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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/959,225	03/06/2012	8131497	EFACT.005C1	4651

20995 7590 02/15/2012
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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

John Douglas Steinberg, Millbrae, CA;
Scott Douglas Hublou, Redwood City, CA;



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/959,225	12/02/2010	John Douglas Steinberg	EFACT.005C1	4651

7590 02/03/2012
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

DESTA, ELIAS

ART UNIT	PAPER NUMBER
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2857

NOTIFICATION DATE	DELIVERY MODE
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02/03/2012

ELECTRONIC

NOTICE OF NON-COMPLIANT INFORMATION DISCLOSURE STATEMENT

An Information Disclosure Statement (IDS) filed 1/27/12 in the above-identified application fails to meet the requirements of 37 CFR 1.97(d) for the reason(s) specified below. Accordingly, the IDS will be placed in the file, but the information referred to therein has not been considered.

The IDS is not compliant with 37 CFR 1.97(d) because:

- ☒ The IDS lacks a statement as specified in 37 CFR 1.97(e).
- ☐ The IDS lacks the fee set forth in 37 CFR 1.17(p).
- ☐ The IDS was filed after the issue fee was paid. Applicant may wish to consider filing a petition to withdraw the application from issue under 37 CFR 1.313(c) to have the IDS considered. See MPEP 1308.

571-272-4200 or 1-888-786-0101
Application Assistance Unit
Office of Data Management

PART B - FEE(S) TRANSMITTAL

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

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

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

20995 7590 11/18/2011
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

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.
12/959,225	12/02/2010	John Douglas Steinberg	EFAC005C1	4651

TITLE OF INVENTION: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	02/21/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
DESTA, ELIAS	2857	702-130000

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 **Knobbe, Martens,**
- 2 **Olson & Bear, LLP**
- 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)

EcoFactor, Inc.

Millbrae, CA

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

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

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

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

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

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

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

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

Authorized Signature

John R. King
John R. King

Date **1-27-2012**

Typed or printed name

Registration No. **34,362**

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Steinberg, et al.
Appl. No.	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner	:	Elias Desta
Group Art Unit	:	2857

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

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

Dear Sir:

In response to the Statement of Reasons for Allowance in the Notice of Allowance mailed November 18, 2011, Applicant respectfully submits the following comments.

Applicant respectfully disagrees with the Examiner's statement of reasons for allowance to the extent that the limitations recited by the Examiner are not present in all of the claims. Also, to the extent that there is any implication that the patentability of the claims rests on the recitation of a single feature, Applicant respectfully disagrees with the Examiner's Statement because it is the combination of features that makes the claims patentable.

Applicant submits that the claims of the present application are allowable because each of the claims recites a combination of features that are not taught or suggested by the prior art.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 1-27-2012

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

TRANSMITTAL OF SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Applicant : Steinberg, et al.
App. No : 12/959,225
Filed : December 2, 2010
For : SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS
OF A BUILDING
Examiner : Elias Desta
Art Unit : 2857
Conf No. : 4651

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

Dear Sir:

This Supplemental Information Disclosure Statement is being filed to submit the enclosed PTO/SB/08 Equivalent listing five (5) references, of which three (3) are enclosed/submitted.

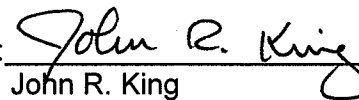
Pursuant to 37 C.F.R § 1.97(g) and (h), Applicants make no representation that the information is considered to be material to patentability. Additionally, inclusion on this list is not an admission that any of the cited documents are prior art in this application. Further, Applicants make no representation regarding the completeness of this list, nor represent that better art does not exist.

If this Supplemental IDS can be considered, Appellants authorize the Office to charge the relevant fee, if any, to Deposit Account 11-1410. If the IDS cannot be considered, Appellants request that it be placed in the file in accordance with Rule 1.97(i).

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 1-27-2012

By:


John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	2857
(Multiple sheets used when necessary)	Examiner	Desta, Elias
SHEET 1 OF 1	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	4,475,685	10-1984	Grimado, et al.	
	2	2007/0045431	03-03-2007	Chapman, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹
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NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹
	3	Bourhan, et al., "Cynamic model of an HVAC system for control analysis", Elsevier 2004	
	4	Emerson Climate Technologies, "Network Thermostat for E2 Building Controller Installation and Operation Manual", 2007	
	5	Johnson Controls, "T600HCx-3 Single-Stage Thermostats", 2006	

12658922:ad
012612

Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T¹ - Place a check mark in this area when an English language Translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	12959225			
Filing Date:	02-Dec-2010			
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING			
First Named Inventor/Applicant Name:	John Douglas Steinberg			
Filer:	John R. King/Amy Durrant			
Attorney Docket Number:	EFACT.005C1			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	870	870
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1170

Electronic Acknowledgement Receipt

EFS ID:	11941869
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Robin Leu
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	27-JAN-2012
Filing Date:	02-DEC-2010
Time Stamp:	17:03:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1170
RAM confirmation Number	4263
Deposit Account	111410
Authorized User	KNOBBE MARTENS OLSON AND BEAR

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	EFACT-005C1_issuefee.pdf	102780	no	1
			d4b206de7453c5e6239833dde81a87336f6e96c2		
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	EFACT-005C1_comments.pdf	39367	no	1
			6e9783ea1c6890858c73eb808f250e5d9ba cbdff		
Warnings:					
Information:					
3		EFACT-005C1_ids.pdf	88260	yes	2
			b8111c5de1132ee009dace9e2c6a6b39372d8594		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Information Disclosure Statement (IDS) Form (SB08)		2	2	
Warnings:					
Information:					
4	Non Patent Literature	EFACT-005C1_REF3.pdf	677648	no	17
			6752a20a0fc70fcb2928e0ce604f48ef90af77e5		
Warnings:					
Information:					
5	Non Patent Literature	EFACT-005C1_REF4.pdf	1466752	no	24
			a5f743c954ca3d79a5b403a656d1e65cc5d39265		
Warnings:					
Information:					
6	Non Patent Literature	EFACT-005C1_REF5.pdf	809133	no	16
			9a94c110428c7d3d171dc9d90e38cf2c5cf1506f		
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	31987	no	2
			ab7258071fd84411e46de2b966606f3c8f4a7f5e		
Warnings:					
Information:					

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 11/18/2011
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

DESTA, ELIAS

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 11/18/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/959,225

12/02/2010

John Douglas Steinberg

EFACT.005C1

4651

TITLE OF INVENTION: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$870	\$300	\$0	\$1170	02/21/2012

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

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

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

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

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

If the SMALL ENTITY is shown as NO:

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

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

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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

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

PART B - FEE(S) TRANSMITTAL

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

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20995 7590 11/18/2011
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
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IRVINE, CA 92614

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.
-----------------	-------------	----------------------	---------------------	------------------

12/959,225 12/02/2010 John Douglas Steinberg EFACT.005C1 4651

TITLE OF INVENTION: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional YES \$870 \$300 \$0 \$1170 02/21/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
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DESTA, ELIAS 2857 702-130000

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

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

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

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

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

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

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

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

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

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

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

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/959,225	12/02/2010	John Douglas Steinberg	EFACT.005C1	4651
20995	7590	11/18/2011	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			DESTA, ELIAS	
2040 MAIN STREET			ART UNIT	PAPER NUMBER
FOURTEENTH FLOOR			2857	
IRVINE, CA 92614			DATE MAILED: 11/18/2011	

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

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

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

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

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No.	Applicant(s)	
	12/959,225	STEINBERG ET AL.	
	Examiner	Art Unit	
	ELIAS DESTA	2857	

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

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

1. ☒ This communication is responsive to amendment filed on 8/12/2011.
2. ☒ The allowed claim(s) is/are 1-12.
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)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>8/12/2011</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|---|

/Edward Raymond/
Primary Examiner, Art Unit 2857

Detailed Action

Response to Amendment

1. Applicant's remarks, see amendment, filed 8/12/2011, with respect to the rejections of claims 2 and 8 under 35 U.S.C. 112; claims 1-6 under 35 U.S.C. 101 as claiming the same invention as the claims of 1-6 of prior U.S. Patent 7,848,900, claims 7-12 as being directed to an abstract idea; and obviousness double-patenting rejection of claims 7-12, as being unpatentable over claims 1-6 of U.S. Patent 7,848,900 have been considered in light of the amendment and the terminal disclaimer filed by the applicant. Upon further consideration, applicant inadvertently left out minor informalities with claim 1 of the instant application, i.e., defining HVAC in the claims as "heating, ventilation, and air conditioning" and omitting a period at the end of claim 1 of the instant application as pointed out in the previous first office action. Therefore, the corrections are made through an Examiner's Amendment as noted below.

Terminal Disclaimer

2. The terminal disclaimer filed on 8/12/2011 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 7,848,900 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 8/12/2011 is being considered by the examiner.

Examiner's Amendment

4. 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.

The application is amended as follows:

Claim 1 (currently amended): A system for calculating a value for the operational efficiency of ~~an~~ a heating, ventilation, and air conditioning (HVAC) system comprising:

at least one HVAC control system that receives temperature measurements from at least a first location conditioned by at least one HVAC system;

one or more databases that store at least said temperatures measured at said first location over time; and

one or more processors that receive outside temperature measurements from at least one source other than said HVAC system, wherein said one or more processors are configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "on" and wherein said one or more processors are further configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the

HVAC system is "off", and to relate said calculated rates of change to said outside temperature measurements.

Allowance

5. Claims 1-12 are allowed. The following is an examiner's statement of reasons for allowance:

In reference to claims 1 and 7: None of the references considered in this and the previous office action include (claim 1) "...one or more processors are configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "on" and wherein said one or more processors are further configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "off", and to relate said calculated rates of change to said outside temperature measurements, " and Claim 7: "calculating with one or more computer processors one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "on" and calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "off", where said calculated rates of change are related to said outside temperature measurements."

The remaining claims 2-6 and 8-12 depend on claims 1 and 7 respectively and include further limitation.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2857

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIAS DESTA whose telephone number is (571)272-2214. The examiner can normally be reached on M-Fri (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elias Desta
Examiner
Art Unit 2857

Application/Control Number: 12/959,225

Page 6

Art Unit: 2857

- /E. D. /

Examiner, Art Unit 2857

/Edward Raymond/

Primary Examiner, Art Unit 2857

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744 2857
(Multiple sheets used when necessary)	Examiner	Elias Desta
SHEET 1 OF 1	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
/E.D./	1	7,356,384	04-2008	Gull, et al.	
	2	7,784,704	08-31-2010	Harter	
	3	7,894,943	02-22-2011	Sloup et al.	
	4	2009/0240381	09-2009	Lane	
	5	2009/0281667	11-2009	Masui, et al.	
	6	2010/0019052	01-2010	Yip	
	7	2010/0070086	03-2010	Harrod, et al.	
	8	2010/0070089	03-2010	Harrod, et al.	
	9	2010/0070093	03-2010	Harrod, et al.	
	10	2010/0211224	08-2010	Keeling, et al.	
	11	2010/0235004	09-2010	Thind	
	12	2010/0289643	11-2010	Trundle, et al.	
	13	2011/0031323	02-2011	Nold, et al.	


FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹

11746928:ad
081211

Examiner Signature	/Elias Desta/	Date Considered	10/31/2011
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

T¹ - Place a check mark in this area when an English language Translation is attached.

Search Notes 	Application/Control No. 12959225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.
	Examiner ELIAS DESTA	Art Unit 2857

SEARCHED			
Class	Subclass	Date	Examiner
702	130, 182	10/31/2011	E.D.
700	276, 277, 278	10/31/2011	E.D.
236	91D	10/31/2011	E.D.
165	58, 200, 287	10/31/2011	E.D.

SEARCH NOTES		
Search Notes	Date	Examiner
Method of search: EAST, GOOGLE, IEEE Explore, Springer dbm, CRC	10/31/2011	E.D.
Text or key word searches: see EAST search history.	10/31/2011	E.D.
Inventor and assignee search: see EAST search history.	10/31/2011	E.D.
Plus search from the related case	4/9/2011	E.D.
Interference search: ((702/130,182).ccls. and ((out\$side with temperature) same (hvac with system) same ("on" and "off")).clm.: and select USPGPUB database in EAST.	10/31/2011	E.D.

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
702	130,182	10/31/2011	E.D.

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BIB DATA SHEET

CONFIRMATION NO. 4651

SERIAL NUMBER 12/959,225	FILING or 371(c) DATE 12/02/2010 RULE	CLASS 702	GROUP ART UNIT 2857	ATTORNEY DOCKET NO. EFACT.005C1		
APPLICANTS John Douglas Steinberg, Millbrae, CA; Scott Douglas Hublou, Redwood City, CA; ** CONTINUING DATA ***** This application is a CON of 12/211,733 09/16/2008 PAT 7,848,900 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 12/14/2010						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/ELIAS DESTA/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance E.D. Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 13	TOTAL CLAIMS 12	INDEPENDENT CLAIMS 2
ADDRESS KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614 UNITED STATES						
TITLE SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING						
FILING FEE RECEIVED 462	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit			

<i>Index of Claims</i> 	Application/Control No. 12959225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.
	Examiner ELIAS DESTA	Art Unit 2857

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant				<input checked="" type="checkbox"/> CPA		<input checked="" type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
CLAIM		DATE							
Final	Original	04/09/2011	10/31/2011						
1	1	✓	=						
2	2	✓	=						
3	3	✓	=						
4	4	✓	=						
5	5	✓	=						
6	6	✓	=						
7	7	✓	=						
8	8	✓	=						
9	9	✓	=						
10	10	✓	=						
11	11	✓	=						
12	12	✓	=						

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	1742	steinberg\$et\$al\$.inv. or steinberg.inv. or hublou.inv.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L6	10	Ecofactor\$inc\$.asn.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L7	10	L5 and L6	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L8	10	L7 and (hvac or (heat\$3 with ventilation with air with condition\$3))	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L9	6	L8 and (temperature with measurement)	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L10	6	L9 and database	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L11	0	L9 and ("on" same "off")	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L12	0	L9 and ("on" same "off")	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L13	0	L9 and (on and off)	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L14	0	L9 and on and off	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L15	0	L6 and on and off	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L16	10	L7 and "off"	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L17	0	L16 and "on"	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L18	0	L7 and "on"	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L19	7481	(700/276-278 or 702/130 or 702/182 or 236/91d or 165/200 or 165/287 or 165/58).ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L20	869	L19 and (HVAC or (heating with ventilat\$4 with air with condition\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L21	851	L20 and (control same system)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/10/31 20:46

			DERWENT; IBM_TDB			
L22	372	L21 and (outside same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L23	18	L22 and (compare same outside same expected same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L24	171324	(heat with capacity) or (thermal with mass)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L25	1699	L24 and (HVAC or (heating with ventilat\$4 with air with condition\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L26	9752	control same (HVAC or (heating with ventilat\$4 with air with condition\$3)) same system	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L27	2370	L26 and (temperature with (measurement\$1 or data))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L28	192	L27 and ((database or memory or store) same temperature same measurement\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L29	127	L28 and @ad<"20080916"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L30	40	L29 and (expected with temperature)	US-PGPUB; USPAT; USOCR;	OR	ON	2011/10/31 20:46

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L31	26	L30 and (processor or calculate same (rate same of same change same temperature))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L32	8	L31 and (outside same temperature same measurement\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L33	12	((("5818347") or ("4403644") or ("7216015") or ("20080083234")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46
L34	4	(US-20080083234-\$).did. or (US-7216015-\$ or US-5818347-\$ or US-4403644-\$).did.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L35	49	(US-20090099699-\$ or US-20020134849-\$ or US-20050270151-\$).did. or (US-4873649-\$ or US-4897798-\$ or US-5244146-\$ or US-5395042-\$ or US-5833134-\$ or US-4843084-\$ or US-4884214-\$ or US-4931948-\$ or US-5230482-\$ or US-5386461-\$ or US-6220518-\$ or US-6241156-\$ or US-4258615-\$ or US-4335320-\$ or US-4386649-\$ or US-4407445-\$ or US-4530395-\$ or US-4607787-\$ or US-4829447-\$ or US-4886110-\$ or US-4941325-\$ or US-4947928-\$ or US-5179524-\$ or US-5197668-\$ or US-5199637-\$ or US-5203497-\$).did. or (US-5211332-\$ or US-5226590-\$ or US-5271558-\$ or US-5303767-\$ or US-5309730-\$ or US-5310111-\$ or US-5314004-\$ or US-5316073-\$ or US-5326026-\$ or US-5364304-\$ or US-5381950-\$ or US-5394324-\$ or US-5410230-\$ or US-5413278-\$ or US-5464369-\$ or US-5467921-\$ or US-5485954-\$ or US-5495887-\$ or US-5501265-\$ or US-5531801-\$).did.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L36	49	L35 and (hvac or (heating with venti\$6 with air with conditioning))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L37	1	L36 and zip	US-PGPUB;	OR	ON	2011/10/31

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			20:46
L38	127	((("4674027") or ("5572438") or ("5717609") or ("5818347") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or ("6622097") or ("6622115") or ("6622925") or ("6622926") or ("6628997") or ("6633823") or ("6643567") or ("6671586") or ("6695218") or ("6726113") or ("6731992") or ("6734806") or ("6772052") or ("6785592") or ("6785630") or ("6789739") or ("6853959") or ("6868293") or ("6868319") or ("6882712") or ("6889908") or ("6891838") or ("6991029") or ("7009493") or ("7031880") or ("7039532") or ("7089088") or ("7130719") or ("7130832") or ("7167079") or ("7187986") or ("7205892") or ("7215746") or ("7231424") or ("7232075") or ("20030040934") or ("20050222889") or ("20050288822") or ("20070043477") or ("20090099699") or ("20090125151"))).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46
L39	0	L38 and HAVC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L40	43	L38 and HVAC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L41	0	L40 and (rate\$1 near3 change near out\$side near temperature\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L42	0	L40 and (rate\$1 near3 change near out\$side)	US-PGPUB; USPAT; USOCR;	OR	ON	2011/10/31 20:46

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L43	10	L40 and (rate\$1 near3 change)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L44	7	L40 and (rate\$1 near3 change) and (in\$side and out\$side)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L45	0	L40 and ("on" same "off")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L46	2	(US-20050288822-\$).did. or (US- 6789739-\$).did.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L47	1	(US-20050288822-\$).did. or (US- 6789739-\$).did. and (electric with meter)	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L48	0	L47 and meter	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L49	43	HVAC same (electric with meter)	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L50	127	((("4674027") or ("5572438") or ("5717609") or ("5818347") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or ("6622097") or ("6622115") or ("6622925") or ("6622926") or ("6628997") or ("6633823") or ("6643567") or ("6671586") or ("6695218") or ("6726113") or ("6731992") or ("6734806") or ("6772052") or ("6785592") or ("6785630") or ("6789739") or ("6853959") or ("6868293") or ("6868319") or ("6882712") or ("6889908") or ("6891838") or ("6991029") or ("7009493") or ("7031880") or ("7039532") or ("7089088") or ("7130719") or ("7130832") or ("7167079") or ("7187986") or ("7205892") or ("7215746") or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46

		("7231424") or ("7232075") or ("20030040934") or ("20050222889") or ("20050288822") or ("20070043477") or ("20090099699") or ("20090125151")).PN.				
L51	0	L49 and L50	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L52	12	L50 and (electric same meter)	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L53	0	L52 and L47	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L54	8	L52 and HVAC	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L55	7	L54 and temperature	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L56	2	("7848900").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46
L57	6	((("20050288822") or ("6789739") or ("6785592"))).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46
L58	3	(US-20050288822-\$).did. or (US-6789739-\$ or US-6785592-\$).did.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L59	156	((("4403644") or ("4674027") or ("5572438") or ("5717609") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or ("6622097") or ("6622115") or ("6622925") or ("6622926") or ("6628997") or ("6633823") or ("6643567") or ("6671586") or ("6695218") or ("6726113") or ("6731992") or ("6734806") or ("6772052") or ("6785630") or ("6789739") or ("6853959") or ("6868319") or ("6882712") or ("6889908") or ("6891838") or ("6991029") or ("7009493") or ("7031880") or ("7039532") or ("7089088") or ("7130719") or ("7130832") or ("7167079") or ("7205892") or ("7215746") or ("7216015") or ("7231424") or ("7232075") or ("20030040934") or ("20050222889") or ("20050288822") or ("20070043477") or ("20080083234") or ("20090099699") or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46

