by a user in a room where the Liquid crystal digital display is Located, where display elements of the Liquid crystal digital display are driven by inputs from a control means, comprising: one or more data items capable of being displayed on the display, where each data item consists of one or more image sections and each image section is substantially surrounded by a surrounding section; each image section is determined by the control means to be a set of substantially continuously adjacent display elements required for viewing by the user (see Fig. 3); each surrounding section is determined by the control

means to be a set of display elements required to substantially outline its image section (see Fig. 3); presetting requirements of a first condition in the control means and determination by the control means that the first condition has occurred; causing the image sections of a data item to be transparent and its surrounding sections to be opaque (see Abstract); presetting requirements of a second condition in the control means and determination by the control means that the second condition has occurred; and causing the image sections of a data item to be opaque and its surrounding sections to be transparent (see Abstract).

Regarding to claims 6 and 15, Saegusa further disclose at least one flashing data item, the first condition is a passage of a first time period since the occurrence of a second condition and the second conditions is a second time period since the occurrence of a first condition (see abstract).

Regarding to claim 7, Saegusa further discloses the first and second time periods are sufficiently short so that a user observes that the flashing data item appears to be flashing on the display.

Regarding to claim 8, Saegusa further discloses the first and second time periods are less than two seconds.

Regarding to claim 9, Saegusa further disclose the occurrence of a third condition changes the first and second conditions.

Claim Rejections - 35 USC § 103

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

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

5. Claims 3-4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saegusa in view of Thuler (4104627).

Saegusa does not disclose alternating the transparent data and the opaque data based on ambient light.

Thuler, in the same display field, discloses a liquid crystal display device for alternatively reversing transparent data and opaque data based on a level of ambient light detected by a ambient light sensor, so that image data can be clearly seen in either a dark environment or in a light environment.

In light of Thuler, it would have been obvious to one of ordinary skill in the art to use Thuler's concept in Saegusa's invention so that the digital display can be clearly seen in either a dark environment or in a light environment.

6. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Saegusa.

The admitted prior art discloses a method for operating a liquid crystal digital display panel in a room, where the liquid crystal digital display panel is driven by inputs from a programmable environmental control device that controls the operation of

environmental control equipment. The Liquid crystal digital display panel displays image data.

The admitted prior art does not disclose displaying transparent image data and opaque image data, and alternately displaying the transparent image data and the opaque image data based on a first condition and a second condition.

Saegusa discloses generating a flashing image by alternately displaying a transparent image data and an opaque image data based on a first condition and a second condition.

In light of Saegusa, it would have been obvious to one ordinary skill in the art to use Saegusa's display means in the digital display of the admitted prior art because the flashing effect attracts the user's attention when the user's attention is needed.

Allowable Subject Matter

7. Claims 2, 5/14, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wiedemann et al. teaches alternately displaying a transparent image and an opaque image.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 571-272-7767. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Chow
June 10, 2005

Dennis-Doon Chow
Primary Examiner
Art Unit 2675


DENNIS-DOON CHOW
PRIMARY EXAMINER



Approved for use through 10/31/2002. OMB 0651-0031

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

Sheet _____ of _____

U.S. PRO
10/440474
05/15/03

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

Notice of References Cited	Application/Control No. 10/440,474	Applicant(s)/Patent Under Reexamination ROSEN, HOWARD	
	Examiner Dennis-Doon Chow	Art Unit 2675	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,347,293	09-1994	Wiedemann et al.	345/87
	B	US-4,104,627	08-1978	Thuler, Oscar W.	345/50
	C	US-5,646,645	07-1997	Saegusa, Takashi	345/101
	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.

10/440,474

Examiner

Dennis-Doon Chow

Applicant(s)/Patent under
Reexamination

ROSEN, HOWARD

Art Unit

2675

SEARCHED

Class	Subclass	Date	Examiner
345	87	6/9/2005	CHOW
	94		
	98		
	99		
	100		
	101		
	102		
	211	6/9/2005	CHOW

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR

Index of Claims



Application/Control No.

10/440,474

Examiner

Dennis-Doon Chow

Applicant(s)/Patent under Reexamination

ROSEN, HOWARD

Art Unit

2675

✓	Rejected
=	Allowed

–	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date		Claim		Date		Claim		Date	
Final	Original			Final	Original			Final	Original		
	1	✓			51				101		
	2	0			52				102		
	3	✓			53				103		
	4	✓			54				104		
	5	0			55				105		
	6	✓			56				106		
	7	✓			57				107		
	8	✓			58				108		
	9	✓			59				109		
	10	✓			60				110		
	11	0			61				111		
	12	✓			62				112		
	13	✓			63				113		
	14	0			64				114		
	15	✓			65				115		
	16	✓			66				116		
	17	✓			67				117		
	18				68				118		
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	49				99				149		
	50				100				150		



