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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/018,399	8217887	2629	9200



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 94166 on 05/16/2013

• Correspondence Address

The address of record for Customer Number 94166 is:

94166

Fish & Richardson PC / Atmel

P.O.Box 1022

Minneapolis, MN 55440

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,217,887 B2
APPLICATION NO. : 12/018399
DATED : July 10, 2012
INVENTOR(S) : Dilip Sangam et al.

Page 1 of 1

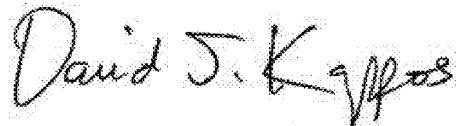
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Cover Page, Column 1, item (75) Inventors: delete "Klen" and insert -- Kien --

Column 2, Line 40 delete "male" and insert -- make --

Column 5, Line 56 delete "male" and insert -- make --

Signed and Sealed this
Twenty-first Day of August, 2012

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style.

David J. Kappos
Director of the United States Patent and Trademark Office

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Dilip Sangam et al.	Art Unit :	2629
Patent No. :	8,217,887	Examiner :	Sepideh Ghafari
Issue Date :	July 10, 2012	Conf. No. :	8064
Serial No. :	12/018,399		
Filed :	January 23, 2008		

Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

Attn.: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF REQUEST FOR CERTIFICATE OF CORRECTION

Applicant hereby requests that a certificate of correction be issued for the above patent in accordance with the attached request.

All errors sought to be corrected were made in printing by the Patent and Trademark Office, and no fee is believed to be due.

Please apply any other necessary charges or credits to Deposit Account 06- 1050, referencing the above attorney docket number.

Respectfully submitted,

Date: July 26, 2012

/Matthew E. Browning/
Matthew E. Browning
Reg. No. 64,470

Customer Number 26181
Fish & Richardson P.C.
Telephone: (512) 472-5070
Facsimile: (877) 769-7945

11222670.doc

Staple
Here
Only

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT No. .: 8,217,887
APPLICATION NO .: 12/018,399
DATED .: JULY 10, 2012
INVENTOR(S) .: DILIP SANGAM, HENDRIK SANTO, TUSHAR DHAYAGUDE, KLEN VI AND SEAN CHEN

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Cover Page, Column 1, (75) Inventors: delete “Klen” and insert -- Kien --

Column 2, Line 40 delete “male” and insert -- make --

Column 5, Line 56 delete “male” and insert -- make --

MAILING ADDRESS OF SENDER:

Matthew E. Browning
Fish & Richardson P.C.
P.O. Box 1022
Minneapolis, Minnesota 55440-1022

Electronic Acknowledgement Receipt	
EFS ID:	13349205
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY
First Named Inventor/Applicant Name:	Dilip Sangam
Customer Number:	26181
Filer:	Matthew E. Browning/Wanda Kellar
Filer Authorized By:	Matthew E. Browning
Attorney Docket Number:	20275-0165001
Receipt Date:	26-JUL-2012
Filing Date:	23-JAN-2008
Time Stamp:	15:38:17
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	Request for Certificate of Correction	20275-0165001-Trans.PDF	38828 9859ae8392f866f148d5d89636917caac518609e	no	1

Warnings:

Information:

2	Request for Certificate of Correction	20275-0165001-COC.PDF	66973 02fa4acacf54784d6ece828066ccf6a2c27bbe2	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				105801	
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. <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. <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. <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.					



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	07/10/2012	8217887	20275-0165001	8064

26181 7590 06/20/2012
FISH & RICHARDSON P.C. (SV)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

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 945 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):

Dilip Sangam, Saratoga, CA;
Hendrik Santo, San Jose, CA;
Tushar Dhayagude, Santa Clara, CA;
Klen Vi, Palo Alto, CA;
Sean Chen, Sunnyvale, CA;

Receipt date: 04/08/2009

12018399, GAU: 2629

Approved for use through 09/30/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399	
	Filing Date		2008-01-23	
	First Named Inventor	Dilip S.		
	Art Unit	2629		
	Examiner Name	Unknown		
	Attorney Docket Number	SILIP110US		

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	5850205	A	1998-12-15	Blouin		

If you wish to add additional U.S. Patent citation information please click the Add button.

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U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
	1	20070285378	A1	~~2001~~ 2007-12-13	Lankhorst, et al		
	2	20070262732	A1	2007-11-15	Shen		
	3	20060001641	A1	2006-01-05	Degwekar		
	4	20020118321	A1	2002-08-29	GE		

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵

PART B – FEE(S) TRANSMITTAL

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

Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 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: Legibly mark-up with any corrections or use Block 1)

26181 7590 03/13/2012

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, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip Sangam	20275-0165001	8064

TITLE OF INVENTION: SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$2040	06/13/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
GHAFARI, SEPIDEH	2629	345-102000

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. Fish & Richardson P.C.

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. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE (CITY and STATE OR COUNTRY)

Atmel Corporation

San Jose, 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 enclosed:

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

- 4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), or credit any overpayment, to Deposit Account Number 06-1050 (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.