		("20090125151") or ("4136732") or ("4341345") or ("4655279") or ("5244146") or ("5270952") or ("5314004") or ("5462225") or ("5544036") or ("5555927") or ("6260765") or ("7644869")).PN.				
L60	2	L59 and L58	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L61	157	L59 or L58	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L62	51	L61 and HVAC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L63	0	L56 and L59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L64	49	(US-20090099699-\$ or US-20020134849-\$ or US-20050270151-\$).did. or (US-4873649-\$ or US-4897798-\$ or US-5244146-\$ or US-5395042-\$ or US-5833134-\$ or US-4843084-\$ or US-4884214-\$ or US-4931948-\$ or US-5230482-\$ or US-5386461-\$ or US-6220518-\$ or US-6241156-\$ or US-4258615-\$ or US-4335320-\$ or US-4386649-\$ or US-4407445-\$ or US-4530395-\$ or US-4607787-\$ or US-4829447-\$ or US-4886110-\$ or US-4941325-\$ or US-4947928-\$ or US-5179524-\$ or US-5197668-\$ or US-5199637-\$ or US-5203497-\$).did. or (US-5211332-\$ or US-5226590-\$ or US-5271558-\$ or US-5303767-\$ or US-5309730-\$ or US-5310111-\$ or US-5314004-\$ or US-5316073-\$ or US-5326026-\$ or US-5364304-\$ or US-5381950-\$ or US-5394324-\$ or US-5410230-\$ or US-5413278-\$ or US-5464369-\$ or US-5467921-\$ or US-5485954-\$ or US-5495887-\$ or US-5501265-\$ or US-5531801-\$).did.	US-PGPUB; USPAT	OR	ON	2011/10/31 20:46
L65	22	((("7356384") or ("7784704") or ("20090240381") or ("20090281667") or	US-PGPUB; USPAT;	OR	OFF	2011/10/31 20:46


		("20100019052") or ("20100070086") or ("20100070089") or ("20100070093") or ("20100211224") or ("20100289643") or ("20110031323")).PN.	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
L66	0	L65 and (HAVC same temperature same measurement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L67	0	L65 and (HAVC same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L68	1	L65 and (hvac same temperature same measurement)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L69	0	L68 and ("on" same "off" same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L70	1	HVAC and ("on" same "off" same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:46
L71	2	("7848900").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/10/31 20:46
L72	20	ecofactor\$.asn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:51
L73	3756	steinberg.inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:51

L74	4997	I73 "I74"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:51
L75	3756	I73 I72	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:52
L76	7	I75 and ((operation\$2 with efficiency) same (hvac with system))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:53
L77	0	I75 and ((operation\$2 with efficiency) same (hvac with system) same ("on" and "off"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:54
L78	5	I75 and ((operation\$2 with efficiency) same (hvac with system) same ("on" "off"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/10/31 20:54
S3	7	S1 and S2	US-PGPUB; USPAT	OR	ON	2011/04/09 14:35

EAST Search History (I nterference)


Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(702/130,182).ccls. and ((out\$side with temperature)same(hvac with system)same("on"and"off")).clm.	US- PGPUB	OR	ON	2011/10/31 20:41
L2	0	((out\$side with temperature)same(hvac with system)same("on"and"off"))	US- PGPUB	OR	ON	2011/10/31 20:41
L3	56	((out\$side with temperature)same(hvac with system)same("on" "off"))	US- PGPUB	OR	ON	2011/10/31 20:42
L4	4	(702/130,182).ccls. and ((out\$side with temperature)same(hvac with system)same("on" "off"))	US- PGPUB	OR	ON	2011/10/31 20:42

10/ 31/ 2011 9:02:38 PM
C:\ Users\ edesta\ Documents\ EAST\ Workspaces\ 12959225.wsp

<i>Issue Classification</i> 	Application/Control No. 12959225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.
	Examiner ELIAS DESTA	Art Unit 2857

[illegible][illegible]

/ELIAS DESTA/ Examiner.Art Unit 2857		10/31/2011	Total Claims Allowed:	
(Assistant Examiner)		(Date)	12	
/EDWARD RAYMOND/ Primary Examiner.Art Unit 2857		11/06/2011	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)		(Date)	1	13

Application Number 	Application/Control No. 12/959,225		Applicant(s)/Patent under Reexamination STEINBERG ET AL.

Document Code - DISQ	Internal Document – DO NOT MAIL
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TERMINAL DISCLAIMER	<input checked="" type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED
Date Filed : 8/12/11	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

jean proctor



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/959,225	12/02/2010	John Douglas Steinberg	EFACT.005C1

CONFIRMATION NO. 4651

POA ACCEPTANCE LETTER

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614



Date Mailed: 09/07/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/25/2011.

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.

/tnnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Please Direct All Correspondence to Customer Number 20,995

SPECIFIC POWER OF ATTORNEY WITH REVOCATION

Applicant : Steinberg, et al.
App. No. : 12/959,225
Filed : December 2, 2010
For : SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner : Elias Desta
Art Unit : 3744

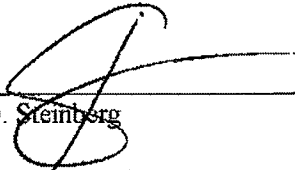
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The undersigned is an empowered representative of the Assignee. As of the execution date of the Assignment or the execution date set forth below, whichever is later, the undersigned hereby revokes any previous powers of attorney in the subject application, and hereby appoints the registrants of Knobbe, Martens, Olson & Bear, LLP, Customer No. 20,995, as its attorneys with full power of substitution and revocation to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith. This appointment is to be to the exclusion of the inventor(s) and his attorney(s) in accordance with the provisions of 37 CFR § 3.71.

Attached is a Statement Under 37 CFR § 3.73(b), signed by a registrant of Knobbe, Martens, Olson & Bear, LLP, setting forth a full chain of title for the subject application owned by the Assignee named below.

Please recognize or change the correspondence address for the application identified in the attached Statement to Customer No. 20,995.

By: 
John D. Steinberg

Assignee: EcoFactor, Inc.
423 Broadway, #801
Millbrae, CA 94030

Date:  2/15/11

Title:  CCO

STATEMENT UNDER 37 CFR § 3.73(b)
ESTABLISHMENT OF ASSIGNEE

Applicant	:	Steinberg, et al.
App. No.	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner	:	Elias Desta
Group Art Unit	:	3744

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

Dear Sir:

This document is being filed with a copy of a Power of Attorney signed by the Assignee. This Statement sets forth the chain of title of the above-identified application.

EcoFactor, Inc., a corporation, is the Assignee of the entire right, title, and interest of the above-referenced application by virtue of:

The Assignment from the inventors to the Assignee recorded in the United States Patent and Trademark Office on August 12, 2011, at Reel 026745, and Frame 0906.

The undersigned is an agent of Customer Number 20,995 and is authorized to act on behalf of the Assignee. Please recognize or change the correspondence address for the above-identified application to **Customer No. 20,995**.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8-25-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

11762069:ad
081611

Electronic Acknowledgement Receipt

EFS ID:	10813484
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Sabrina Jacob
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	25-AUG-2011
Filing Date:	02-DEC-2010
Time Stamp:	16:21:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	EFACT-005C1_transmittal.pdf	28107 25ad422f3eb797af641859f87462c2a54a858c56	no	1

Warnings:

Information:

2	Power of Attorney	EFACT-005C1_poa.pdf	53823	no	1
			0de3621a3397308b7b7366a8a06bb0bd4dbce56f		
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73(b).	EFACT-005C1_stmnt373.pdf	36579	no	1
			81cd1b4f6efcbf46c6b77ecda72bfc69cc5f5df5		
Warnings:					
Information:					
Total Files Size (in bytes):			118509		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Please Direct All Correspondence to Customer Number 20,995

TRANSMITTAL LETTER

Applicant	:	Steinberg, et al.
App. No	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Art Unit	:	3744
Conf. No.	:	4651

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

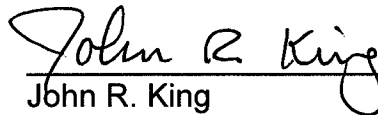
Dear Sir:

Enclosed in compliance with 37 CFR 1.53(f) are the following.

(X) Power of Attorney and Statement Under 3.73(b).

The present application qualifies for small entity status under 37 CFR § 1.27.

The Commissioner is hereby authorized to charge any additional fees which may be required, now or in the future, or credit any overpayment, to Account No. 11-1410.



John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

11761706:ad
081611

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Steinberg, et al.
App. No. : 12/959,225
Filed : December 2, 2010
For : SYSTEM AND METHOD FOR
CALCULATING THE THERMAL
MASS OF A BUILDING
Examiner : Elias Desta
Art Unit : 2857
Conf No. : 4651

RESPONSE TO APRIL 15, 2011 OFFICE ACTION**Mail Stop Amendment**

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

Dear Sir:

In response to the Office Action mailed April 15, 2011, Applicants respectfully submit the following amendments and comments.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend Claims 2, 7, and 8 as indicated below.

1. (Previously Presented) A system for calculating a value for the operational efficiency of an HVAC system comprising:

at least one HVAC control system that receives temperature measurements from at least a first location conditioned by at least one HVAC system;

one or more databases that store at least said temperatures measured at said first location over time; and

one or more processors that receive outside temperature measurements from at least one source other than said HVAC system, wherein said one or more processors are configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "on" and wherein said one or more processors are further configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "off", and to relate said calculated rates of change to said outside temperature measurements

2. (Currently Amended) A system as in Claim 1 in which said processors receive outside temperatures for geographic regions based on ~~such as~~ ZIP codes from sources other than said HVAC system.

3. (Original) A system as in Claim 1 further comprising a programmable thermostat that communicates with said HVAC control system using the Internet.

4. (Original) A system as in Claim 1 in which said processors communicate with said HVAC system using a network that includes an electricity meter.

5. (Original) A system as in Claim 1 further comprising a programmable thermostat and said programmable thermostat is the sole source for current data regarding temperature inside said location conditioned by said HVAC system.

6. (Original) A system as in Claim 1 in which said temperature measurements inside said first location occur at only one physical location.

7. (Currently Amended) A method for calculating a value for the operational efficiency of an HVAC system that comprises:

receiving temperature measurements from at least a first location conditioned by at least one HVAC system;

storing in one or more databases at least said temperatures measured at said first location over time;

receiving outside temperature measurements from at least one source other than said HVAC system; and

calculating with one or more computer processors one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "on" and calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is "off", where said calculated rates of change are related to said outside temperature measurements.

8. (Currently Amended) A method as in Claim 7 in which said outside temperatures are received for geographic regions based on ~~such as~~ ZIP codes from sources other than said HVAC system.

9. (Original) A method as in Claim 7 where said temperature measurements from at least a first location conditioned by at least one HVAC system further are received from a programmable thermostat that communicates with said HVAC control system using the Internet.

10. (Original) A method as in Claim 7 that includes receiving information about electricity consumption in said first location from an electricity meter.

11. (Original) A method as in Claim 7 in which said data regarding temperature inside said location conditioned by said HVAC system is supplied by a programmable thermostat.

12. (Original) A method as in Claim 7 in which said temperature measurements at said first location occur at only one physical location.

REMARKS

The April 15, 2011 Office Action was based upon pending Claims 1-12. This Amendment amends Claims 2, 7, and 8. Thus, after entry of this Amendment, Claims 1-12 are pending and presented for further consideration.

ISSUES RAISED IN THE OFFICE ACTION

In the Office Action, Claims 2 and 8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite because the phrase "such as" appears to render the claim indefinite.

Claims 1-6 were rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claims 1-6 of prior U.S. Patent No. 7,848,900.

Furthermore, Claims 7-12 were rejected under 35 U.S.C. § 101 as being directed to an abstract idea.

REJECTION OF CLAIMS 2 AND 8 UNDER 35 U.S.C. §112

Claims 2 and 8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite because the phrase "such as" appears to render the claim indefinite.

In response, Applicant has amended Claims 2 and 8 to replace "such as" with "based on." Accordingly, Applicant respectfully submits that Claims 2 and 8 are now definite.

DOUBLE PATENTING

Claims 1-6 were rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claims 1-6 of prior U.S. Patent No. 7,848,900 ("the '900 patent").

Applicant notes that the claims are not for the same invention. In particular, Claims 1-6 differ from Claims 1-6 of the '900 patent in that among other things, the currently pending claims do not compare temperature measurements from a first location with expected temperature measurements wherein the expected temperature

Application No.: 12/959,225
Filing Date: December 2, 2010

measurements are based at least in part upon past temperature measurements and said outside temperature measurements as set forth in the '900 patent.

In any event, Applicant submits herewith a Terminal Disclaimer in compliance with 37 C.F.R. §1.321(b) and (c). Accordingly, Applicant respectfully requests that the double patenting rejection be withdrawn.

REJECTION OF CLAIMS 7-12 UNDER 35 U.S.C. § 101

Claims 7-12 were rejected under 35 U.S.C. § 101 as being directed to an abstract idea. In response, Applicant has amended Claim 7 to include "one or more computer processors. Accordingly, Applicant respectfully submits that Claims 7-12 are directed to a statutory machine and meet the requirements of Section 101.

OTHER APPLICATIONS OF ASSIGNEE

Applicant wishes to draw the Examiner's attention to the following applications owned by of the present application's assignee:

Inventors	Appl. No.	Filing Date	Attorney Docket No.	Title
Steinberg et al.	60/963,183 Now Expired	08/03/07	EFACT.003PR	System And Method For Using A Network Of Thermostats As Tool To Verify Peak Demand Reduction
Steinberg et al.	60/944,011 Now Expired	09/17/07	EFACT.005PR	System And Method For Calculating The Thermal Mass Of A Building
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Steinberg et al.	12/211,733 Now Pat. 7,848,900	09/16/08	EFACT.005A	System And Method For Calculating The Thermal Mass Of A Building
Steinberg et al.	12/211,690 Published 2010/0070234	09/16/08	EFACT.006A	System And Method For Evaluating Changes In The Efficiency Of An HVAC System
Steinberg	61/215,816 Now Expired	05/11/09	EFACT.008PR	System, Method And Apparatus For Dynamically Variable Compressor Delay In Thermostat To Reduce Energy Consumption

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Cheung et al.	12/498,142 Published 2010/0262299	07/06/09	EFACT.010A	System And Method For Using Ramped Setpoint Temperature Variation With Networked Thermostats To Improve Efficiency
Steinberg	12/502,064 Published 2010/0280667	07/13/09	EFACT.011A	System And Method For Using A Networked Electronic Device As An Occupancy Sensor For An Energy Management System
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Steinberg	12/774,580 Published 2010/0282857	05/05/10	EFACT.008A	System, Method And Apparatus For Dynamically Variable Compressor Delay In Thermostat To Reduce Energy Consumption
Steinberg et al.	12/778,052 Published 2010/0308119	05/11/10	EFACT.007A	System, Method And Apparatus For Identifying Manual Inputs To And Adaptive Programming Of A Thermostat
Steinberg	12/788,246 Pending	05/26/10	EFACT.012A	System And Method For Using A Mobile Electronic Device To Optimize An Energy Management System
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Steinberg et al.	12/959,225 Published 2011/0077896	12/02/10	EFACT.005C1	System And Method For Calculating The Thermal Mass Of A Building
Steinberg et al.	13/037,162 Published 2011/0166828	02/28/11	EFACT.004C1	System And Method For Using A Network Of Thermostats As Tool To Verify Peak Demand Reduction

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CONCLUSION

Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action.

In light of the above remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested.

Application No.: 12/959,225
Filing Date: December 2, 2010

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8-12-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

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measurements are based at least in part upon past temperature measurements and said outside temperature measurements as set forth in the '900 patent.

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Application No.: 12/959,225
Filing Date: December 2, 2010

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8-12-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

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081011

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744
(Multiple sheets used when necessary)	Examiner	Elias Desta
SHEET 1 OF 1	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	7,356,384	04-2008	Gull, et al.	
	2	7,784,704	08-31-2010	Harter	
	3	7,894,943	02-22-2011	Sloup et al.	
	4	2009/0240381	09-2009	Lane	
	5	2009/0281667	11-2009	Masui, et al.	
	6	2010/0019052	01-2010	Yip	
	7	2010/0070086	03-2010	Harrod, et al.	
	8	2010/0070089	03-2010	Harrod, et al.	
	9	2010/0070093	03-2010	Harrod, et al.	
	10	2010/0211224	08-2010	Keeling, et al.	
	11	2010/0235004	09-2010	Thind	
	12	2010/0289643	11-2010	Trundle, et al.	
	13	2011/0031323	02-2011	Nold, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹

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Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T¹ - Place a check mark in this area when an English language Translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	12959225			
Filing Date:	02-Dec-2010			
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING			
First Named Inventor/Applicant Name:	John Douglas Steinberg			
Filer:	John R. King/Amy Durrant			
Attorney Docket Number:	EFACT.005C1			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	2251	1	65	65

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Statutory or terminal disclaimer	2814	1	70	70
Total in USD (\$)				315

Electronic Acknowledgement Receipt

EFS ID:	10729264
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Quyen Lieu
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	12-AUG-2011
Filing Date:	02-DEC-2010
Time Stamp:	18:33:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 315
RAM confirmation Number	5238
Deposit Account	111410
Authorized User	KNOBBE MARTENS OLSON AND BEAR

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		EFACT-005C1_response.pdf	339188 c2f28ab177db78e66819c0cae216a18ef6ebbfeb	yes	9
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	4	
	Applicant Arguments/Remarks Made in an Amendment		5	9	
Warnings:					
Information:					
2	Terminal Disclaimer Filed	EFACT-005C1_termdisc.pdf	75239 44f149eda553057a1087f23f095a2dd8df3f44d1	no	1
Warnings:					
Information:					
3		EFACT-005C1_ids.pdf	87656 de2c0a68fb01d3e30383dd57401e74ed80e25b5d	yes	2
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Information Disclosure Statement (IDS) Form (SB08)		2	2	
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	33635 d897ffb5a931cf8182e5acc66f49d50106dd84b	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			535718		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

In re Application of: Steinberg, et al.

Application No.: 12/959,225

Filed: December 2, 2010

For: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

The owner*, EcoFactor, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 7,848,900 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

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

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 34,362

John R. King
Signature

8-12-2011
Date

John R. King
Typed or printed name

949-760-0404
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. 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 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

INFORMATION DISCLOSURE STATEMENT

Applicant : Steinberg, et al.
App. No : 12/959,225
Filed : December 2, 2010
For : SYSTEM AND METHOD FOR
CALCULATING THE THERMAL
MASS OF A BUILDING
Examiner : Elias Desta
Art Unit : 3744
Conf No. : 4651

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

Dear Sir:

Enclosed for filing in the above-identified application is a PTO/SB/08 Equivalent listing thirteen (13) references.

This Information Disclosure Statement is being filed before the mailing date of a final action and before the mailing of a Notice of Allowance. This Statement is accompanied by the fees set forth in 37 C.F.R. § 1.17(p). The Commissioner is hereby authorized to charge any additional fees which may be required or to credit any overpayment to Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 8-12-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

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

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/959,225		Filing Date 12/02/2010		<input type="checkbox"/> To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	08/12/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	* 12	Minus	** 20	=	X \$	=	OR	X \$	=	
Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	=	X \$	=	OR	X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:
/PEGGY YARBOROUGH/

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

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



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/959,225	12/02/2010	John Douglas Steinberg	EFACT.005C1	4651
20995 7590 04/15/2011 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER DESTA, ELIAS	
			ART UNIT 2857	PAPER NUMBER
			NOTIFICATION DATE 04/15/2011	DELIVERY MODE ELECTRONIC

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

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
efiling@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	12/959,225	STEINBERG ET AL.	
	Examiner	Art Unit	
	ELIAS DESTA	2857	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2010.
- 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) 1-12 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) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/2/2010 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) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/24/2011, 4/1/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

IDS

1. The information disclosure statement (IDS) submitted on 04/01/2011 is being considered by the examiner.

The information disclosure statement filed 03/24/2011 in part fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the non-patent literature is submitted without a publication date and is not considered. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Objection

2. In reference to claims 1 and 7: the “HVAC” should be defined before it use in the claims. At least in the respective base claims 1 and 7.