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Bib Data Sheet

CONFIRMATION NO. 7930

SERIAL NUMBER 10/440,474	FILING DATE 05/15/2003 RULE	CLASS 345	GROUP ART UNIT 2675	ATTORNEY DOCKET NO. 0304.1A4	
APPLICANTS Howard Rosen, Montreal, CANADA; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** SMALL ENTITY ** ** 07/16/2003					
Foreign Priority claimed ☐ yes ☒ no 35 USC 119 (a-d) conditions met ☐ yes ☒ no ☐ Met after Allowance Verified and Acknowledged <u>David T. Bracken</u> Examiner's Signature Initials		STATE OR COUNTRY CANADA	SHEETS DRAWING 2	TOTAL CLAIMS 17	INDEPENDENT CLAIMS 3
ADDRESS David T. Bracken The Law Office of David T. Bracken 4839 Bond Avenue Orange , CA 92869					
TITLE Reverse images in a dot matrix LCD for an environmental control device					
FILING FEE RECEIVED 440	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 _____		

<http://neo:8000/PrexServlet/PrexAction?serviceName=BibDataSheet&Action=display&brow...> 6/10/05

LENNOX EXHIBIT 1008



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APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/440,474	05/15/2003	Howard Rosen	0304.1A4

David T. Bracken
 The Law Office of David T. Bracken
 4839 Bond Avenue
 Orange, CA 92869

CONFIRMATION NO. 7930

FORMALITIES LETTER



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Date Mailed: 07/16/2003

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 statutory basic filing fee is missing.
Applicant must submit \$ 375 to complete the basic filing fee for a small entity.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$440** for a Small Entity

- **\$375** Statutory basic filing fee.
- **\$65** Late oath or declaration Surcharge.

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


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PART 3 - OFFICE COPY

Jc759 U.S. PTO
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10440474 051503
05-16-03

A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX LCD
FOR AN ENVIRONMENTAL CONTROL
DEVICE
Inventor(s): Howard Rosen
Serial No.:
Filing Date:
Group No.:
Examiner:
Attorney Docket No.: 0304.1A4



Jc821 U.S. PTO
10/440474
05/15/03

TRANSMITTAL LETTER:
REGULAR PATENT APPLICATION

COMMISSIONER FOR PATENTS

Sir:

Transmitted hereunder for filing is
the above patent application and/or
related documents as listed below.

Papers Which Are Required for Filing Date:

- i) Pages of Specification: 8
- ii) Pages of Claims: 4
- iii) Pages of Drawings: 2
- iv) Pages of Abstract: 1

CERTIFICATE OF MAILING (37 CFR 1.10)
I, the person below signing this Certificate of Mailing,
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David T. Bracken
Signature: David T. Bracken
Date of Mailing: May 15, 2003

Additional Papers Enclosed:

- ☒ Declaration/Power of Attorney
- ☒ Information Disclosure Statement / Remarks
- ☒ Copies of Cited Prior Art

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- ☒ Applicant(s) claim small entity status for this application as per 37 CFR 1.9 and 27.
- ☒ Pursuant to 37 CFR 1.211, Applicant hereby requests nonpublication with this application. The application is not to be published under 35 U.S.C. 122(b). Applicant certifies that the invention disclosed in the application has not been and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

David T. Bracken

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Regular Patent Application
Docket No. 0304.1A4

Title: REVERSE IMAGES IN A DOT MATRIX LCD FOR AN ENVIRONMENTAL
5 CONTROL DEVICE

Inventor(s): HOWARD ROSEN

10

BACKGROUND OF THE INVENTION

The present invention relates to displays visible to a user of an environmental control device, especially a display on a programmable thermostat.

15 Dot-matrix type LCD's, which have display elements arranged in rows and columns, are used in great numbers. These LCD's available at present are classified into three types. The first is a positive type wherein some of the display elements become opaque when driven, thus defining characters, symbols, and graphic characters. The second is a negative type wherein some of the display elements become opaque when driven,
20 whereby the remaining display elements define characters, symbols, and graphic characters. The third is a positive-negative type, which functions as a positive type when operated in the first operating mode and as a negative type when operated in the second mode. With most LCD's available now, it is possible to change the image contrast, that is, the ratio in brightness of the data items displayed to the background of
25 the screen.

Dot-matrix type LCD's are common as user-visible displays on programmable thermostats for viewing of alphanumeric and iconic information. The displayed information relates to environmental conditions, HVAC equipment operation or non-operation, operational modes of the thermostat, and the like. Such displays are
30 commonly lighted from behind or from the side. The backlighting from this planar

element shines through non-opaque display elements of the LCD display, although the backlighting is blocked by display elements of the LCD display that are partially or completely opaque. Prior art thermostats have consistently been programmed so that data items are shown on the LCD as partially or completely opaque display elements.

5

SUMMARY OF THE INVENTION

The present invention is an environmental control device such as a programmable thermostat with a dot matrix type LCD (which may be backlit) for display of user-viewable images against a surrounding set of display elements. In the invention, the contrast between the images (or a single image section) and its surrounding section of display elements is reversed upon the occurrence of certain conditions. The conditions setting off the contrast reversal can be a pre-set time or times, change in room illumination, occurrence of operating states sensed by the environmental control device, or other such conditions. If the pre-set times are close enough together, a user viewing the display perceives that images are "flashing". The "flashing" draws the attention of the user to that part of the display which is showing the reversals of image contrast. The entire display may exhibit the "flashing" activity. Alternately, a backlight may be switched on or off to draw the attention of the user to the display as a whole, which also provides a flashing effect to the user viewing the display.

The following is one embodiment of the invention. The programmable environmental control device with its display is in a room. When this room is lighted by natural or manmade lighting, user-viewable images are formed from display elements driven so that they are partially or completely opaque. The display elements substantially surrounding the image are clear. When the room is lighted, the backlighting may either be powered on or off, as ambient lighting is typically adequate to light the display elements of a dot matrix LCD. When the room is darkened, display elements forming the images are driven so that they are clear (i.e., negative) and the elements surrounding the images are partially or completely opaque (i.e. positive). The backlighting is powered so that light shines through the images and not through the surrounding section. A "backlighting" panel may actually provide lighting from sides of

the LCD, although the effect will be to cause illumination to shine through non-opaque display elements.

When the LCD is located in a room that is dark and/or dimly lighted, the present inventor has found that the user can see images far more easily when they are clear
5 and surrounding display elements are partially or completely opaque. In contrast to the present invention and typical in the prior art, the images will be formed from display elements driven so that they are opaque with all other display elements left essentially clear, i.e., as the positive type described above. The nature of the present backlighting used in thermostats results in a display that is hard to read from a distance in a dark or
10 dimly lighted room. The amount of light from the backlight substantially "overglows" the images until a user approaches to about 5 feet from the prior art displays.

The present invention allows the user to accurately distinguish display images from a much greater distance in a dark or dimly lighted room. The backlight shines through the images so that the "overglow" or aura effect of the backlight is used to the advantage of
15 displaying those elements, not obscuring them.

Images or image sections, as used herein, are a generally continuous set of pixels in the display that are contrasted with surrounding display elements. An image or image section comprises a letter, an icon, a line or dash, or other item that is required by the programmable environmental control device to be set apart from other images or image
20 sections. A set of script letters may be joined and continuous, as in handwriting, or discontinuous in the manner of some fonts available for digital display. An image or image section need not be completely surrounded by contrasting display elements to be understandable to a user. Some overlap of a first image into other images can occur as long as the first image remains understandable to a user looking at the display. A
25 contrast outline between the image and the surrounding display elements only needs to be continuous enough to allow the user to adequately distinguish the image.

However, adjacent display elements between an image and the surrounding section of elements need not be entirely opaque and non-opaque. An image can be partially opaque in an edge part between a central part of image and an outer edge of the
30 image. In a darkened room, the central part elements are driven so that they are

substantially clear and the edge part elements are driven so that they are partially opaque. Using a partially opaque edge part reduces the tendency of a glowing aura from the clear elements to obscure a sharp edge of the image. This is a less preferred form of the invention.

5 An object of the present invention is to provide an environment control device for more easily observing viewer elements backlighted in a darkened room.

Another object of the invention is to provide an apparatus which can adjust the image contrast of a display device after the occurrence of a condition. In response to a first condition, the display device reverses its image contrast at least in part of the display. In
10 response to a second condition, the display device returns to its original state as to that part of the display whose image contrast was changed.

Separable images shown on a display of a programmable thermostat are typically combined to form words, graphics, icons, lines, geometric forms and other such items. These combinations with a sufficient surrounding set of display elements form what is
15 referred to herein as a data item. However, a data item can contain only a single image. Data items are typically arranged to communicate information or aesthetics to a viewing user of the programmable environmental control device. All images in a data item are preferably driven in the same state (i.e., positive or negative), where the surrounding sections of the data item are driven to contrast with the images (i.e., negative or
20 positive). This allows the user to see and understand the information or appreciate the aesthetics of the data item. When in a "flashing" mode, the data item will draw the user's attention to that part of the display. The occurrence of a change in the operation of the thermostat or information set to be displayed is a condition that will cause the image contrast to reverse. The user will then instantly know that a change has occurred
25 in the thermostat operation or displayed information.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is schematic and top view of a programmable environmental control device with a backlighted dot matrix type LCD.

30 Figure 2 is a magnified section 106 of Figure 1.

Figure 3 is an exemplary flow chart of the invention method.

DETAILED DESCRIPTION OF THE INVENTION

The invention is now discussed with reference to the figures.