Claims 2-6 and 8-12: in page 21, replace the entry "A system" with "The system"; and in page 22, replace the entry “A method” with “The method”.

In reference to claim 1: (see page 21), the claim should end with a period.

Claim rejection – 35 U.S.C. 112

3. Claims 2 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite, because in the instant claims (see page 21, 2nd line in claim 2 and page 22, 2nd line in claim 8), the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim rejection – 35 U.S.C. 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Double Patenting

5. Claims 1-6 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-6 of prior U.S. Patent No. 7,848,900. This is a double patenting rejection.

Subject Matter

6. Claims 7-12 are directed to non-statutory subject matter. Based upon consideration of all of the relevant factors with respect to the claim as a whole, claim 7 is held to claim an abstract idea and therefore rejected as an eligible subject matter under 35 U.S.C. 101. The rationale for this finding is explained below: the steps taken in claim 7, does not appear that the claim requires the method be implemented by a particular machine. Rather, a person using a machine could perform the steps

“receiving temperature measurements”, “storing in one or more databases”, “receiving outside temperature” and “calculating one or more rates of change in temperature” as such the claim does not pass the Machine-or-Transformation (M/T) test.

Dependent claims 8-12 when analyzed as a whole are also held to be ineligible subject matter and are rejected under 35 U.S.C. 101 because the additional recited limitations fail to establish that the claim is not directed to an abstract idea because the additional limitation is merely involve data gathering and do not involve extra solution activity.

Obvious type-Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 7-12 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 7,848,900.

Although the conflicting claims are not identical, they are not patentably distinct from each other because although the instant claims are method claims the a person of ordinary skill in the art having the system for calculating a value for an operation efficiency of a heating, ventilation and air-conditioning (HVAC) system would have used the method noted in claims 7-12 to implement they system as indicated in claims 1-6 of U.S. Patent 7,848,900. Further more, the two inventions are related and connected in design, operation and effect; i.e., they are method and system.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Smith et al. (U.S. Patent 6,785,592, hereon Smith) teaches a system and method for energy management for residential, industrial and commercial

Art Unit: 2857

applications (see Smith, column 2, lines 50-62). The system includes HVAC system with electricity meters (see Smith, Fig 4, utility rate, and weather applications). .

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIAS DESTA whose telephone number is (571)272-2214. The examiner can normally be reached on M-Fri (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael P. Nghiem/
Primary Examiner, GAU 2857

Elias Desta
Examiner
Art Unit 2857

- /E. D./
Examiner, Art Unit 2857

Notice of References Cited	Application/Control No. 12/959,225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.	
	Examiner ELIAS DESTA	Art Unit 2857	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,848,900	12-2010	Steinberg et al.	702/130
*	B	US-6,785,592	08-2004	Smith et al.	700/291
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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


Search Notes 	Application/Control No. 12959225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.
	Examiner ELIAS DESTA	Art Unit 2857

SEARCHED			
Class	Subclass	Date	Examiner
702	130, 182	4/9/2011	E.D.
700	276, 277, 278	4/9/2011	E.D.
236	91D	4/9/2011	E.D.
165	58, 200, 287	4/9/2011	E.D.

SEARCH NOTES		
Search Notes	Date	Examiner
Method of search: EAST, GOOGLE, IEEE Explore, Springer dbm, CRC	4/9/2011	E.D.
Text or key word searches: see EAST search history.	4/9/2011	E.D.
Inventor and assignee search: see EAST search history.	4/9/2011	E.D.
Plus search from the related case	4/9/2011	E.D.

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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<p align="center"><i>Index of Claims</i></p> 	Application/Control No. 12959225	Applicant(s)/Patent Under Reexamination STEINBERG ET AL.
	Examiner ELIAS DESTA	Art Unit 2857

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input checked="" type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47			
CLAIM		DATE							
Final	Original	04/09/2011							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
	5	✓							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1669	steinberg\$et\$al\$.inv. or steinberg.inv. or hublou. inv.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:35
L2	7	Ecofactor\$inc\$.asn.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:35
L3	7	l1 and l2	US-PGPUB; USPAT	OR	ON	2011/04/09 14:35
L4	7	l3 and (hvac or (heat\$3 with ventlation with air with condition\$3))	US-PGPUB; USPAT	OR	ON	2011/04/09 14:37
L5	4	l4 and (temperature with measurement)	US-PGPUB; USPAT	OR	ON	2011/04/09 14:37
L6	4	l5 and database	US-PGPUB; USPAT	OR	ON	2011/04/09 14:37
L7	0	l5 and ("on" same "off")	US-PGPUB; USPAT	OR	ON	2011/04/09 14:38
L8	0	l5 and ("on" same "off")	US-PGPUB; USPAT	OR	ON	2011/04/09 14:38
L9	0	l5 and (on and off)	US-PGPUB; USPAT	OR	ON	2011/04/09 14:38
L10	0	l5 and on and off	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L11	0	l2 and on and off	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L12	7	l3 and "off"	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L13	0	l12 and "on"	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L14	0	l3 and "on"	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L15	7053	(700/276-278 or 702/130 or 702/182 or 236/91d or 165/200 or 165/287 or 165/58).ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L16	772	L15 and (HVAC or (heating with ventilat\$4 with air with condition\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39

L17	755	L16 and (control same system)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L18	330	L17 and (outside same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L19	16	L18 and (compare same outside same expected same temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L20	164904	(heat with capacity) or (thermal with mass)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L21	1563	L20 and (HVAC or (heating with ventilat\$4 with air with condition\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L22	9114	control same (HVAC or (heating with ventilat\$4 with air with condition\$3)) same system	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L23	2176	L22 and (temperature with (measurement\$1 or data))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L24	168	L23 and ((database or memory or store) same temperature same measurement\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39

L25	123	L24 and @ad< "20080916"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L26	40	L25 and (expected with temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L27	26	L26 and (processor or calculate same (rate same of same change same temperature))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L28	8	L27 and (outside same temperature same measurement\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L29	12	((("5818347") or ("4403644") or ("7216015") or ("20080083234"))).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39
L30	4	(US-20080083234-\$.did. or (US-7216015-\$ or US-5818347-\$ or US-4403644-\$.did.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L31	49	(US-20090099699-\$ or US-20020134849-\$ or US-20050270151-\$.did. or (US-4873649-\$ or US-4897798-\$ or US-5244146-\$ or US-5395042-\$ or US-5833134-\$ or US-4843084-\$ or US-4884214-\$ or US-4931948-\$ or US-5230482-\$ or US-5386461-\$ or US-6220518-\$ or US-6241156-\$ or US-4258615-\$ or US-4335320-\$ or US-4386649-\$ or US-4407445-\$ or US-4530395-\$ or US-4607787-\$ or US-4829447-\$ or US-4886110-\$ or US-4941325-\$ or US-4947928-\$ or US-5179524-\$ or US-5197668-\$ or US-5199637-\$ or US-	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39

		5203497-\$).did. or (US-5211332-\$ or US-5226590-\$ or US-5271558-\$ or US-5303767-\$ or US-5309730-\$ or US-5310111-\$ or US-5314004-\$ or US-5316073-\$ or US-5326026-\$ or US-5364304-\$ or US-5381950-\$ or US-5394324-\$ or US-5410230-\$ or US-5413278-\$ or US-5464369-\$ or US-5467921-\$ or US-5485954-\$ or US-5495887-\$ or US-5501265-\$ or US-5531801-\$).did.				
L32	49	L31 and (hvac or (heating with venti\$6 with air with conditioning))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L33	1	L32 and zip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L34	126	((("4674027") or ("5572438") or ("5717609") or ("5818347") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or ("6622097") or ("6622115") or ("6622925") or ("6622926") or ("6628997") or ("6633823") or ("6643567") or ("6671586") or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39

		("6695218") or ("6726113") or ("6731992") or ("6734806") or ("6772052") or ("6785592") or ("6785630") or ("6789739") or ("6853959") or ("6868293") or ("6868319") or ("6882712") or ("6889908") or ("6891838") or ("6991029") or ("7009493") or ("7031880") or ("7039532") or ("7089088") or ("7130719") or ("7130832") or ("7167079") or ("7187986") or ("7205892") or ("7215746") or ("7231424") or ("7232075") or ("20030040934") or ("20050222889") or ("20050288822") or ("20070043477") or ("20090099699") or ("20090125151")).PN.				
L35	0	L34 and HAVC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L36	43	L34 and HVAC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L37	0	L36 and (rate\$1 near3 change near out\$side near temperature\$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39

L38	0	L36 and (rate\$1 near3 change near out\$side)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L39	10	L36 and (rate\$1 near3 change)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L40	7	L36 and (rate\$1 near3 change) and (in\$side and out\$side)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L41	0	L36 and ("on" same "off")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L42	2	(US-20050288822-\$).did. or (US-6789739-\$).did.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L43	1	(US-20050288822-\$).did. or (US-6789739-\$).did. and (electric with meter)	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L44	0	L43 and meter	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L45	41	HVAC same (electric with meter)	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L46	126	((("4674027") or ("5572438") or ("5717609") or ("5818347") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39

("6622097") or
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 ("20030040934") or
 ("20050222889") or
 ("20050288822") or
 ("20070043477") or
 ("20090099699") or
 ("20090125151")).PN.

L47	0	L45 and L46	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L48	12	L46 and (electric same meter)	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L49	0	L48 and L43	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L50	8	L48 and HVAC	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L51	7	L50 and temperature	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39

L52	2	("7848900").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39
L53	6	((("20050288822") or ("6789739") or ("6785592")).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39
L54	3	(US-20050288822-\$).did. or (US-6789739-\$ or US- 6785592-\$).did.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:39
L55	155	((("4403644") or ("4674027") or ("5572438") or ("5717609") or ("6145751") or ("6178362") or ("6351693") or ("6400996") or ("6437692") or ("6478233") or ("6480803") or ("6483906") or ("6536675") or ("6542076") or ("6549130") or ("6574537") or ("6580950") or ("6594825") or ("6595430") or ("6598056") or ("6619555") or ("6622097") or ("6622115") or ("6622925") or ("6622926") or ("6628997") or ("6633823") or ("6643567") or ("6671586") or ("6695218") or ("6726113") or ("6731992") or ("6734806") or ("6772052") or ("6785630") or ("6789739") or ("6853959") or ("6868319") or ("6882712") or ("6889908") or ("6891838") or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2011/04/09 14:39

		("6991029") or ("7009493") or ("7031880") or ("7039532") or ("7089088") or ("7130719") or ("7130832") or ("7167079") or ("7205892") or ("7215746") or ("7216015") or ("7231424") or ("7232075") or ("20030040934") or ("20050222889") or ("20050288822") or ("20070043477") or ("20080083234") or ("20090099699") or ("20090125151") or ("4136732") or ("4341345") or ("4655279") or ("5244146") or ("5270952") or ("5314004") or ("5462225") or ("5544036") or ("5555927") or ("6260765") or ("7644869")).PN.				
L56	2	L55 and L54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L57	156	L55 or L54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L58	51	L57 and HVAC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39
L59	0	L52 and L55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/09 14:39

L60	49	(US-20090099699-\$ or US-20020134849-\$ or US-20050270151-\$).did. or (US-4873649-\$ or US-4897798-\$ or US-5244146-\$ or US-5395042-\$ or US-5833134-\$ or US-4843084-\$ or US-4884214-\$ or US-4931948-\$ or US-5230482-\$ or US-5386461-\$ or US-6220518-\$ or US-6241156-\$ or US-4258615-\$ or US-4335320-\$ or US-4386649-\$ or US-4407445-\$ or US-4530395-\$ or US-4607787-\$ or US-4829447-\$ or US-4886110-\$ or US-4941325-\$ or US-4947928-\$ or US-5179524-\$ or US-5197668-\$ or US-5199637-\$ or US-5203497-\$).did. or (US-5211332-\$ or US-5226590-\$ or US-5271558-\$ or US-5303767-\$ or US-5309730-\$ or US-5310111-\$ or US-5314004-\$ or US-5316073-\$ or US-5326026-\$ or US-5364304-\$ or US-5381950-\$ or US-5394324-\$ or US-5410230-\$ or US-5413278-\$ or US-5464369-\$ or US-5467921-\$ or US-5485954-\$ or US-5495887-\$ or US-5501265-\$ or US-5531801-\$).did.	US-PGPUB; USPAT	OR	ON	2011/04/09 14:42
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EAST Search History (Interference)

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4/ 9/ 2011 2:43:43 PM**C:\ Documents and Settings\ edesta\ My Documents\ EAST\ Workspaces\ 12959225.wsp**



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BIB DATA SHEET

CONFIRMATION NO. 4651

SERIAL NUMBER 12/959,225	FILING or 371(c) DATE 12/02/2010 RULE	CLASS 702	GROUP ART UNIT 2857	ATTORNEY DOCKET NO. EFACT.005C1	
APPLICANTS John Douglas Steinberg, Millbrae, CA; Scott Douglas Hublou, Redwood City, CA; ** CONTINUING DATA ***** This application is a CON of 12/211,733 09/16/2008 PAT 7,848,900 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 12/14/2010					
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/ELIAS DESTA/</u> Examiner's Signature	<input type="checkbox"/> Met after Allowance E.D. Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 13	TOTAL CLAIMS 12	INDEPENDENT CLAIMS 2
ADDRESS KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614 UNITED STATES					
TITLE SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING					
FILING FEE RECEIVED 462	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Multiple sheets used when necessary)</i>	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	0744 2857
	Examiner	Elias Desta
SHEET 1 OF 4	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
/E.D./	1	4,403,644	09-13-1983	Hebert	
	2	4,674,027	06-16-1987	Beckey	
	3	5,572,438	11-05-1996	Ehlers, et al.	
	4	5,717,609	02-10-1998	Packa, et al.	
	5	6,145,751	11-14-2000	Ahmed	
	6	6,178,362	01-23-2001	Woolard, et al.	
	7	6,351,693	02-26-2002	Monie	
	8	6,400,996	06-04-2002	Hoffberg, et al.	
	9	6,437,692	08-20-2002	Petite, et al.	
	10	6,478,233	11-12-2002	Shah	
	11	6,480,803	11-12-2002	Pierret, et al.	
	12	6,483,906	11-19-2002	Lggulden, et al.	
	13	6,536,675	03-25-2003	Pesko, et al.	
	14	6,542,076	04-01-2003	Joao	
	15	6,549,130	04-15-2003	Joao	
	16	6,574,537	06-02-2003	Kipersztok, et al.	
	17	6,580,950	06-17-2003	Johnson	
	18	6,594,825	07-15-2003	Goldschmidtiki, et al.	
	19	6,595,430	07-22-2003	Shah	
	20	6,598,056	07-22-2003	Hull, et al.	
	21	6,619,555	09-16-2003	Rosen	
	22	6,622,097	09-16-2003	Hunter	
	23	6,622,115	09-16-2003	Brown, et al.	
	24	6,622,925	09-23-2003	Carner, et al.	
	25	6,622,926	09-23-2003	Sartain, et al.	
	26	6,628,997	09-30-2003	Fox, et al.	
	27	6,633,823	10-14-2003	Bartone, et al.	
	28	6,643,567	11-04-2003	Kolk et al.	
	29	6,671,586	12-30-2003	Davis, et al.	

Examiner Signature	/Elias Desta/	Date Considered	04/09/2011
<p>*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

T¹ - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Multiple sheets used when necessary)</i>	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744 2857
SHEET 2 OF 4		Examiner Elias Desta
		Attorney Docket No. EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
/E.D./ ↓	30	6,695,218	02-24-2004	Fleckenstein	
	31	6,726,113	04-27-2004	Guo	
	32	6,731,992	05-04-2004	Ziegler	
	33	6,734,806	05-11-2004	Cratsley	
	34	6,772,052	08-03-2004	Amundsen	
	35	6,785,592	08-31-2004	Smith	
	36	6,785,630	08-31-2004	Kolk	
	37	6,789,739	09-14-2004	Rosen	
	38	6,853,959	02-08-2005	Ikeda, et al.	
	39	6,868,293	03-15-2005	Schurr	
	40	6,868,319	03-15-2005	Kipersztok, et al.	
	41	6,882,712	04-19-2005	Iggulden, et al.	
	42	6,889,908	05-10-2005	Crippen, et al.	
	43	6,891,838	10-10-2005	Petite, et al.	
	44	6,991,029	01-31-2006	Orfield, et al.	
	45	7,009,493	03-07-2006	Howard	
	46	7,031,880	04-18-2006	Seem, et al.	
	47	7,039,532	05-02-2006	Hunter	
	48	7,089,088	08-08-2006	Terry, et al.	
	49	7,130,719	10-31-2006	Ehlers, et al.	
	50	7,130,832	10-31-2006	Bannai, et al.	
	51	7,167,079	01-23-2007	Smyth, et al.	
	52	7,187,986	03-06-2007	Johnson, et al.	
	53	7,205,892	04-17-2007	Luebke, et al.	
	54	7,215,746	05-08-2007	Iggulden, et al.	
	55	7,216,015	05-08-2007	Poth	
	56	7,231,424	06-11-2007	Bodin, et al.	
	57	7,232,075	06-19-2007	Rosen	
	58	2003/0040934 A1	02-27-2003	Skidmore, et al.	

Examiner Signature	/Elias Desta/	Date Considered	04/09/2011
<p>*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744 2857
(Multiple sheets used when necessary)	Examiner	Elias Desta
SHEET 3 OF 4	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
/E.D./	59	2005/0222889 A1	10-06-2005	Lai, et al.	
↓	60	2005/0288822 A1	12-29-2005	Rayburn	
	61	2007/0043477 A1	02-22-2007	Elhers, et al.	
	62	2008/0083234 A1	04-10-2008	Krebs et al.	
	63	2009/0099699 A1	04-16-2009	Steinberg et al.	
↓	64	2009/0125151 A1	05-14-2009	Steinberg et al.	