5 Figure 1 shows a thermostat 100 having means 101 for controlling HVAC equipment through programs resident in ROM and operational through RAM, where means 101 is effectively connected with multiple connections 102 with a dot-matrix liquid crystal display (LCD) panel 104 whose pixels 105 are driven by inputs to their vertical columns and horizontal rows from means 101. Panel 104 may be either a positive, negative or
10 positive-negative type of dot matrix type LCD. Backlight panel 103 is shown for illustration as separated from a backside of LCD panel 104, although it is known and preferred that these two panels be in close contact. Backlight panel 103 is connected to power and a means of control so that it can be turned on or off as needed. Means 101 also optionally comprises means for sensing a light level or illumination in a room in
15 which LCD panel 104 is located, which illumination may be compared with a previously input minimum illumination value to determine whether or not the room is darkened or dimly lighted. Means 101 comprises a clock and means for inputting one or more times of day. Upon the occurrence of the input time or times, one or more data items would experience an image reversal or enter a "flashing" mode.

20 Figure 2 shows section 106 operated as it would preferably appear during a daytime or lighted room condition. In another preferred mode of operation, the display shown in Figure 2 of the image section and surrounding section will be activated upon the occurrence of other conditions as described herein. The display elements of surrounding section 107 are essentially clear and, optionally, backlight panel 103 shines
25 through them to a user in front of LCD panel 104. The display elements of image section 108 are partially or completely opaque. The combination of image section 108 and surrounding section 107 can constitute a data item comprehensible and legible to a user in a lighted room.

Figure 3 shows section 106 operated as it would during a nighttime, darkened room
30 or other described condition. The display elements of the surrounding section 107 are

partially or completely opaque and backlight panel 103 cannot shine through them to a viewer in front of LCD panel 104. The display elements of image section 108 are essentially clear and backlight panel 103 shines through them to a viewer in front of LCD panel 104. The data item is thereby comprehensible and legible to the viewer in the darkened room. The result of this mode of operation is a dimmer display. An edge portion, as defined above, of image section 108 are those display elements that are adjacent to the surrounding section 107.

Figure 4 shows a general flow chart for a form of the invention method. Step 110 causes backlight panel 103 to turn on so that it shines forwardly through essentially clear and (in a limited way) partially opaque display elements of LCD panel 104. Step 112 requires an input of a time of day as timeset 1 when the sun generally goes down and/or the room is generally darkened for the room where LCD panel is located. Step 114 requires an input of a time of day as timeset 2 when the sun generally rises and/or the room is generally lighted for the room where LCD panel is located.

Step 116 evaluates whether a present time of day from a clock in means 101 is greater than or equal to timeset 1 and is less than timeset 2 or whether the room is dark (by comparison of present input from illumination sensing means in means 101 with a preset minimum illumination value in means 101). If one of the two conditions is met, step 118 causes all non-viewer display elements 107 (as in Figure 3) to be partially or completely opaque. Step 120 follows causing all display elements of the image section 108 (as in Figure 3) to be essentially clear (non-opaque). Step 116 follows 120 so that the conditions are continuously or periodically re-checked for compliance.

If neither of the two conditions of step 116 are met, step 122 causes all display elements of the surrounding section 107 (as in Figure 2) to be driven so that they are essentially clear (non-opaque). Step 122 is followed by step 124 that causes all display elements of the image section 108 (as in Figure 4) to be driven so that that they are partially or completely opaque. Step 116 follows 124 so that the conditions are continuously or periodically re-checked for compliance.

Step 116 may be altered so that present room illumination is compared with a maximum pre-set value to determine if the room is lighted above a minimum level

typically needed by a user for reading the invention display in a prior art manner for daytime operation, thereby causing steps 122 and 124 to be acted upon.

As described in the above summary of the invention, separable data items on a display device of a programmable thermostat can be shown so that each has a viewer
5 section and a surrounding or non-viewer section. Image contrast between the viewer section and surrounding section allows the user to see the information. The image contrast will reverse at the occurrence of a change in the operation of the thermostat or information set to be displayed. The user will then instantly know that a change has occurred in the thermostat operation or displayed information.

10 The extent of the surrounding field may vary, but is intended that the surrounding field must extend away from the edges of a data item at least enough so that the letters or graphic items are easily comprehensible by a user standing in front of the display device. The display device can be divided into a number of data item fields. In one form of the invention, each data item field contains a data item whose image contrast
15 between its viewer and non-viewer sections operate independently of those of other data item fields.

For example, in a display showing that a programmable thermostat is in a heating mode and operating the heater, a portion of its display device displays the word "HEAT" with the letters formed from a positively driven part of the display and a surrounding
20 field negatively driven. The letters of the word "HEAT" would be a set of image sections and the display immediately around those letters would be their surrounding sections. The combination of the letters of the word "HEAT" and their surrounding fields would be a data item. When the thermostat is in a heating mode and the heater switches off, the image contrast of the data item is reversed. The letters of the word "HEAT" are formed
25 from a negatively driven part of the display and the surrounding field is positively driven. In a flashing mode, the above image reversal would occur frequently enough so that a user looking at the display would notice the data item, such as at a rate of 1 to 2 image reversals or contrast reversals per second.

In summary, the present invention causes one or more data items that may be
30 shown in a display of a programmable environmental control device:

1. to be shown in a first image contrast upon the occurrence of a first condition and then
2. to be shown with a reverse of the first image contrast upon the occurrence of a second condition.

5 The triggering conditions may be any of those which a programmable environmental control device may store, generate, receive or otherwise have available to its programs. In addition, one of the conditions that causes a change in image contrast may be an signal generated by manual switching by a user using a user interface with the programmable environmental control device. The interface may be a button on the
10 programmable environmental control device.

It is well known in the art of programmable thermostats to provide basic on-off operation of HVAC equipment, sophisticated modal operation of that equipment and display of information such as time, temperature, humidity, equipment status, and the like. Each of the display indications of the thermostat operation and the items of
15 information may be a separately operable data item, in that the image contrast may have a positively driven image section(s) in one data item and a negatively driven image section(s) in an adjacent data item. In a specific example, an indication of the day's weather may be shown on the display with the viewer section comprising a cloud, where if the day will be without rain the cloud is driven so that it is substantially clear
20 and the surrounding section is darkened. If the day will be rainy, the viewer section cloud will be shown darkened and the surrounding field will be shown substantially clear. The condition upon which the reversal of image contrast occurs may be receipt of weather information by the programmable thermostat from a computer network that in turn receives weather predictions from various sources.

25 The above design options will sometimes present the skilled designer with considerable and wide ranges from which to choose appropriate apparatus and method modifications for the above examples. However, the objects of the present invention will still be obtained by that skilled designer applying such design options in an appropriate manner.

30

I CLAIM:

1 1. A method for operating a dot matrix type liquid crystal digital display that is optionally
2 backlighted by a backlight for viewing by a user in a room where the liquid crystal digital
3 display is located, where display elements of the liquid crystal digital display are driven
4 by inputs from a programmable environmental control device that comprises control
5 means for environmental control equipment comprising:

6 (a) one or more data items capable of being displayed on the display, where
7 each data item consists of one or more image sections and each image
8 section is substantially surrounded by a surrounding section;

9 (b) each image section is determined by the control means to be a set of
10 substantially continuously adjacent display elements required for viewing by
11 the user;

12 (c) each surrounding section is determined by the control means to be a set of
13 display elements required to substantially outline its image section;

14 (d) presetting requirements of a first condition in the control means and
15 determination by the control means that the first condition has occurred;

16 (e) causing the image sections of a data item to be non-opaque and its
17 surrounding sections to be partially or completely opaque;

18 (f) presetting requirements of a second condition in the control means and
19 determination by the control means that the second condition has occurred;
20 and

21 (g) causing the image sections of a data item to be partially or completely
22 opaque and its surrounding sections to be non-opaque.

1 2. The method of claim 1 wherein the first condition is a first time of day and the
2 second condition is a second time of day.

1 3. The method of claim 1 wherein an illumination level for the room is input into the
2 control means, which control means further comprise means for sensing illumination of

3 the room, and the first condition comprises the control means determining that the room
4 illumination is greater than the illumination level.

1 4. The method of claim 3 wherein the second condition comprises the control means
2 determining that the room illumination is less than the illumination level and the
3 backlight is powered to shine through non-opaque or partially opaque display elements.

1 5. The method of claim 1 wherein the first condition is a first time of day near sunrise
2 and the second condition is a second time of day near sunset, whereafter the backlight
3 is powered to shine through non-opaque or partially opaque display elements.

1 6. The method of claim 1 wherein, for at least one flashing data item, the first condition
2 is a passage of a first time period since the occurrence of a second condition and the
3 second conditions is a second time period since the occurrence of a first condition.

1 7. The method of claim 6 wherein the first and second time periods are sufficiently
2 short so that a user observes that the flashing data item appears to be flashing on the
3 display.

1 8. The method of claim 7 wherein the first and second time periods are about two
2 seconds or less.

1 9. The method of claim 7 wherein the occurrence of a third condition changes the first
2 and second conditions.

1 10 A method for operating a dot matrix type liquid crystal digital display that is optionally
2 backlit by a backlight for viewing by a user in a room where the liquid crystal digital
3 display is located, where display elements of the liquid crystal digital display are driven
4 by inputs from a programmable environmental control device for controlling
5 environmental control equipment comprising:

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6 (a) one or more data items capable of being displayed on the display, where

7 each data item consists of one or more image sections and each image

8 section is substantially surrounded by a surrounding section;

9 (b) occurrence of a first condition;

10 (c) causing the image sections of one or more of the data items to be non-

11 opaque and its surrounding sections to be partially or completely opaque;

12 (d) occurrence of a second condition; and

13 (e) causing the image sections of a data item to be partially or completely

14 opaque and its surrounding sections to be non-opaque.

1 11. The method of claim 10 wherein the first condition is a first time of day and the
2 second condition is a second time of day.

1 12. The method of claim 10 wherein an illumination level for the room is input into the
2 control means, which control means further comprise means for sensing illumination of
3 the room, and the first condition comprises the control means determining that the room
4 illumination is greater than the illumination level.

1 13. The method of claim 12 wherein the second condition comprises the control means
2 determining that the room illumination is less than the illumination level and the
3 backlight is powered to shine through non-opaque or partially opaque display elements.