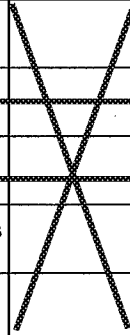
FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹
/E.D./	65	ARENS, et al., "How Ambient Intelligence Will Improve Habitability and Energy Efficiency in Buildings", 2005, research paper, Center for the Built Environment, Controls and Information Technology	
	66	Comverge SuperStat Flyer	
	67	Control4 Wireless Thermostat Brochure	
	68	Cooper Power Systems Web Page	
	69	Enernoc Web Page	
	70	Enervise Website	
	71	Honeywell Programmable Thermostat Owner's Guide, www.honeywell.com/yourhome	
/E.D./	72	Honeywell, "W7600/W7620 Controller Reference Manual, HW0021207, October, 1992	
↓	73	JOHNSON CONTROLS, Touch4 building automation system brochure, 2007	
↓	74	KILICOTTE, et al., "Dynamic Controls for Energy Efficiency and Demand Response: Framework Concepts and a New Construction Study Case in New York", Proceedings of the 2006 ACEEE Summer Study of Energy Efficiency in Buildings, Pacific Grove, CA, August 13-18, 2006	

Examiner Signature	/Elias Desta/	Date Considered	04/09/2011
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Multiple sheets used when necessary)</i>	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744 2857
	Examiner	Elias Desta
SHEET 4 OF 4	Attorney Docket No.	EFACT.005C1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹
/E.D./ 	75	LIN, et al., "Multi-Sensor Single-Actuator Control of HVAC Systems", 2002	
	76	PIER, Southern California Edison, Demand Responsive Control of Air Conditioning via Programmable Communicating Thermostats Draft Report	
	77	Proliphix Thermostat Brochure	
	78	WANG, et al., "Opportunities to Save Energy and Improve Comfort by Using Wireless Sensor Networks in Buildings," (2003), Center for Environmental Design Research	
	79	WETTER, et al., A comparison of deterministic and probabilistic optimization algorithms for nonsmooth simulation-based optimization., Building and Environment 39, 2004, Pages 989-999	

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Examiner Signature	/Elias Desta/	Date Considered	04/09/2011
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959,225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, et al
	Art Unit	3744 2857
(Multiple sheets used when necessary)	Examiner	Unknown Elias Desta
SHEET 1 OF 1	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
/E.D./	1	4,136,732	01-1979	Demaray et al.	
	2	4,341,345	07-1982	Hammer et al.	
	3	4,655,279	04-1987	Harmon	
	4	5,244,146	09-1993	Jefferson et al.	
	5	5,270,952	12-1993	Adams et al.	
	6	5,314,004	05-1994	Strand et al.	
	7	5,462,225	10-1995	Massara et al.	
	8	5,544,036	08-1996	Brown et al.	
	9	5,555,927	09-1996	Shah	
	10	6,260,765	07-2001	Natale et al.	
	11	7,644,869	01-2010	Hoglund et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹

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Examiner Signature	/Elias Desta/	Date Considered	04/09/2011
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959,225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, et al
	Art Unit	3744
(Multiple sheets used when necessary)	Examiner	Unknown
SHEET 1 OF 1	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	4,136,732	01-1979	Demaray et al.	
	2	4,341,345	07-1982	Hammer et al.	
	3	4,655,279	04-1987	Harmon	
	4	5,244,146	09-1993	Jefferson et al.	
	5	5,270,952	12-1993	Adams et al.	
	6	5,314,004	05-1994	Strand et al.	
	7	5,462,225	10-1995	Massara et al.	
	8	5,544,036	08-1996	Brown et al.	
	9	5,555,927	09-1996	Shah	
	10	6,260,765	07-2001	Natale et al.	
	11	7,644,869	01-2010	Hoglund et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹

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040111

Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T¹ - Place a check mark in this area when an English language Translation is attached.

Electronic Acknowledgement Receipt

EFS ID:	9791084
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Quyen Lieu
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	01-APR-2011
Filing Date:	02-DEC-2010
Time Stamp:	15:52:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	EFACT-005C1_rescission.pdf	52820 5afba99a4e519a341573a07c475dfa25ac3d600e	no	2

Warnings:

Information:

2		EFACT-005C1_ids.pdf	82984	yes	2
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Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Transmittal Letter			1	1	
Information Disclosure Statement (IDS) Filed (SB/08)			2	2	
Warnings:					
Information:					
Total Files Size (in bytes):			135804		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Steinberg, et al.
App. No	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner	:	Unknown
Art Unit	:	3744

RESCISSION OF ANY PRIOR DISCLAIMERS AND REQUEST TO REVISIT ART

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

Dear Sir:

The claims of the present application are different and possibly broader in scope than any pending claims in any related application or issued claims in any related patent. In particular, in one or more parent applications, including U.S. Patent Application No. 12/211,733 (now U.S. Patent No. 7,848,900), Applicant amended claims and/or presented arguments in view of at least U.S. Patent Nos. 6,789,739 and 6,785,592; and U.S. Publication No. 2005/0288822

To the extent that any amendments or characterizations of the scope of any claim or referenced art could be construed as a disclaimer of any subject matter supported by the present disclosure, Applicant hereby rescinds and retracts such disclaimer. Accordingly, the above-listed references, or other listed or referenced art may need to be re-visited.

Appl. No. : 12/959,225
Filed : December 2, 2010

Docket No. EFACT.005C1
Customer No. 20,995

In addition, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 4-1-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

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033111

INFORMATION DISCLOSURE STATEMENT

Applicant	:	Steinberg, et al.
App. No	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner	:	Unknown
Art Unit	:	3744
Conf No.	:	4651

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

Dear Sir:

Enclosed for filing in the above-identified application is a PTO/SB/08 Equivalent listing eleven (11) references.

This Information Disclosure Statement is being filed before the receipt of a first Office Action on the merits, and presumably no fee is required. If a first Office Action on the merits was mailed before the mailing date of this Statement, the Commissioner is authorized to charge the fee set forth in 37 C.F.R. § 1.17(p) to Deposit Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 4-1-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404



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
12/959,225	12/02/2010	John Douglas Steinberg	EFACT.005C1

CONFIRMATION NO. 4651

PUBLICATION NOTICE



OC000000046872753

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Title:SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

Publication No.US-2011-0077896-A1

Publication Date:03/31/2011

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744
(Multiple sheets used when necessary)	Examiner	
SHEET 1 OF 4	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1	4,403,644	09-13-1983	Hebert	
	2	4,674,027	06-16-1987	Beckey	
	3	5,572,438	11-05-1996	Ehlers, et al.	
	4	5,717,609	02-10-1998	Packa, et al.	
	5	6,145,751	11-14-2000	Ahmed	
	6	6,178,362	01-23-2001	Woolard, et al.	
	7	6,351,693	02-26-2002	Monie	
	8	6,400,996	06-04-2002	Hoffberg, et al.	
	9	6,437,692	08-20-2002	Petite, et al.	
	10	6,478,233	11-12-2002	Shah	
	11	6,480,803	11-12-2002	Pierret, et al.	
	12	6,483,906	11-19-2002	Lggulden, et al.	
	13	6,536,675	03-25-2003	Pesko, et al.	
	14	6,542,076	04-01-2003	Joao	
	15	6,549,130	04-15-2003	Joao	
	16	6,574,537	06-02-2003	Kipersztok, et al.	
	17	6,580,950	06-17-2003	Johnson	
	18	6,594,825	07-15-2003	Goldschmidtli, et al.	
	19	6,595,430	07-22-2003	Shah	
	20	6,598,056	07-22-2003	Hull, et al.	
	21	6,619,555	09-16-2003	Rosen	
	22	6,622,097	09-16-2003	Hunter	
	23	6,622,115	09-16-2003	Brown, et al.	
	24	6,622,925	09-23-2003	Carner, et al.	
	25	6,622,926	09-23-2003	Sartain, et al.	
	26	6,628,997	09-30-2003	Fox, et al.	
	27	6,633,823	10-14-2003	Bartone, et al.	
	28	6,643,567	11-04-2003	Kolk et al.	
	29	6,671,586	12-30-2003	Davis, et al.	

Examiner Signature	Date Considered
<p>*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	

T¹ - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Multiple sheets used when necessary)</i>	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744
	Examiner	
SHEET 2 OF 4	Attorney Docket No.	EFACT.005C1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	30	6,695,218	02-24-2004	Fleckenstein	
	31	6,726,113	04-27-2004	Guo	
	32	6,731,992	05-04-2004	Ziegler	
	33	6,734,806	05-11-2004	Cratsley	
	34	6,772,052	08-03-2004	Amundsen	
	35	6,785,592	08-31-2004	Smith	
	36	6,785,630	08-31-2004	Kolk	
	37	6,789,739	09-14-2004	Rosen	
	38	6,853,959	02-08-2005	Ikeda, et al.	
	39	6,868,293	03-15-2005	Schurr	
	40	6,868,319	03-15-2005	Kipersztok, et al.	
	41	6,882,712	04-19-2005	Iggulden, et al.	
	42	6,889,908	05-10-2005	Crippen, et al.	
	43	6,891,838	10-10-2005	Petite, et al.	
	44	6,991,029	01-31-2006	Orfield, et al.	
	45	7,009,493	03-07-2006	Howard	
	46	7,031,880	04-18-2006	Seem, et al.	
	47	7,039,532	05-02-2006	Hunter	
	48	7,089,088	08-08-2006	Terry, et al.	
	49	7,130,719	10-31-2006	Ehlers, et al.	
	50	7,130,832	10-31-2006	Bannai, et al.	
	51	7,167,079	01-23-2007	Smyth, et al.	
	52	7,187,986	03-06-2007	Johnson, et al.	
	53	7,205,892	04-17-2007	Luebke, et al.	
	54	7,215,746	05-08-2007	Iggulden, et al.	
	55	7,216,015	05-08-2007	Poth	
	56	7,231,424	06-11-2007	Bodin, et al.	
	57	7,232,075	06-19-2007	Rosen	
	58	2003/0040934 A1	02-27-2003	Skidmore, et al.	

Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T¹ - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Multiple sheets used when necessary)</i>	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744
SHEET 3 OF 4		Examiner
		Attorney Docket No. EFACT.005C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number Number - Kind Code (if known) Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	59	2005/0222889 A1	10-06-2005	Lai, et al.	
	60	2005/0288822 A1	12-29-2005	Rayburn	
	61	2007/0043477 A1	02-22-2007	Elhers, et al.	
	62	2008/0083234 A1	04-10-2008	Krebs et al.	
	63	2009/0099699 A1	04-16-2009	Steinberg et al.	
	64	2009/0125151 A1	05-14-2009	Steinberg et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document Country Code-Number-Kind Code Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T ¹
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NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹
	65	ARENS, et al., "How Ambient Intelligence Will Improve Habitability and Energy Efficiency in Buildings", 2005, research paper, Center for the Built Environment, Controls and Information Technology	
	66	Comverge SuperStat Flyer	
	67	Control4 Wireless Thermostat Brochure	
	68	Cooper Power Systems Web Page	
	69	Enernoc Web Page	
	70	Enerwise Website	
	71	Honeywell Programmable Thermostat Owner's Guide, www.honeywell.com/yourhome	
	72	Honeywell, "W7600/W7620 Controller Reference Manual, HW0021207, October, 1992	
	73	JOHNSON CONTROLS, Touch4 building automation system brochure, 2007	
	74	KILICOTTE, et al., "Dynamic Controls for Energy Efficiency and Demand Response: Framework Concepts and a New Construction Study Case in New York", Proceedings of the 2006 ACEEE Summer Study of Energy Efficiency in Buildings, Pacific Grove, CA, August 13-18, 2006	

Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

T¹ - Place a check mark in this area when an English language Translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	12/959225
	Filing Date	12-02-2010
	First Named Inventor	Steinberg, John Douglas et al
	Art Unit	3744
(Multiple sheets used when necessary)	Examiner	
SHEET 4 OF 4	Attorney Docket No.	EFACT.005C1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ¹
	75	LIN, et al., "Multi-Sensor Single-Actuator Control of HVAC Systems", 2002	
	76	PIER, Southern California Edison, Demand Responsive Control of Air Conditioning via Programmable Communicating Thermostats Draft Report	
	77	Proliphix Thermostat Brochure	
	78	WANG, et al., "Opportunities to Save Energy and Improve Comfort by Using Wireless Sensor Networks in Buildings," (2003), Center for Environmental Design Research	
	79	WETTER, et al., A comparison of deterministic and probabilistic optimization algorithms for nonsmooth simulation-based optimization., Building and Environment 39, 2004, Pages 989-999	

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032411

Examiner Signature	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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Electronic Acknowledgement Receipt

EFS ID:	9730984
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Quyen Lieu
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	24-MAR-2011
Filing Date:	02-DEC-2010
Time Stamp:	14:34:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		EFACT-005C1_ids.pdf	262399 6d6c0418f7e15c6005cc9c12a68989bea419c859	yes	5

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	1	
	Information Disclosure Statement (IDS) Filed (SB/08)		2	5	
Warnings:					
Information:					
2	NPL Documents	EFACT-005C1_REF65.pdf	1381866	no	16
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Warnings:					
Information:					
3	NPL Documents	EFACT-005C1_REF66.pdf	917019	no	2
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Warnings:					
Information:					
4	NPL Documents	EFACT-005C1_REF67.pdf	1950807	no	2
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Warnings:					
Information:					
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Warnings:					
Information:					
6	NPL Documents	EFACT-005C1_REF69.pdf	585027	no	3
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Warnings:					
Information:					
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Warnings:					
Information:					
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Warnings:					
Information:					

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Warnings:					
Information:					
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Warnings:					
Information:					
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Warnings:					
Information:					
12	NPL Documents	EFACT-005C1_REF75.pdf	575766	no	11
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Warnings:					
Information:					
13	NPL Documents	EFACT-005C1_REF76.pdf	8671826	no	93
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Warnings:					
Information:					
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Warnings:					
Information:					
15	NPL Documents	EFACT-005C1_REF78.pdf	709737	no	6
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Warnings:					
Information:					
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			e1768ac4e73823d4ccae42205d102ed5c6e87033		
Warnings:					
Information:					
Total Files Size (in bytes):			24330444		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT

Applicant : Steinberg, et al.
App. No : 12/959,225
Filed : December 2, 2010
For : SYSTEM AND METHOD FOR CALCULATING THE
THERMAL MASS OF A BUILDING
Examiner : Unknown
Art Unit : 3744
Conf No. : 4651

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

Dear Sir:

Enclosed for filing in the above-identified application is a PTO/SB/08 Equivalent listing seventy nine (79) references, of which fifteen (15) are enclosed/submitted.

This Information Disclosure Statement is being filed before the receipt of a first Office Action on the merits, and presumably no fee is required. If a first Office Action on the merits was mailed before the mailing date of this Statement, the Commissioner is authorized to charge the fee set forth in 37 C.F.R. § 1.17(p) to Deposit Account No. 11-1410.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 3-24-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Steinberg, et al.
Appl. No.	:	12/959,225
Filed	:	December 2, 2010
For	:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
Examiner	:	Unknown
Group Art Unit	:	3744

PRELIMINARY AMENDMENT**Mail Stop Amendment**

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

Dear Sir:

Prior to substantive examination of the above-identified patent application,
Applicant respectfully submits the following:

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

Appl. No. : 12/959,225
Filed : December 2, 2010

AMENDMENTS TO THE SPECIFICATION

Please amend the priority claim in the paragraph [0001] on the first page of the specification as follows:

[CROSS-REFERENCE TO RELATED APPLICATIONS]

[0001] This application is a continuation of U.S. Patent Application No. 12/211,733, filed September 16, 2008 which claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Application No. ~~60/944,011~~60/994,011, filed September 17, 2007, the entirety of each of which is hereby incorporated herein by reference and is to be considered part of this specification.

Appl. No. : 12/959,225
Filed : December 2, 2010

REMARKS

By the foregoing amendment to the specification, Applicant has corrected a typographical error in the priority claim. In particular, the application number of the provisional application entitled "SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING," filed December 2, 2010, has been amended to correctly read U.S. Provisional Patent Application No. 60/994,011.

If further issues remain, the Examiner is cordially invited to contact the undersigned at the general office number listed below.

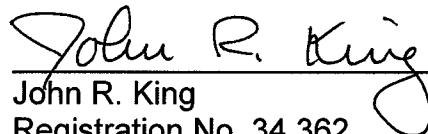
Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 2-15-2011

By:



John R. King
Registration No. 34,362
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10713651:ad
021511

Electronic Acknowledgement Receipt

EFS ID:	9451505
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Alexandra Benitez
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	15-FEB-2011
Filing Date:	02-DEC-2010
Time Stamp:	17:38:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	EFACT-005C1_supplementalads.pdf	60276 c65ecc202bf04f845934a0a15d9f64cb48495b31	no	3

Warnings:

Information:

2		EFACT-005C1_prelimamendment.pdf	61668 417afb8d5e7a5c01ac42b7f624c0be9992f083ef	yes	3
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Preliminary Amendment		1	1	
	Specification		2	2	
	Applicant Arguments/Remarks Made in an Amendment		3	3	
Warnings:					
Information:					
Total Files Size (in bytes):			121944		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

SUPPLEMENTAL APPLICATION DATA SHEET**Application Information**

Application Number:: 12/959,225
Filing Date:: December 2, 2010
Application Type:: Non-Provisional
Suggested Group Art Unit:: 3744
Title:: SYSTEM AND METHOD FOR CALCULATING THE
THERMAL MASS OF A BUILDING
Attorney Docket Number:: EFACT.005C1
Request for Early Publication?:: NO
Request for Non-Publication?:: NO
Small Entity?:: YES

Inventor Information

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Country of Residence::
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State or Province:: CA
Country:: US
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Representative Information

Representative Customer Number:: 20,995

Domestic Priority Information

Application::	Continuity Type::	Parent Application::	Parent Filing Date::
This Application	Continuation of	12/211,733	09/16/08
12/211,733	Non-provisional of	<u>60/994,011</u>	09/17/07

Assignment Information

Assignee Name:: EcoFactor, Inc.
Street:: 423 Broadway, #801
City:: Millbrae
State or Province:: CA
Country:: US
Postal or Zip Code:: 94030

Dated: 2-17-2011

By: John R. King
John R. King
Registration No. 34,362
Attorney of Record
Customer No. 20,995
(949) 760-0404

10710575:ad
021511

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

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/959,225		Filing Date 12/02/2010		<input type="checkbox"/> To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/> OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=	OR	X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	02/15/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 12	Minus	** 20	=	0	OR	X \$	=	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	=	0	OR	X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		OR	X \$	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		OR	X \$	=	
<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:
/MARY A. HOLMES/

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

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/959,225	12/02/2010	3744	462	EFACT.005C1	12	2

CONFIRMATION NO. 4651

FILING RECEIPT



OC000000044962915

20995
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

Date Mailed: 12/20/2010

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

John Douglas Steinberg, Millbrae, CA;
Scott Douglas Hublou, Redwood City, CA;

Assignment For Published Patent Application

EcoFactor, Inc., Millbrae, CA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/211,733 09/16/2008 PAT 7,848,900

Foreign Applications

If Required, Foreign Filing License Granted: 12/14/2010

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/959,225**

Projected Publication Date: 03/31/2011

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

Preliminary Class

236

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 12/959,225				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	82		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	270		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	110		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	12	minus 20 = *	x 26 =	0.00	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 110 =	0.00						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	462		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										

SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application No. 12/211,733, filed September 16, 2008 which claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Application No. 60/944,011, filed September 17, 2007, the entirety of each of which is hereby incorporated herein by reference and is to be considered part of this specification.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] This invention relates to the use of thermostatic HVAC controls that are connected to a computer network. More specifically, communicating thermostats are combined with a computer network to calculate the thermal mass of a structure.

Background

[0003] Climate control systems such as heating and cooling systems for buildings (heating, ventilation and cooling, or HVAC systems) have been controlled for decades by thermostats. At the most basic level, a thermostat includes a means to allow a user to set a desired temperature, a means to sense actual temperature, and a means to signal the heating and/or cooling devices to turn on or off in order to try to change the actual temperature to equal the desired temperature. The most basic versions of thermostats use components such as a coiled bi-metallic spring to measure actual temperature and a mercury switch that opens or completes a circuit when the spring coils or uncoils with temperature changes. More recently, electronic digital thermostats have become prevalent. These thermostats use solid-state devices such as thermistors or thermal diodes to measure temperature, and microprocessor-based circuitry to control the switch and to store and operate based upon user-determined protocols for temperature vs. time.

[0004] These programmable thermostats generally offer a very restrictive user interface, limited by the cost of the devices, the limited real estate of the small wall-mounted boxes, and the inability to take into account more than two variables: the desired temperature set by the user, and the ambient temperature sensed by the thermostat. Users can generally only set one series of commands per day, and in order to change one parameter (e.g., to change the late-night temperature) the user often has to cycle through several other parameters by repeatedly pressing one or two buttons.

[0005] Because the interface of programmable thermostats is so poor, the significant theoretical savings that are possible with them (sometimes cited as 25% of heating and cooling costs) are rarely realized. In practice, studies have found that more than 50% of users never program their thermostats at all. Significant percentages of the thermostats that are programmed are programmed sub-optimally, in part because, once programmed, people tend to not to re-invest the time needed to change the settings very often.

[0006] A second problem with standard programmable thermostats is that they represent only a small evolutionary step beyond the first, purely mechanical thermostats. Like the first thermostats, they only have two input signals – ambient temperature and the preset desired temperature. The entire advance with programmable thermostats is that they can shift between multiple present temperatures at different times.