1 14. The method of claim 1 wherein the first condition is a first time of day near sunrise
2 and the second condition is a second time of day near sunset, whereafter the backlight
3 is powered to shine through non-opaque or partially opaque display elements.

1 15. The method of claim 10 wherein, for at least one flashing data item, the first
2 condition is a passage of a first time period since the occurrence of a second condition
3 and the second conditions is a second time period since the occurrence of a first
4 condition.

1 16. A method for operating a liquid crystal digital display panel that is optionally
2 backlighted by a backlight panel for viewing by a viewer in a room in which the liquid
3 crystal digital display panel is located, where the liquid crystal digital display panel is
4 driven by inputs from a programmable environmental control device that controls the
5 operation of environmental control equipment comprising:

6 (a) the liquid crystal digital display panel displaying one or more data items, each
7 display item comprising:

8 (i) an image section determined by the environmental control device to be
9 display elements required for viewing by the viewer and driven to a first
10 state;

11 (ii) a surrounding section determined by the environmental control device to
12 be display elements surrounding the viewer elements and driven to a
13 second state, where the second state is different from first state so
14 that the viewer of the data item field can see a contrast between the
15 viewer section and the surrounding section;

16 (b) determination by the programmable environmental control device of a first
17 condition; and

18 (c) after determination of the first condition, causing the display elements of the
19 image section to be driven in the second state and the surrounding section to
20 be driven in the first state, resulting in a visible image reversal to the viewer.

1 17. The method of claim 16 wherein the first condition is selected from among the
2 group consisting of a change of an operating mode for the environmental control
3 equipment, a change in an environmental condition sensed by the programmable
4 environmental control device, a change in information required for display by the
5 programmable environmental control device, manual switching, and an occurrence of a
6 time predetermined by the programmable environmental control device.

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Docket No. 0304.1A4

ABSTRACT

5 The present invention is a method for operating a backlighted dot matrix type LCD for
displayed outputs from a programmable environmental control device, such as a
programmable thermostat. The LCD is operated so that viewer elements of a displayed
data item are non-opaque when a room where the LCD is located is darkened and the
surrounding display elements are partially or completely opaque. Selected elements can
also change from opaque to non-opaque to display an active condition.