SUMMARY OF THE INVENTION

[0007] There are many other sources of information that could be used to increase comfort, decrease energy use, or both. For example, outside temperature and humidity strongly affect subjective comfort. On a 95 degree, 90 per cent humidity day in August, when people tend to dress in lightweight clothing, a house cooled to 70 degrees will feel cool or even uncomfortably cold. On a below-freezing day in January, when people tend to wear sweaters and heavier clothes, that same 70 degree home will feel too warm. It would therefore be advantageous for a thermostat system to automatically incorporate information about external weather conditions when setting the desired temperature.

[0008] Thermostats are used to regulate temperature for the benefit of the occupants in a given space. (Usually this means people, but it can of course also mean

critical equipment, such as in a room filled with computer equipment.) In general, thermostats read temperature from the sensor located within the “four corners” of the thermostat. With a properly designed system, the thermostat may well be located such that the temperature read at the precise location of the thermostat accurately reflects the conditions where the human (or other) occupants tend to be. But there are many reasons and circumstances in which that will not be the case. A single thermostat may produce accurate readings in some circumstances but not others; it may be located in a place far from the occupants, or too far from the ductwork controlled by the thermostat, etc. In one house, for example, the thermostat may be located in a spot that receives direct sunlight on hot afternoons. This could cause the thermostat to sense that the local ambient temperature is extremely high, and as a result signal the A/C to run too long, making the rest of the home too cold, and wasting considerable energy. In another house, the thermostat may be located in a hallway without ductwork or where the nearby ducts have been closed. In such a scenario, the thermostat is likely to (correctly) report cold temperatures in the winter, leading the heating system to overheat the rest of the house and waste considerable energy.

[0009] These problems can be reduced or eliminated through use of additional remote temperature sensors connected to the thermostat’s control circuitry. However, such systems require additional hardware, additional thermostat complexity, and skilled installation and configuration.

[0010] It would therefore be desirable for a thermostat system using only a single temperature sensor to take such sub-optimal installations into account and to correct for the erroneous readings generated by such thermostats.

[0011] Different structures will respond to changes in conditions such as external temperature in different ways. For example, houses built 50 or more years ago will generally have little or no insulation, be poorly sealed, and have simple single-glazed windows. Such houses will do a very poor job of retaining internal heat in the winter and rejecting external heat in the summer. In the absence of applications of thermal measures such as heating and air conditioning, the inside temperature in such houses will tend to track outside temperatures very closely. Such houses may be said to have low thermal mass. A house built in recent years, using contemporary techniques for energy efficiency such as high levels of

insulation, double-glazed windows and other techniques, will, in the absence of intervention, tend to absorb external heat and release internal heat very slowly. The newer house can be thought of as having higher thermal mass than the older house.

[0012] A conventional thermostat has no mechanism by which it might take the thermal mass of the structure into account, but thermal mass significantly affects many parameters relating to energy efficiency.

[0013] The cost to an electric utility to produce power varies over time. Indeed, the cost of production between low demand and peak demand periods can vary by as much as an order of magnitude. Traditionally, residential customers paid the same price regardless of time or the cost to produce. Thus consumers have had little financial incentive to reduce consumption during periods of high demand and high production cost. Many electric utilities are now seeking to bring various forms of variable rates to the retail energy markets. Under such schemes, consumers can reduce costs by taking into account not just how much energy they use, but when they use it.

[0014] Thus many consumers now can see real benefits from optimizing not just the total number of kilowatt-hours of electricity consumed, but also optimizing when it is used. The optimum strategy for energy use over time will vary based upon many variables, one of which is the thermal mass of the structure being heated or cooled. In a structure with high thermal mass, heating and cooling can effectively be shifted away from high cost periods to lower cost "shoulder" periods with little or no effect on comfort. If, for example, a utility charges much higher rates on hot summer afternoons, it is likely that pre-cooling a high-thermal mass structure just before the high-cost period and then shutting down the air conditioning during the peak will allow the house to remain comfortable. But in a house with low thermal mass, the benefits of pre-cooling will quickly dissipate, and the house will rapidly become uncomfortable if the air conditioning is shut off. Thus it would be advantageous for a temperature control system to take thermal mass into account when setting desired temperatures.

[0015] Many factors affect the efficiency of HVAC systems. Some may be thought of as essentially fixed, such as the theoretical efficiency of a central air conditioner (often expressed as its SEER rating), the matching of a given system to the characteristics of

a given home, the location and size of forced-air ductwork, etc. Other contributors to efficiency are more dynamic, such as clogged filters, refrigerant leaks, duct leakage and “pop-offs,” and the like.

[0016] Most of these problems are likely to manifest themselves in the form of higher energy bills. But the “signature” of each different problem can be discerned from the way in which each such problem affects the cycle times of a given HVAC system over time and relative to weather conditions and the performance of other HVAC systems in other houses. If two otherwise identical houses are located next door to each other and have gas furnaces, but one is rated at 50,000 BTUs and the other is rated at 100,000 BTUs, the cycle times for the higher-capacity furnace should be shorter than for the lower-capacity unit. If both of those same houses have identical furnaces, but one has a clogged filter, the cycle times should be longer in the house with the clogged filter. Because cycling of the HVAC system is controlled by the thermostat, those differences in cycle time would be reflected in the data sensed by and control signals generated by the thermostat. It would be advantageous for a thermostat system to be able to use that information to diagnose problems and make recommendations based upon that data.

[0017] These needs are satisfied by at least one embodiment of the invention that includes a system for calculating a value for the effective thermal mass of a building comprising: at least one HVAC control system that measures temperature at at least a first location conditioned by said HVAC system, and reporting said temperature measurements as well as the status of said HVAC control system; one or more processors that receive measurements of outside temperatures from at least one source other than said HVAC control systems and compare said temperature measurements from said first location with expected temperature measurements wherein the expected temperature measurements are based at least in part upon past temperature measurements obtained by said HVAC control system and said outside temperature measurements; and one or more databases that store at least said temperatures measured at said first location over time; calculating one or more rates of change in temperature at said first location; and relating said calculated rates of change to said outside temperature measurements.

[0018] Another embodiment includes a system for calculating a value for the operational efficiency of an HVAC system comprising at least one HVAC control system that measures temperature at at least a first location conditioned by said HVAC system, and reporting said temperature measurements as well as the status of said HVAC control system; one or more processors that receive measurements of outside temperatures from at least one source other than said HVAC control systems and compare said temperature measurements from said first location with expected temperature measurements wherein the expected temperature measurements are based at least in part upon past temperature measurements obtained by said HVAC control system and said outside temperature measurements; and one or more databases that store at least said temperatures measured at said first location over time; calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “on”; calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “off”; and relating said calculated rates of change to said outside temperature measurements.

[0019] A further embodiment includes a system for evaluating changes in the operational efficiency of an HVAC system over time comprising at least one HVAC control system that measures temperature at at least a first location conditioned by said HVAC system, and reporting said temperature measurements as well as the status of said HVAC control system; one or more processors that receive measurements of outside temperatures from at least one source other than said HVAC control systems and compare said temperature measurements from said first location with expected temperature measurements wherein the expected temperature measurements are based at least in part upon past temperature measurements obtained by said HVAC control system and said outside temperature measurements; and one or more databases that store at least said temperatures measured at said first location over time.

[0020] A further embodiment includes a system for detecting and correcting for anomalous behavior in HVAC control systems comprising a first HVAC control system that measures temperature at at least a first location conditioned by said first HVAC system, and reporting said temperature measurements as well as the status of said first HVAC control

system; at least a second HVAC control system that measures temperature at at least a second location conditioned by said second HVAC system, and reporting said temperature measurements as well as the status of said second HVAC control system; one or more processors that receive measurements of outside temperatures from at least one source other than said first and second HVAC control systems and compare said temperature measurements from said first HVAC controls system and said second HVAC control system and said outside temperature measurements; and one or more databases that store said temperatures measurements.

[0021] In at least one embodiment, the invention comprises a thermostat attached to an HVAC system, a local network connecting the thermostat to a larger network such as the Internet, and one or more additional thermostats attached to the network, and a server in bi-directional communication with a plurality of such thermostats. The server logs the ambient temperature sensed by each thermostat vs. time and the signals sent by the thermostats to their HVAC systems. The server preferably also logs outside temperature and humidity data for the geographic locations for the buildings served by the connected HVAC systems. Such information is widely available from various sources that publish detailed weather information based on geographic areas such as by ZIP code. The server also stores other data affecting the load upon the system, such as specific model of HVAC system, occupancy, building characteristics, etc. Some of this data may be supplied by the individual users of the system, while other data may come from third-party sources such as the electric and other utilities who supply energy to those users.

[0022] Combining these data sources will also allow the server to calculate the effective thermal mass of the structures conditioned by those thermostats. By combining data from multiple thermostats in a given neighborhood, the system can correct for flaws in the location of a given thermostat, and can evaluate the efficiency of a given system, as well as assist in the diagnosis of problems and malfunctions in such systems.

[0023] This and other advantages of certain embodiments of the invention are explained in the detailed description and claims that make reference to the accompanying diagrams and flowcharts.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] Figure 1 shows an example of an overall environment in which an embodiment of the invention may be used.

[0025] Figure 2 shows a high-level illustration of the architecture of a network showing the relationship between the major elements of one embodiment of the subject invention.

[0026] Figure 3 shows an embodiment of the website to be used as part of the subject invention.

[0027] Figure 4 shows a high-level schematic of the thermostat used as part of the subject invention.

[0028] Figure 5 shows one embodiment of the database structure used as part of the subject invention

[0029] Figures 6a and 6b show graphical representations of inside and outside temperatures in two different homes, one with high thermal mass and one with low thermal mass.

[0030] Figures 7a and 7b show graphical representations of inside and outside temperatures in the same homes as in Figures 6a and 6b, showing the cycling of the air conditioning systems in those houses.

[0031] Figures 8a and 8b show graphical representations of inside and outside temperatures in the same home as in Figures 6a and 7a, showing the cycling of the air conditioning on two different days in order to demonstrate the effect of a change in operating efficiency on the parameters measured by the thermostat.

[0032] Figures 9a and 9b show the effects of employing a pre-cooling strategy in two different houses.

[0033] Figures 10a and 10b show graphical representations of inside and outside temperatures in two different homes in order to demonstrate how the system can correct for erroneous readings in one house by referencing readings in another.

[0034] Figure 11 is a flowchart illustrating the steps involved in calculating the effective thermal mass of a home using the subject invention.

[0035] Figure 12 is a flowchart illustrating the steps involved in determining whether an HVAC system has developed a problem that impairs efficiency using the subject invention.

[0036] Figure 13 is a flowchart illustrating the steps involved in correcting for erroneous readings in one house by referencing readings in another using the subject invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0037] **Figure 1** shows an example of an overall environment 100 in which an embodiment of the invention may be used. The environment 100 includes an interactive communication network 102 with computers 104 connected thereto. Also connected to network 102 are one or more server computers 106, which store information and make the information available to computers 104. The network 102 allows communication between and among the computers 104 and 106.

[0038] Presently preferred network 102 comprises a collection of interconnected public and/or private networks that are linked to together by a set of standard protocols to form a distributed network. While network 102 is intended to refer to what is now commonly referred to as the Internet, it is also intended to encompass variations which may be made in the future, including changes additions to existing standard protocols.

[0039] When a user of the subject invention wishes to access information on network 102, the buyer initiates connection from his computer 104. For example, the user invokes a browser, which executes on computer 104. The browser, in turn, establishes a communication link with network 102. Once connected to network 102, the user can direct the browser to access information on server 106.

[0040] One popular part of the Internet is the World Wide Web. The World Wide Web contains a large number of computers 104 and servers 106, which store HyperText Markup Language (HTML) documents capable of displaying graphical and textual

information. HTML is a standard coding convention and set of codes for attaching presentation and linking attributes to informational content within documents.

[0041] The servers 106 that provide offerings on the World Wide Web are typically called websites. A website is often defined by an Internet address that has an associated electronic page. Generally, an electronic page is a document that organizes the presentation of text graphical images, audio and video.

[0042] In addition to the Internet, the network 102 can comprise a wide variety of interactive communication media. For example, network 102 can include local area networks, interactive television networks, telephone networks, wireless data systems, two-way cable systems, and the like.

[0043] In one embodiment, computers 104 and servers 106 are conventional computers that are equipped with communications hardware such as modem or a network interface card. The computers include processors such as those sold by Intel and AMD. Other processors may also be used, including general-purpose processors, multi-chip processors, embedded processors and the like.

[0044] Computers 104 can also be handheld and wireless devices such as personal digital assistants (PDAs), cellular telephones and other devices capable of accessing the network.

[0045] Computers 104 utilize a browser configured to interact with the World Wide Web. Such browsers may include Microsoft Explorer, Mozilla, Firefox, Opera or Safari. They may also include browsers used on handheld and wireless devices.

[0046] The storage medium may comprise any method of storing information. It may comprise random access memory (RAM), electronically erasable programmable read only memory (EEPROM), read only memory (ROM), hard disk, floppy disk, CD-ROM, optical memory, or other method of storing data.

[0047] Computers 104 and 106 may use an operating system such as Microsoft Windows, Apple Mac OS, Linux, Unix or the like.

[0048] Computers 106 may include a range of devices that provide information, sound, graphics and text, and may use a variety of operating systems and software optimized for distribution of content via networks.

[0049] **Figure 2** illustrates in further detail the architecture of the specific components connected to network 102 showing the relationship between the major elements of one embodiment of the subject invention. Attached to the network are thermostats 108 and computers 104 of various users. Connected to thermostats 108 are HVAC units 110. The HVAC units may be conventional air conditioners, heat pumps, or other devices for transferring heat into or out of a building. Each user is connected to the server 106 via wired or wireless connection such as Ethernet or a wireless protocol such as IEEE 802.11, a gateway 110 that connects the computer and thermostat to the Internet via a broadband connection such as a digital subscriber line (DSL) or other form of broadband connection to the World Wide Web. Server 106 contains the content to be served as web pages and viewed by computers 104, as well as databases containing information used by the servers.

[0050] In the currently preferred embodiment, the website 200 includes a number of components accessible to the user, as shown in **Figure 3**. Those components may include a means to enter temperature settings 202, a means to enter information about the user's home 204, a means to enter the user's electricity bills 206, means to calculate energy savings that could result from various thermostat-setting strategies 208, and means to enable and choose between various arrangements 210 for demand reduction with their electric utility provider as intermediated by the demand reduction service provider.

[0051] **Figure 4** shows a high-level block diagram of thermostat 108 used as part of the subject invention. Thermostat 108 includes temperature sensing means 252, which may be a thermistor, thermal diode or other means commonly used in the design of electronic thermostats. It includes a microprocessor 254, memory 256, a display 258, a power source 260, a relay 262, which turns the HVAC system on and off in response to a signal from the microprocessor, and contacts by which the relay is connected to the wires that lead to the HVAC system. To allow the thermostat to communicate bi-directionally with the computer network, the thermostat also includes means 264 to connect the thermostat to a local computer or to a wireless network. Such means could be in the form of Ethernet, wireless protocols such as IEEE 802.11, IEEE 802.15.4, Bluetooth, cellular systems such as CDMA, GSM and GPRS, or other wireless protocols. The thermostat 250 may also include controls

266 allowing users to change settings directly at the thermostat, but such controls are not necessary to allow the thermostat to function.

[0052] The data used to generate the content delivered in the form of the website is stored on one or more servers 106 within one or more databases. As shown in **Figure 5**, the overall database structure 300 may include temperature database 400, thermostat settings database 500, energy bill database 600, HVAC hardware database 700, weather database 800, user database 900, transaction database 1000, product and service database 1100 and such other databases as may be needed to support these and additional features.

[0053] The website will allow users of connected thermostats 250 to create personal accounts. Each user's account will store information in database 900, which tracks various attributes relative to users of the site. Such attributes may include the make and model of the specific HVAC equipment in the user's home; the age and square footage of the home, the solar orientation of the home, the location of the thermostat in the home, the user's preferred temperature settings, whether the user is a participant in a demand reduction program, etc.

[0054] As shown in Figure 3, the website 200 will permit thermostat users to perform through the web browser substantially all of the programming functions traditionally performed directly at the physical thermostat, such as temperature set points, the time at which the thermostat should be at each set point, etc. Preferably the website will also allow users to accomplish more advanced tasks such as allow users to program in vacation settings for times when the HVAC system may be turned off or run at more economical settings, and set macros that will allow changing the settings of the temperature for all periods with a single gesture such as a mouse click.

[0055] In addition to using the system to allow better signaling and control of the HVAC system, which relies primarily on communication running from the server to the thermostat, the bi-directional communication will also allow the thermostat 108 to regularly measure and send to the server information about the temperature in the building. By comparing outside temperature, inside temperature, thermostat settings, cycling behavior of the HVAC system, and other variables, the system will be capable of numerous diagnostic and controlling functions beyond those of a standard thermostat.

[0056] For example, **Fig. 6a** shows a graph of inside temperature and outside temperature for a 24-hour period in House A, assuming no HVAC activity. House A has double-glazed windows and is well-insulated. When outside temperature 302 increases, inside temperature 304 follows, but with significant delay because of the thermal mass of the building.

[0057] **Figure 6b** shows a graph of inside temperature and outside temperature for the same 24-hour period in House B. House B is identical to House A except that it (i) is located a block away and (ii) has single-glazed windows and is poorly insulated. Because the two houses are so close to each other, outside temperature 302 is the same in Figure 6a and Figure 6b. But the lower thermal mass of House B means that the rate at which the inside temperature 306 changes in response to the changes in outside temperature is much greater.

[0058] The differences in thermal mass will affect the cycling behavior of the HVAC systems in the two houses as well. **Figure 7a** shows a graph of inside temperature and outside temperature in House A for the same 24-hour period as shown in Figure 6a, but assuming that the air conditioning is being used to try to maintain an internal temperature of 70 degrees. Outside temperatures 302 are the same as in Figures 6a and 6b. Because of the high thermal mass of the house, the air conditioning does not need to run for very long to maintain the target temperature, as shown by shaded areas 310.

[0059] **Figure 7b** shows a graph of inside temperature 312 and outside temperature 302 for the same 24-hour period in House B, assuming use of the air conditioning as in Figure 7a. Because of the lower thermal mass of House B, the air conditioning system in House B has to run longer in order to maintain the same target temperature, as shown by shaded areas 314.

[0060] Because server 106a logs the temperature readings from inside each house (whether once per minute or over some other interval), as well as the timing and duration of air conditioning cycles, database 300 will contain a history of the thermal performance of each house. That performance data will allow the server 106a to calculate an effective thermal mass for each such structure – that is, the speed with the temperature inside a given building will change in response to changes in outside temperature and differences between inside and outside temperatures. Because the server will also log these inputs against other

inputs including time of day, humidity, etc. the server will be able to predict, at any given time on any given day, the rate at which inside temperature should change for given inside and outside temperatures.

[0061] The server will also record the responses of each house to changes in outside conditions and cycling behavior over time. That will allow the server to diagnose problems as and when they develop. For example, **Figure 8a** shows a graph of outside temperature 402, inside temperature 404 and HVAC cycle times 406 in House A for a specific 24-hour period on date X. Assume that, based upon comparison of the performance of House A on date X relative to House A's historical performance, and in comparison to the performance of House A relative to other nearby houses on date X, the HVAC system in House A is presumed to be operating at normal efficiency, and that House A is in the 86th percentile as compared to those other houses. **Figure 8b** shows a graph of outside temperature 408, inside temperature 410 and HVAC cycle times 412 in House A for the 24-hour period on date X+1. House A's HVAC system now requires significantly longer cycle times in order to try to maintain the same internal temperature. If those longer cycle times were due to higher outside temperatures, those cycle times would not indicate the existence of any problems. But because server 106 is aware of the outside temperature, the system can eliminate that possibility as an explanation for the higher cycle times. Because server 106 is aware of the cycle times in nearby houses, it can determine that, for example, on date X+1 the efficiency of House A is only in the 23rd percentile. The server will be programmed with a series of heuristics, gathered from predictive models and past experience, correlating the drop in efficiency and the time interval over which it has occurred with different possible causes. For example, a 50% drop in efficiency in one day may be correlated with a refrigerant leak, especially if followed by a further drop in efficiency on the following day. A reduction of 10% over three months may be correlated with a clogged filter. Based upon the historical data recorded by the server, the server 106 will be able to alert the homeowner that there is a problem and suggest a possible cause.

[0062] Because the system will be able to calculate effective thermal mass, it will be able to determine the cost effectiveness of strategies such as pre-cooling for specific houses under different conditions. **Figure 9a** shows a graph of outside temperature 502,

inside temperature 504 and HVAC cycling times 506 in House A for a specific 24-hour period on date Y assuming that the system has used a pre-cooling strategy to avoid running the air conditioning during the afternoon, when rates are highest. Because House A has high thermal mass, the house is capable of “banking” cool, and energy consumed during off-peak hours is in effect stored, allowing the house to remain cool even when the system is turned off. Temperatures keep rising during the period the air conditioning is off, but because thermal mass is high, the rate of increase is low, and the house is still comfortable six hours later. Although the pre-cooling cycle time is relatively long, the homeowner may still benefit because the price per kilowatt during the morning pre-cooling phase is lower than the price during the peak load period. **Figure 9b** shows a graph of the same outside temperature 502 in House B as in House A in Figure 9a for the same 24-hour period and using the same pre-cooling strategy as shown by cycling times 506. But because House B has minimal thermal mass, using additional electricity in order to pre-cool the house does not have the desired effect; inside temperature 508 warms up so fast that the cool that had been banked is quickly lost. Thus the system will recommend that House A pre-cool in order to save money, but not recommend pre-cooling for House B.

[0063] The system can also help compensate for anomalies such as measurement inaccuracies due to factors such as poor thermostat location. It is well-known that thermostats should be placed in a location that will be likely to experience “average” temperatures for the overall structure, and should be isolated from windows and other influences that could bias the temperatures they “see.” But for various reasons, not all thermostat installations fit that ideal. **Figure 10a** shows a graph of outside temperature 602, the average inside temperature for the entire house 604, and inside temperature as read by the thermostat 606 in House C for a specific 24-hour period on September 15th, assuming that the thermostat is located so that from 4PM until 5:30PM on that day the thermostat is in direct sunlight. Until the point at which the sun hits the thermostat, the average inside temperature and temperature as read by the thermostat track very closely. But when the direct sunlight hits the thermostat, the thermostat and the surrounding area can heat up, causing the internal temperature as read by the thermostat to diverge significantly from the average temperature for the rest of the house. Conventional thermostats have no way of distinguishing this

circumstance from a genuinely hot day, and will both over-cool the rest of the house and waste considerable energy when it cycles the air conditioner in order to reduce the temperature as sensed by the thermostat. If the air conditioning is turned off, this phenomenon will manifest as a spike in temperature as measured by the thermostat. If the air conditioning is turned on (and has sufficient capacity to respond to the distorted temperature signal caused by the sunlight), this phenomenon will likely manifest as relatively small changes in the temperature as sensed by the thermostat, but significantly increased HVAC usage (as well as excessively lowered temperatures in the rest of the house, but this result may not be directly measured in a single sensor environment. The subject system, in contrast, has multiple mechanisms that will allow it to correct for such distortions. First, because the subject system compares the internal readings from House C with the external temperature, it will be obvious that the rise in temperature at 4:00PM is not correlated with a corresponding change in outside temperature. Second, because the system is also monitoring the readings from the thermostat in nearby House D, which (as shown in **Figure 10b**) is exposed to the same outside temperature 602, but has no sudden rise in measured internal temperature 608 at 4:00, the system has further validation that the temperature increase is not caused by climatic conditions. And finally, because the system has monitored and recorded the temperature readings from the thermostat in House C for each previous day, and has compared the changing times of the aberration with the progression of the sun, the system can distinguish the patterns likely to indicate solar overheating from other potential causes.

[0064] **Figure 11** illustrates the steps involved in calculating comparative thermal mass, or the thermal mass index. In step 1102, the server retrieves climate data related to home X. Such data may include current outside temperature, outside temperature during the preceding hours, outside humidity, wind direction and speed, whether the sun is obscured by clouds, and other factors. In step 1104, the server retrieves HVAC duty cycle data for home X. Such data may include target settings set by the thermostat in current and previous periods, the timing of switch-on and switch-off events and other data. In step 1106, the server retrieves data regarding recent temperature readings as recorded by the thermostat in home X. In step 1108, the server retrieves profile data for home X. Such data may include square footage and number of floors, when the house was built and/or renovated, the extent

to which it is insulated, its address, make, model and age of its furnace and air conditioning hardware, and other data. In step 1110, the server retrieves the current inside temperature reading as transmitted by the thermostat. In step 1112, the server calculates the thermal mass index for the home under those conditions; that is, for example, it calculates the likely rate of change for internal temperature in home X from a starting point of 70 degrees when the outside temperature is 85 degrees at 3:00PM on August 10th when the wind is blowing at 5 mph from the north and the sky is cloudy. The server accomplishes this by applying a basic algorithm that weighs each of these external variables as well as variables for various characteristics of the home itself (such as size, level of insulation, method of construction, etc.) and data from other houses and environments.

[0065] **Figure 12** illustrates the steps involved in diagnosing defects in the HVAC system for specific home X. In step 1202, the server retrieves climate data related to home X. Such data may include current outside temperature, outside temperature during the preceding hours, outside humidity, wind direction and speed, whether the sun is obscured by clouds, and other factors. In step 1204, the server retrieves HVAC duty cycle data for home X. Such data may include target settings set by the thermostat in current and previous periods, the timing of switch-on and switch-off events and other data. In step 1206, the server retrieves data regarding current and recent temperature readings as recorded by the thermostat in home X. In step 1208, the server retrieves profile data for home X. Such data may include square footage and number of floors, when the house was built and/or renovated, the extent to which it is insulated, its address, make, model and age of its furnace and air conditioning hardware, and other data. In step 1210, the server retrieves comparative data from other houses that have thermostats that also report to the server. Such data may include interior temperature readings, outside temperature for those specific locations, duty cycle data for the HVAC systems at those locations, profile data for the structures and HVAC systems in those houses and the calculated thermal mass index for those other houses. In step 1212, the server calculates the current relative efficiency of home X as compared to other homes. Those comparisons will take into account differences in size, location, age, etc in making those comparisons.

[0066] The server will also take into account that relative efficiency is not absolute, but will vary depending on conditions. For example, a house that has extensive south-facing windows is likely to experience significant solar gain. On sunny winter days, that home will appear more efficient than on cloudy winter days. That same house will appear more efficient at times of day and year when trees or overhangs shade those windows than it will when summer sun reaches those windows. Thus the server will calculate efficiency under varying conditions.

[0067] In step 1214 the server compares the HVAC system's efficiency, corrected for the relevant conditions, to its efficiency in the past. If the current efficiency is substantially the same as the historical efficiency, the server concludes 1216 that there is no defect and the diagnostic routine ends. If the efficiency has changed, the server proceeds to compare the historical and current data against patterns of changes known to indicate specific problems. For example, in step 1218, the server compares that pattern of efficiency changes against the known pattern for a clogged air filter, which is likely to show a slow, gradual degradation over a period of weeks or even months. If the pattern of degradation matches the clogged filter paradigm, the server creates and transmits to the homeowner a message 1220 alerting the homeowner to the possible problem. If the problem does not match the clogged filter paradigm, the system compares 1222 the pattern to the known pattern for a refrigerant leak, which is likely to show a degradation over a period of a few hours to a few days. If the pattern of degradation matches the refrigerant leak paradigm, the server creates and transmits to the homeowner a message 1224 alerting the homeowner to the possible problem. If the problem does not match the refrigerant leak paradigm, the system compares 1226 the pattern to the known pattern for an open window or door, which is likely to show significant changes for relatively short periods at intervals uncorrelated with climatic patterns. If the pattern of degradation matches the open door/window paradigm, the server creates and transmits to the homeowner a message 1228 alerting the homeowner to the possible problem. If the problem does not match the refrigerant leak paradigm, the system continues to step through remaining know patterns N 1230 until either a pattern is matched 1232 or the list has been exhausted without a match 1234.

[0068] **Figure 13** illustrates the steps involved in diagnosing inaccurate thermostat readings due to improper location. In step 1302, the server retrieves climate data related to home X. Such data may include current outside temperature, outside temperature during the preceding hours, outside humidity, wind direction and speed, whether the sun is obscured by clouds, and other factors. In step 1304, the server retrieves HVAC duty cycle data for home X. Such data may include target settings set by the thermostat in current and previous periods, the timing of switch-on and switch-off events and other data. In step 1306, the server retrieves data regarding current and recent temperature readings as recorded by the thermostat in home X. In step 1308, the server retrieves profile data for home X. Such data may include square footage and number of floors, when the house was built and/or renovated, the extent to which it is insulated, its address, make, model and age of its furnace and air conditioning hardware, and other data. In step 1310, the server retrieves comparative data from other houses that have thermostats that also report to the server. Such data may include interior temperature readings, outside temperature for those specific locations, duty cycle data for the HVAC systems at those locations, profile data for the structures and HVAC systems in those houses and the calculated thermal mass index for those other houses. In step 1312, the server calculates the expected thermostat temperature reading based upon the input data. In step 1314, the server compares the predicted and actual values. If the calculated and actual values are at least roughly equivalent, the server concludes 1316 that there is no thermostat-related anomaly. If the calculated and actual values are not roughly equivalent, the server retrieves additional historical information about past thermostat readings in step 1318. In step 1320, the server retrieves solar progression data, i.e., information regarding the times at which the sun rises and sets on the days being evaluated at the location of the house being evaluated, and the angle of the sun at that latitude, etc. In step 1322, the server compares the characteristics of the anomalies over time, to see if, for example, abnormally high readings began at 3:06 on June 5th, 3:09 on June 6th, 3:12 on June 7th, and the solar progression data suggests that at the house being analyzed, that sun would be likely to reach a given place in that house three minutes later on each of those days. If the thermostat readings do not correlate with the solar progression data, the server concludes 1324 that the sun is not causing the distortion by directly hitting the thermostat. If the thermostat readings do correlate with

solar progression, the server then calculates 1326 the predicted duration of the distortion caused by the sun. In step 1328, the server calculates the appropriate setpoint information to be used by the thermostat to maintain the desired temperature and correct for the distortion for the expected length of the event. For example, if the uncorrected setpoint during the predicted event is 72 degrees, and the sun is expected to elevate the temperature reading by eight degrees, the server will instruct the thermostat to maintain a setpoint of 80 degrees. In step 1330, the server sends the homeowner a message describing the problem.

[0069] The system installed in a subscriber's home may optionally include additional temperature sensors at different locations within the building. These additional sensors may be connected to the rest of the system via a wireless system such as 802.11 or 802.15.4, or may be connected via wires. Additional temperature and/or humidity sensors may allow increased accuracy of the system, which can in turn increase user comfort or energy savings.

[0070] While particular embodiments have been shown and described, it is apparent that changes and modifications may be made without departing from the invention in its broader aspects and, therefore, the invention may be carried out in other ways without departing from the true spirit and scope. These and other equivalents are intended to be covered by the following claims:

WHAT IS CLAIMED IS:

1. A system for calculating a value for the operational efficiency of an HVAC system comprising:

at least one HVAC control system that receives temperature measurements from at least a first location conditioned by at least one HVAC system;

one or more databases that store at least said temperatures measured at said first location over time; and

one or more processors that receive outside temperature measurements from at least one source other than said HVAC system, wherein said one or more processors are configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “on” and wherein said one or more processors are further configured to calculate one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “off”, and to relate said calculated rates of change to said outside temperature measurements

2. A system as in Claim 1 in which said processors receive outside temperatures for geographic regions such as ZIP codes from sources other than said HVAC system.

3. A system as in Claim 1 further comprising a programmable thermostat that communicates with said HVAC control system using the Internet.

4. A system as in Claim 1 in which said processors communicate with said HVAC system using a network that includes an electricity meter.

5. A system as in Claim 1 further comprising a programmable thermostat and said programmable thermostat is the sole source for current data regarding temperature inside said location conditioned by said HVAC system.

6. A system as in Claim 1 in which said temperature measurements inside said first location occur at only one physical location.

7. A method for calculating a value for the operational efficiency of an HVAC system that comprises:

receiving temperature measurements from at least a first location conditioned by at least one HVAC system;

storing in one or more databases at least said temperatures measured at said first location over time;

receiving outside temperature measurements from at least one source other than said HVAC system; and

calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “on” and calculating one or more rates of change in temperature at said first location for periods during which the status of the HVAC system is “off”, where said calculated rates of change are related to said outside temperature measurements.

8. A method as in Claim 7 in which said outside temperatures are received for geographic regions such as ZIP codes from sources other than said HVAC system.

9. A method as in Claim 7 where said temperature measurements from at least a first location conditioned by at least one HVAC system further are received from a programmable thermostat that communicates with said HVAC control system using the Internet.

10. A method as in Claim 7 that includes receiving information about electricity consumption in said first location from an electricity meter.

11. A method as in Claim 7 in which said data regarding temperature inside said location conditioned by said HVAC system is supplied by a programmable thermostat.

12. A method as in Claim 7 in which said temperature measurements at said first location occur at only one physical location.

SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

ABSTRACT OF THE DISCLOSURE

The invention comprises a system for calculating a value for the effective thermal mass of a building. The climate control system obtains temperature measurements from at least a first location conditioned by the climate system. One or more processors receive measurements of outside temperatures from at least one source other than the control system and compare the temperature measurements from the first location with expected temperature measurements. The expected temperature measurements are based at least in part upon past temperature measurements obtained by said HVAC control system and said outside temperature measurements. The processors then calculate one or more rates of change in temperature at said first location.

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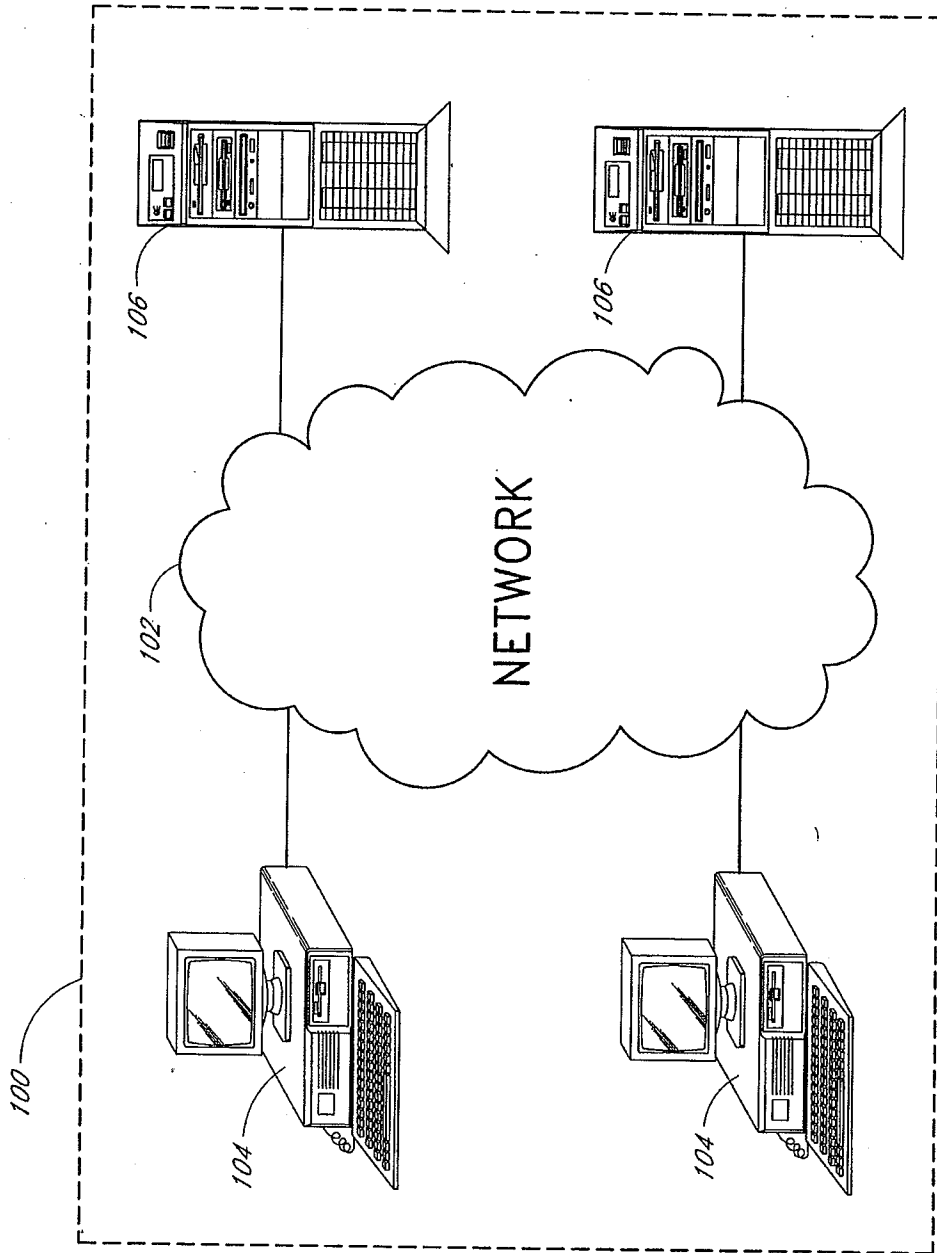
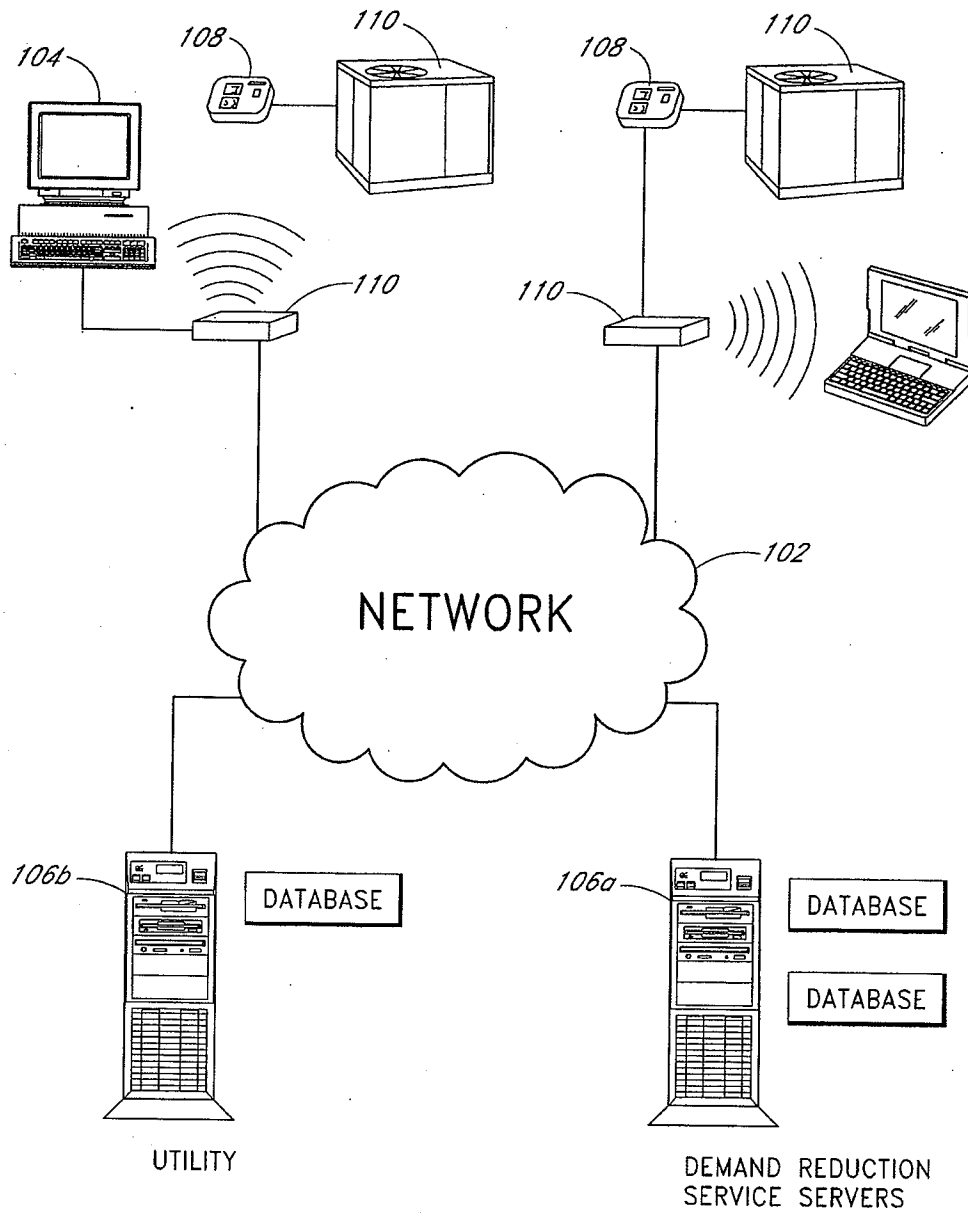
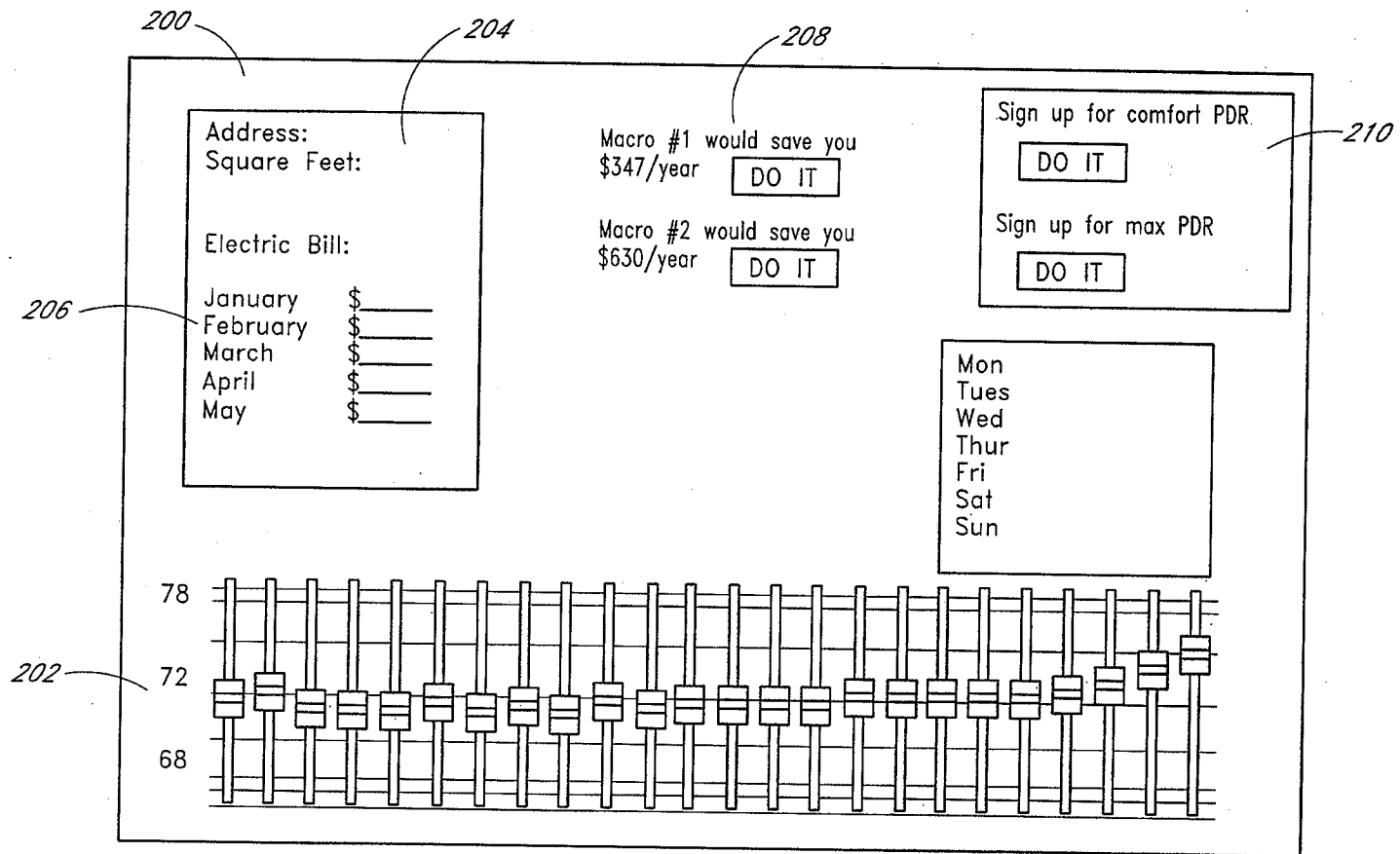