10



10440474 .051503

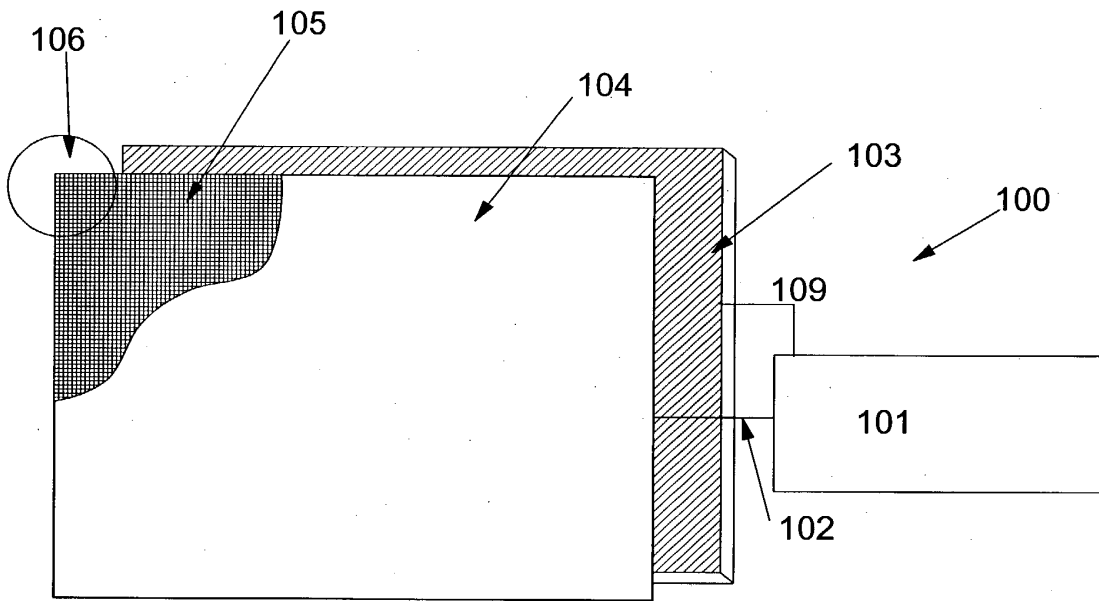


FIGURE 1

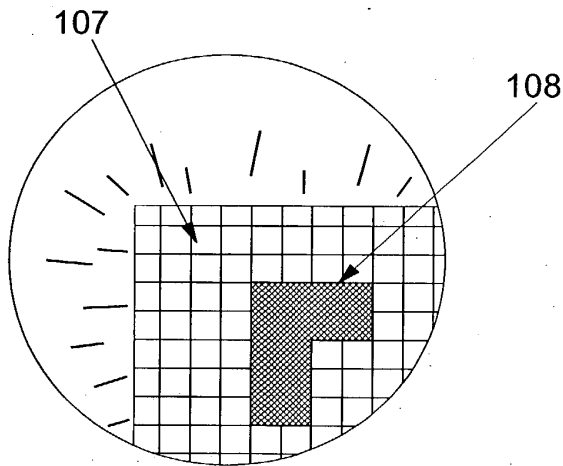


FIGURE 2

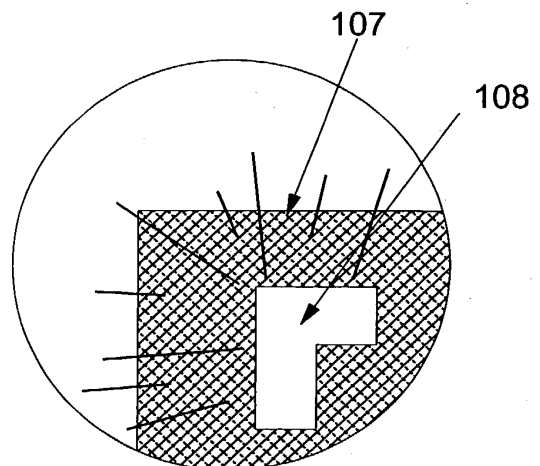
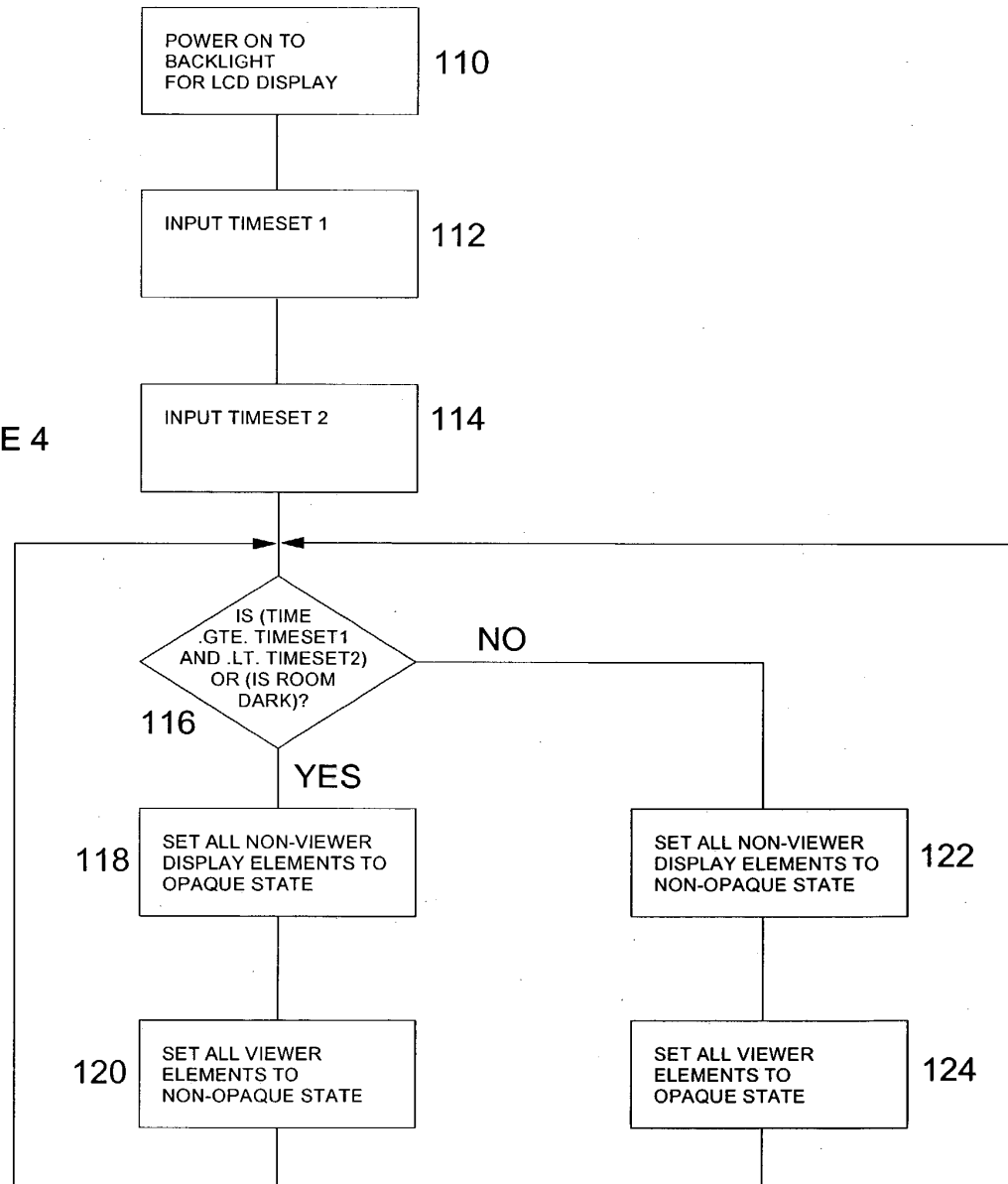


FIGURE 3



FIGURE 4



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT MATRIX
LCD FOR AN ENVIRONMENTAL
CONTROL DEVICE

Inventor(s): Howard Rosen

Assignee: Howard Rosen

Serial No.:

Filing Date:

Group No.:

Examiner:

Attorney Docket No.: 0304.1A4

DECLARATION / POWER OF
ATTORNEY

As above-named inventor(s), I (we) hereby declare that:

1. My residence and citizenship are as stated by my name.

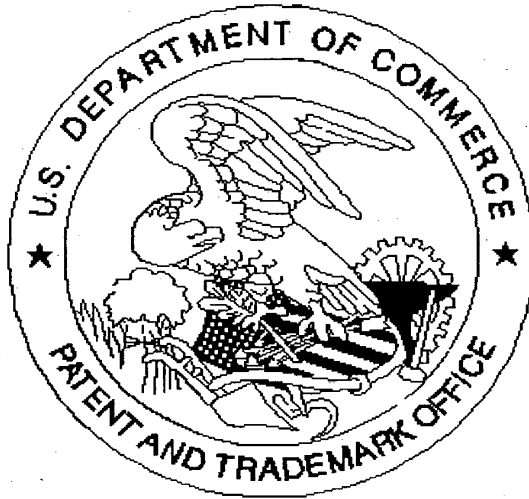
Full Name of Inventor:		Citizenship:
#1 Howard Rosen	Address #1: 5756 Royalmount Avenue, Montreal, Quebec, H4P 1K5 Canada	Canada

I (we) further declare that:

2. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention identified above and is attached hereto.
3. I have reviewed and understand the contents of the above identified specification, claims, drawings and abstract and acknowledge my duty to disclose information which is material to the examination of this application in accordance with Title 37 Code of Federal Regulations §1.56.
4. The inventor(s) named below does (do) hereby appoint as attorney of record with full power of substitution and revocation, to prosecute the above application and transact all business in the Patent and Trademark Office connected therewith: 1. David T. Bracken, Registration No. 37,522; Send correspondence to: David T. Bracken, The Law Office of David T. Bracken, 4839 East Bond Avenue, Orange, California 92869
5. All statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. All the above statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 the United States Code, and such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full Name of Inventor:	Signature of Inventor:	Date:
#1 Howard Rosen		5/14/2003

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PATENT APPLICATION FEE DETERMINATION RECORD

Effective January 1, 2003

Application or Docket Number

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	17	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	17 minus 20=	*
INDEPENDENT CLAIMS	3 minus 3 =	*
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

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

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 ☐			

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

	(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 ☐			

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** 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.

SMALL ENTITY TYPE ☐

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	375.00
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	FEE
BASIC FEE	750.00
X\$18=	
X84=	
+280=	
TOTAL	

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

RATE	ADDI-TIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	ADDI-TIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL	

RATE	ADDI-TIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	ADDI-TIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL	

RATE	ADDI-TIONAL FEE
X\$ 9=	
X42=	
+140=	
TOTAL	

RATE	ADDI-TIONAL FEE
X\$18=	
X84=	
+280=	
TOTAL	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title: REVERSE IMAGES IN A DOT
MATRIX LCD FOR AN
ENVIRONMENTAL CONTROL
DEVICE

Inventor(s): Howard Rosen

Assignee: Howard Rosen

Serial No.:

Filing Date:

Group No.:

Examiner:

Attorney Docket No.: 0304.1A4



INFORMATION DISCLOSURE
STATEMENT - REMARKS



COMMISSIONER FOR PATENTS

Sir:

In accordance with the duty of disclosure under 37 C.F.R. 1.56 and pursuant to 37 C.F.R. 1.97-1.98, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents listed on the attached Form PTO-SB-08A. One copy of the cited document is submitted herewith.

US Patents 6,484,951 discloses an LCD with what is described as a flashing display component upon the occurrence of sensing of a carbon oxide level. The flashing is understood in the art to be a simple change of data item pixels from a positive to negative state without changing the state of the surrounding pixels.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant reserves the right to dispute any of the listed documents as prior art during examination. Further, Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application. Furthermore, the submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other material information may exist. Applicant respectfully submits that all pending claims are patentable over the foregoing references, alone or in combination.

The present Information Disclosure Statement is being filed within three months of the filing date of the U.S. patent application, and therefore no certification under 37 C.F.R. 1.97(e) or fee under 37 C.F.R. 1.17(p) is required.

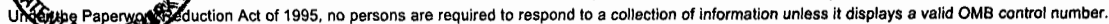
Respectfully submitted,

Dated: May 15, 2003

David T. Bracken

David T. Bracken

Registration No. 37,522



Approved for use through 10/31/2002. OMB 0651-0031

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

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Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.