FIG. 1

*FIG. 2*



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FIG. 3

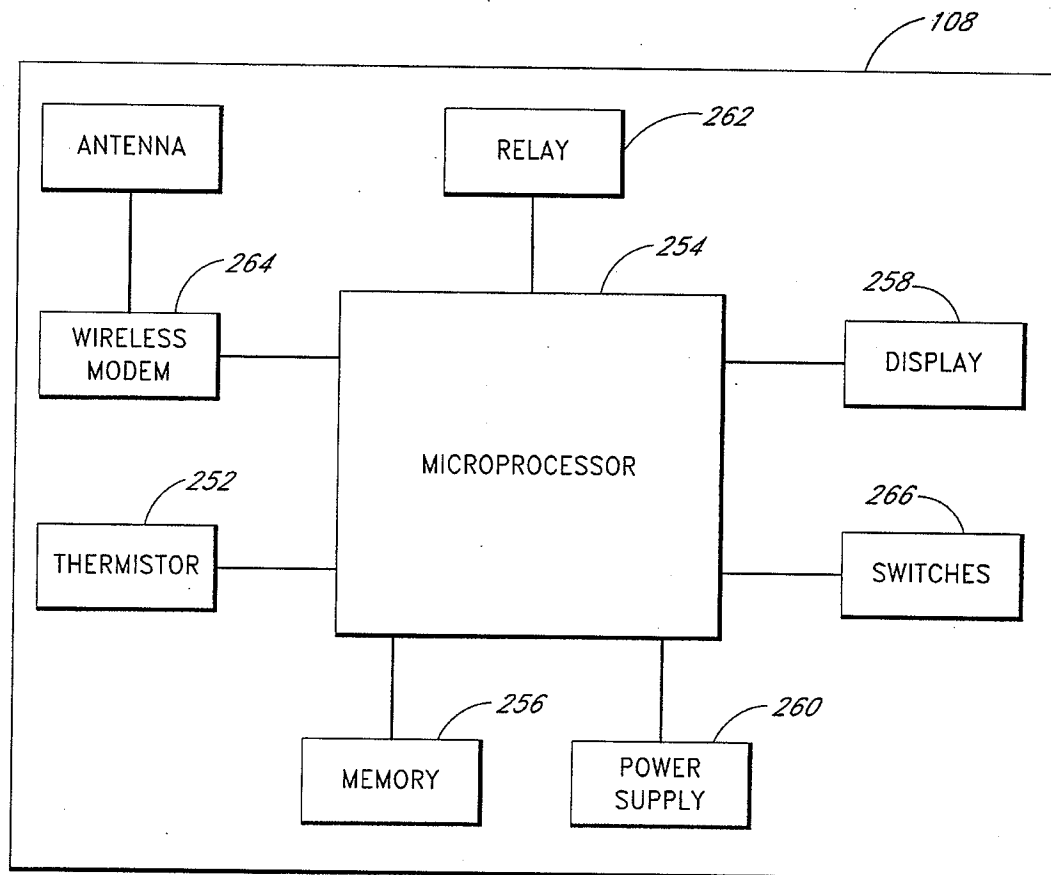


FIG. 4

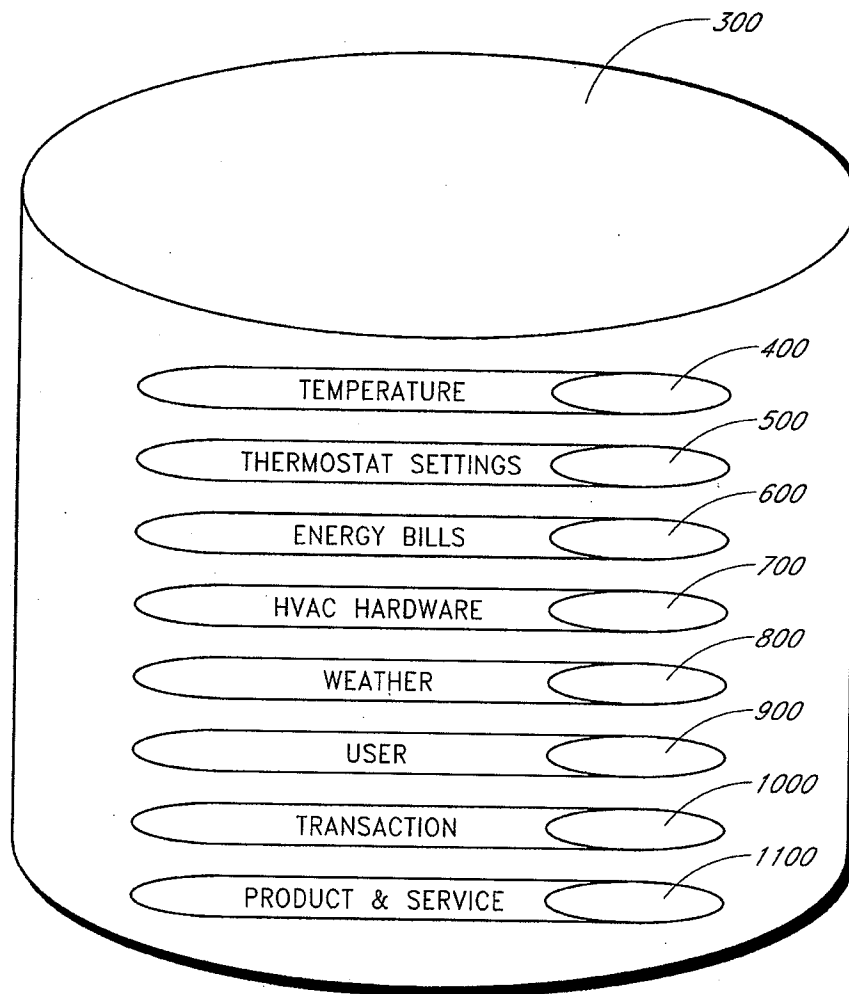


FIG. 5

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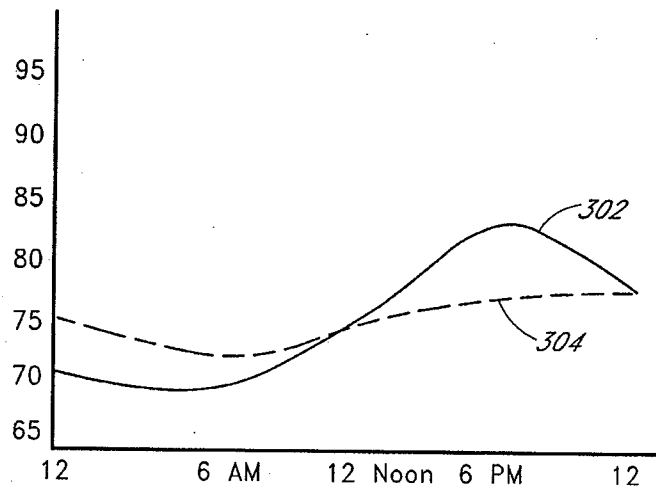


FIG. 6A

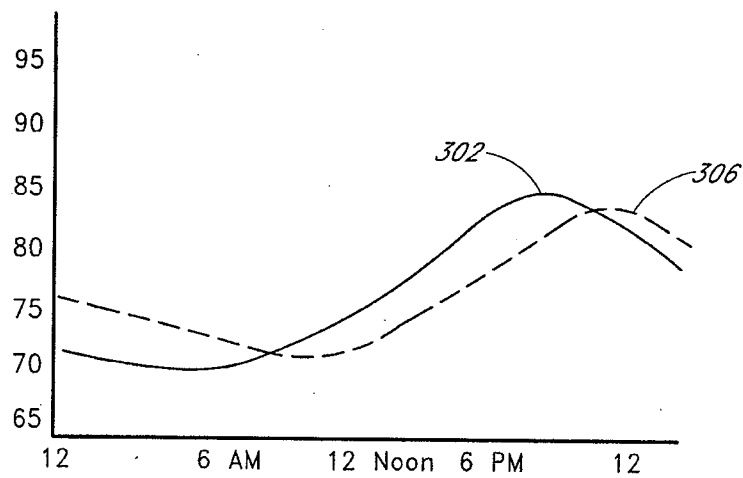


FIG. 6B

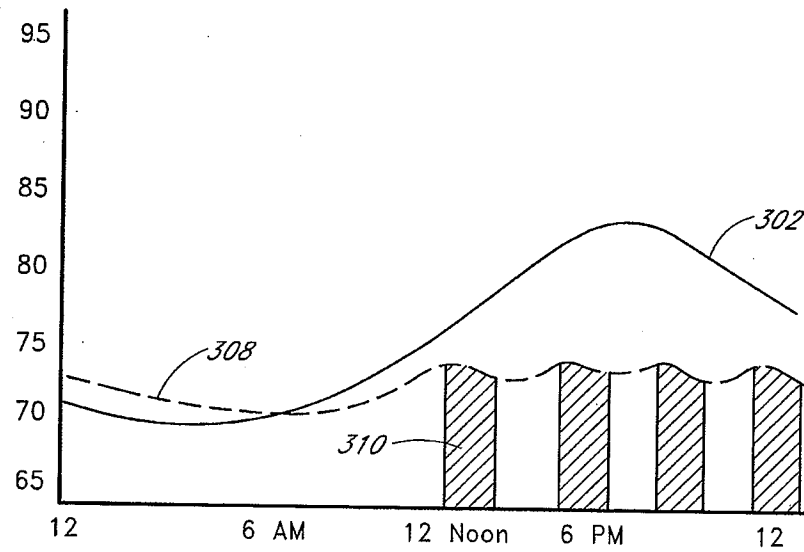


FIG. 7A

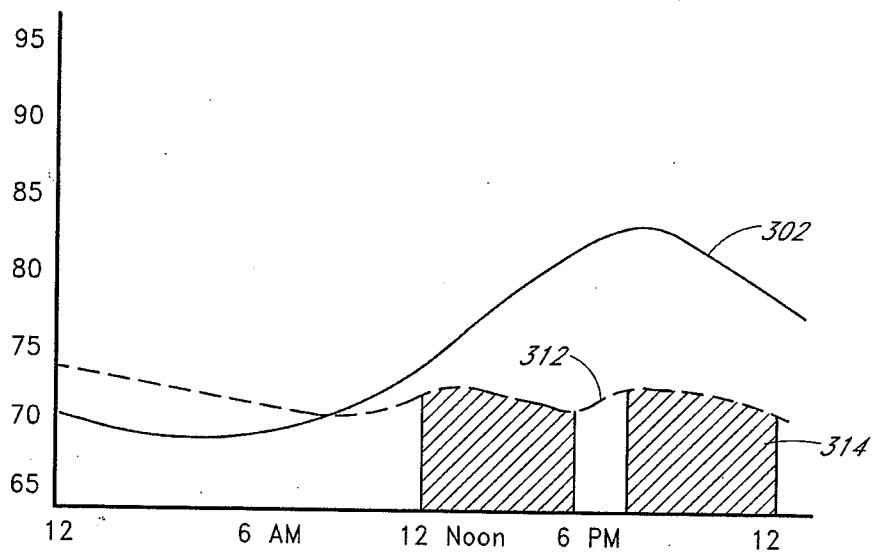


FIG. 7B

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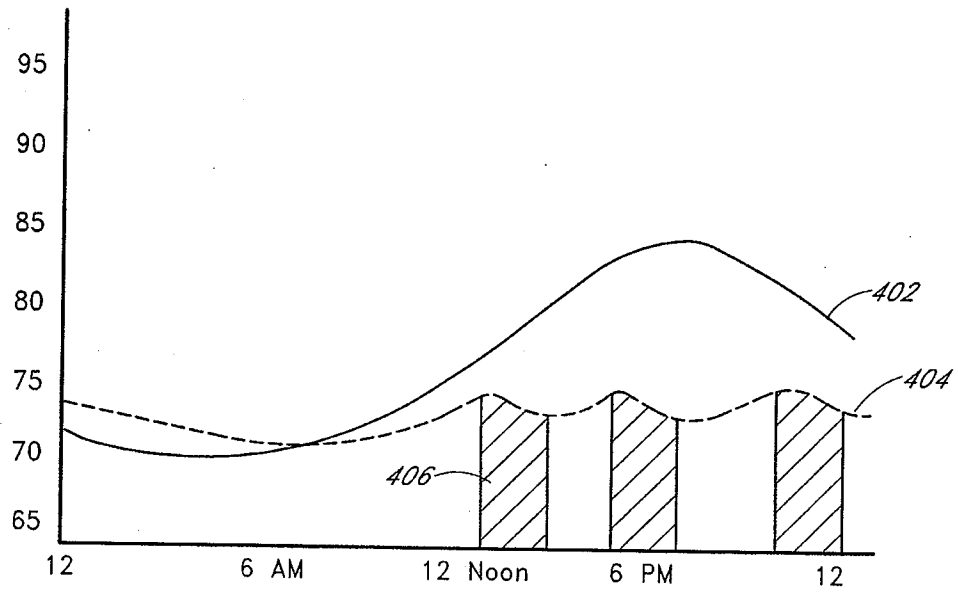


FIG. 8A

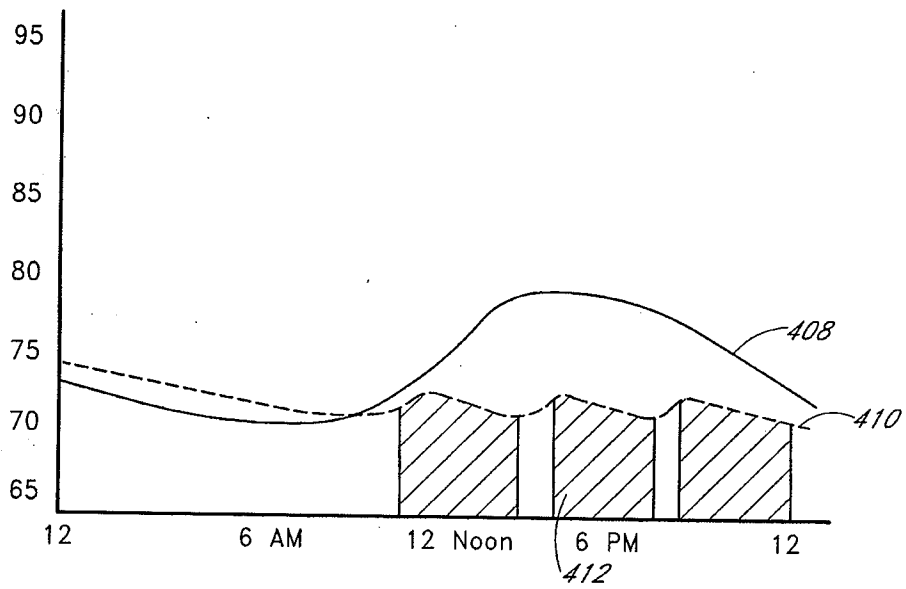


FIG. 8B

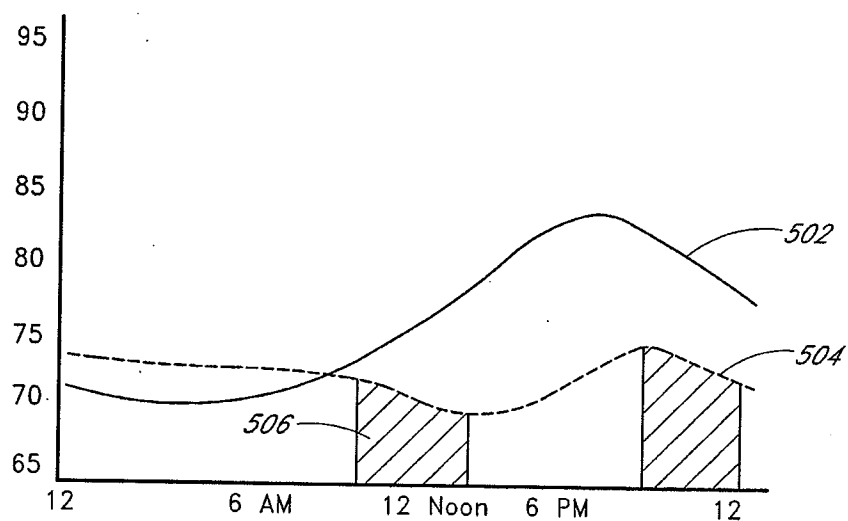


FIG. 9A

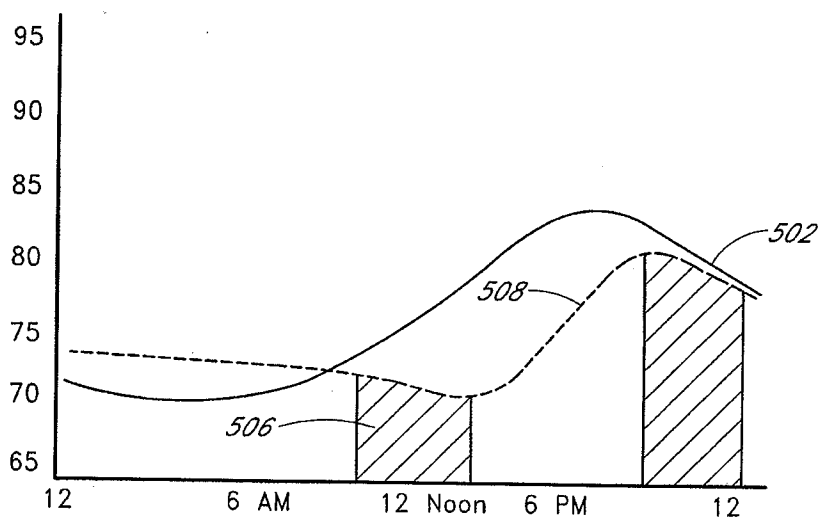


FIG. 9B

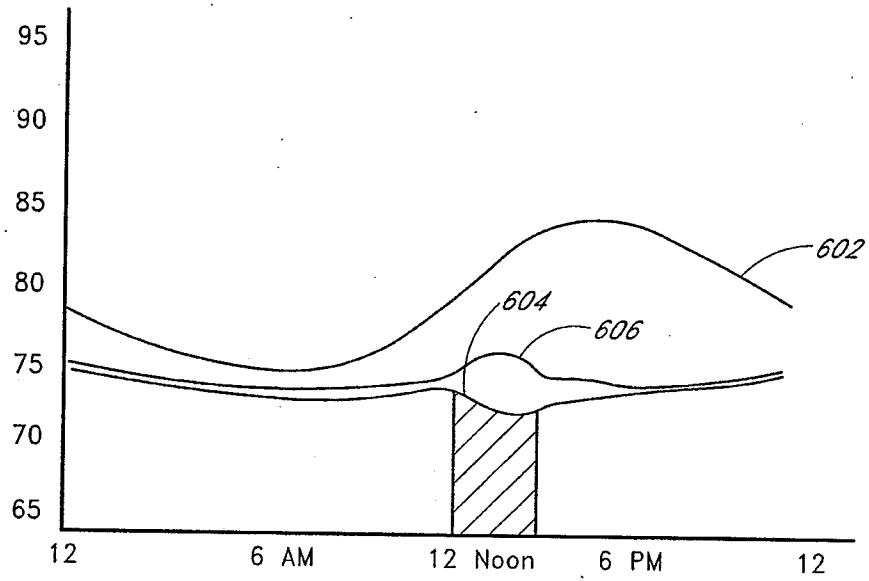


FIG. 10A

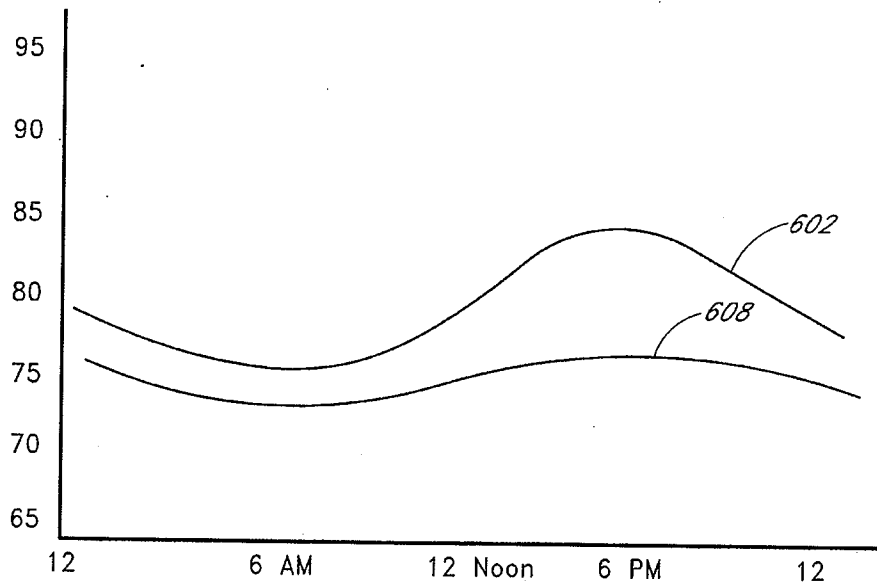
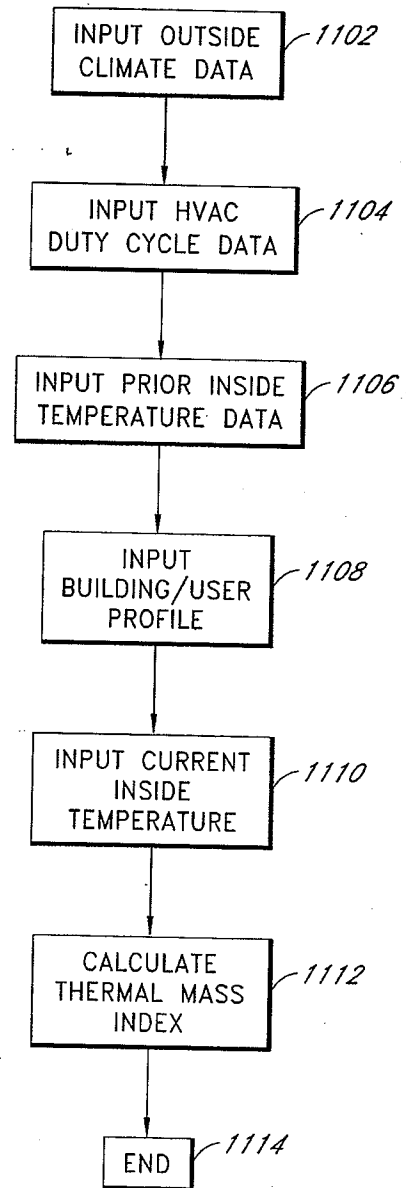


FIG. 10B

*FIG. 11*

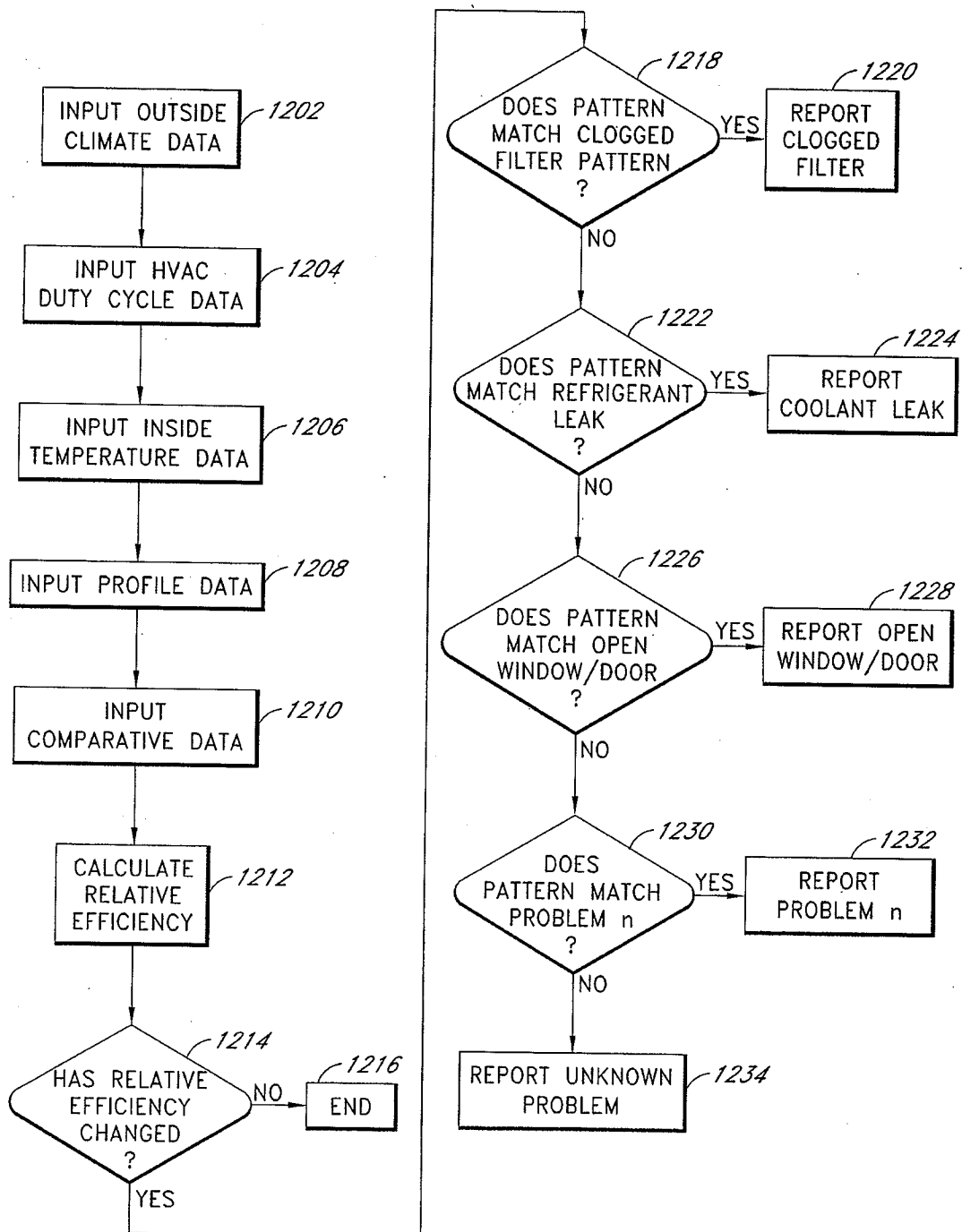


FIG. 12

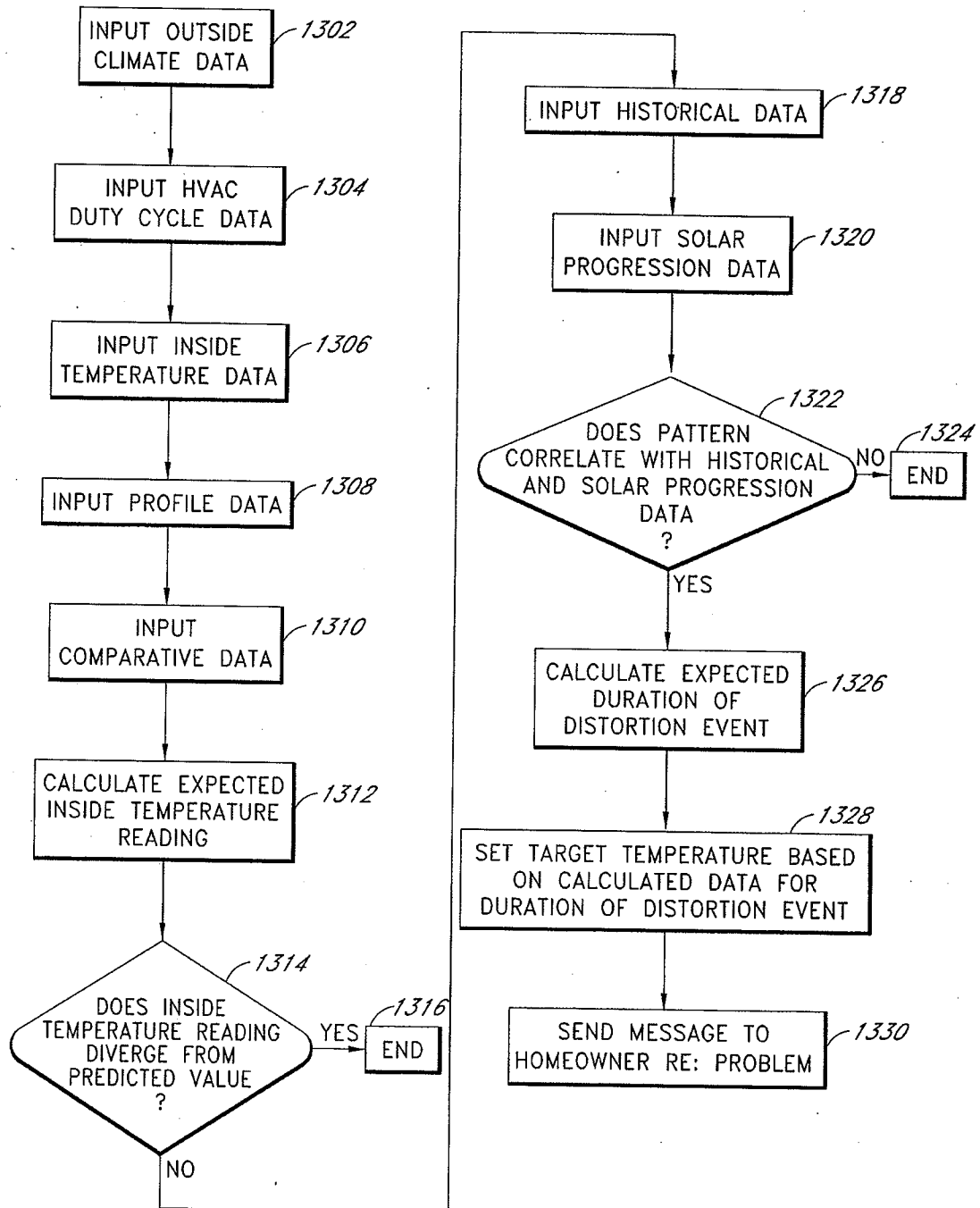


FIG. 13

**DECLARATION FOR UTILITY OR DESIGN APPLICATION
UNDER 37 CFR 1.63**

Docket No.: JSTEIN.005A

Page 1 of 2

Title: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A
BUILDING

Inventors: John Douglas Steinberg and Scott Douglas Hublou

Please Direct All Correspondence to Customer Number 20,995

This Declaration is directed to the invention that:

Was filed as Serial No. 12/211,733 filed on September 16, 2008

As a below named inventor:

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is described and claimed and for which a patent is sought;

I have reviewed and understand the contents of the above-identified application, including the claims, and any amendment filed herewith or identified above;

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

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

Full name of first inventor: John Douglas Steinberg

Signature: _____

Date: _____

Citizenship: _____

United States

Mailing Address: _____

873 Hacienda Way
Millbrae, CA 94030

Residence Address: _____
(if different than above)

Same as above.

**DECLARATION FOR UTILITY OR DESIGN APPLICATION
UNDER 37 CFR 1.63**

Docket No.: JSTEIN.005A

Page 2 of 2

Title: SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING

Inventors: John Douglas Steinberg and Scott Douglas Hublou

Please Direct All Correspondence to Customer Number 20,995

Full name of second inventor: Scott Douglas Hublou

Signature: _____

Date: _____

Citizenship: _____

United States

Mailing Address: _____

747 Lakeview Way

Redwood City, CA 94062

Residence Address: _____

Same as above.

(if different than above)

Send Correspondence To:

KNOBBE, MARTENS, OLSON & BEAR, LLP

Customer No. 20,995

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	EFACT.005C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

- ☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					
Applicant Authority		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117	
				<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	John	Douglas	Steinberg		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Millbrae	State/Province	CA	Country of Residence	
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		873 Hacienda Way			
Address 2					
City	Millbrae	State/Province	CA		
Postal Code	94030	Country	US		
Applicant 2					
Applicant Authority		<input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117	
				<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Scott	Douglas	Hublou		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Redwood City	State/Province	CA	Country of Residence	
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		747 Lakeview Way			
Address 2					
City	Redwood City	State/Province	CA		
Postal Code	94062	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add					

Correspondence Information:

<p>Enter either Customer Number or complete the Correspondence Information section below.</p> <p>For further information see 37 CFR 1.33(a).</p> <p><input type="checkbox"/> An Address is being provided for the correspondence information of this application.</p>

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	EFACT.005C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		
Customer Number	20995		
Email Address	efiling@kmob.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		
Attorney Docket Number	EFACT.005C1	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	13	Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not 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.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	20995		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12211733	2008-09-16
Prior Application Status		<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12211733	non provisional of	60944011	2007-09-17

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	EFACT.005C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

			Remove
Application Number	Country	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

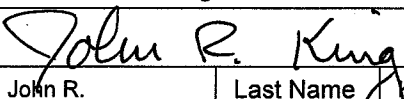
Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1			
If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	EcoFactor, Inc.		
Mailing Address Information:			
Address 1	423 Broadway, #801		
Address 2			
City	Millbrae	State/Province	CA
Country	US	Postal Code	94030
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature			Date (YYYY-MM-DD)	2010-12-02
First Name	John R.	Last Name	King	Registration Number
				34362

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	EFACT.005C1
		Application Number	
Title of Invention	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING		
First Named Inventor/Applicant Name:		John Douglas Steinberg		
Filer:		John R. King/Hiroko Isetani		
Attorney Docket Number:		EFACT.005C1		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	82	82
Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				462

Electronic Acknowledgement Receipt

EFS ID:	8956757
Application Number:	12959225
International Application Number:	
Confirmation Number:	4651
Title of Invention:	SYSTEM AND METHOD FOR CALCULATING THE THERMAL MASS OF A BUILDING
First Named Inventor/Applicant Name:	John Douglas Steinberg
Customer Number:	20995
Filer:	John R. King/Shirley Martinez
Filer Authorized By:	John R. King
Attorney Docket Number:	EFACT.005C1
Receipt Date:	02-DEC-2010
Filing Date:	
Time Stamp:	19:05:42
Application Type:	Utility under 35 USC 111(a)

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1		Application_Specification_EFACT-005C1.pdf	1256460	yes	23
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	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	20	
	Claims		21	22	
	Abstract		23	23	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	Application_Drawings_EFACT-005C1.pdf	203870	no	13
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Warnings:					
Information:					
3	Oath or Declaration filed	Application_CopyOfDeclaration_EFACT-005C1.pdf	63564	no	2
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Warnings:					
Information:					
4	Application Data Sheet	Application_ADS_EFACT-005C1.pdf	288921	no	5
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.