- [X]b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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

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

(Authorized Signature) /Matthew E. Browning/

(Date) June 12, 2012

Typed or Printed Name Matthew E. Browning

Registration No. 64,470

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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TRANSMIT THIS FORM WITH FEE(S)

SUBSTITUTE PTOL 85 (Rev. 12/04)

Petitioner Samsung Ex-1004, 0009

Electronic Patent Application Fee Transmittal				
Application Number:		12018399		
Filing Date:		23-Jan-2008		
Title of Invention:		SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY		
First Named Inventor/Applicant Name:		Dilip Sangam		
Filer:		Matthew E. Browning/Theresa King		
Attorney Docket Number:		20275-0165001		
Filed as Large 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	1501	1	1740	1740
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 (\$)				2040

Electronic Acknowledgement Receipt	
EFS ID:	12990947
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY
First Named Inventor/Applicant Name:	Dilip Sangam
Customer Number:	26181
Filer:	Matthew E. Browning/doreen curseaden
Filer Authorized By:	Matthew E. Browning
Attorney Docket Number:	20275-0165001
Receipt Date:	12-JUN-2012
Filing Date:	23-JAN-2008
Time Stamp:	13:39:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$2040
RAM confirmation Number	10353
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Post Allowance Communication - Incoming	ResponseNOA.PDF	50258 49c11f075d8b77dd1e1824962429ba088e76b83	no	1
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	IFTransmittal.PDF	94524 d131586293ccdc3e006d21de191c2202d98d82f	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32248 c684194b2e1c3645efa5535ba10888cd9ef18e4	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			177030		
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. <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. <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. <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.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Dilip Sangam et al.	Art Unit :	2629
Serial No. :	12/018,399	Examiner :	Sepideh Ghafari
Filed :	January 23, 2008	Confirmation No.:	8064
		Notice of Allowance Date:	March 13, 2012
Title :	SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY		

MAIL STOP ISSUE FEE

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

RESPONSE TO NOTICE OF ALLOWANCE

In response to the Notice of Allowance mailed March 13, 2012, enclosed is a completed issue fee transmittal form PTOL-85b.

The issue fee and publication fees in the amount of \$2040 are being paid concurrently herewith. In addition, please apply any other necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: June 12, 2012

/Matthew E. Browning/
Matthew E. Browning
Reg. No. 64,470

Customer Number 26181
Fish & Richardson P.C.
Telephone: (212) 765-5070
Facsimile: (877) 769-7945

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 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
12/018,399	01/23/2008	2629	550	20275-0165001	22	3

CONFIRMATION NO. 8064

CORRECTED FILING RECEIPT



OC000000054120867

26181
FISH & RICHARDSON P.C. (SV)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

Date Mailed: 05/07/2012

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)

Dilip Sangam, Saratoga, CA;
Hendrik Santo, San Jose, CA;
Tushar Dhayagude, Santa Clara, CA;
Klen Vi, Palo Alto, CA;
Sean Chen, Sunnyvale, CA;

Power of Attorney: The patent practitioners associated with Customer Number 26181

Domestic Priority data as claimed by applicant

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 02/07/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/018,399**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY

Preliminary Class

345

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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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Dilip Sangam et al. Art Unit : 2629
Serial No. : 12/018,399 Examiner : Sepideh Ghafari
Filed : January 23, 2008 Conf. No. : 8064
Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

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

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Responsive to the Notice to File Corrected Application Papers mailed April 27, 2012 (a copy of which is enclosed), applicant as a large entity submits herewith the following:

- ☒ Request to Change Inventor's Name; and
- ☒ Supplemental Application Data Sheet.

It is understood that this perfects the application and no additional papers or filing fees are required.

Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: May 3, 2012

/Matthew E. Browning/
Matthew E. Browning
Reg. No. 64,470

Customer Number 26181
Fish & Richardson P.C.
Telephone: (512) 472-5070
Facsimile: (877) 769-7945

11211787.doc



UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064

26181	7590	04/27/2012
FISH & RICHARDSON P.C. (SV)		
PO BOX 1022		
MINNEAPOLIS, MN 55440-1022		

EXAMINER	
GHAFARI, SEPIDEH	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
04/27/2012	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):

PATDOCTC@fr.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 12018399
Applicant : Dilip S
Filing Date : 01/23/2008
Date Mailed : 04/27/2012

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 1 month(s) from the mail date of this Notice, or the time remaining from the Notice of Allowance and Fee(s) Due, whichever is longer, within which to respond.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED. **This period for reply is NOT extendable under 37 CFR 1.136(a).**

See attachment(s).

*A copy of this notice **MUST** be returned with the reply. Please address response to
"Mail Stop Issue Fee, Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450".*

/Tamika Tolbert/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 12018399

NON-COMPLIANCE WITH 37 CFR 1.63(a)(2)

The oath or declaration dated 04/02/2008 does not comply with 37 CFR 1.63(a)(2) in that with respect to inventor Dilip S. the oath or declaration does not show “at least one given name without abbreviation together with any other given name or initial,” and in that the oath or declaration, or a statement accompanying the oath or declaration, does not state “that the singular lettering set forth is the inventor’s given name.”

As stated in MPEP 605.04(b):

In order to avoid an objection under 37 CFR 1.63(a)(2), applicant should point out in the oath or declaration that the singular lettering set forth is the inventor’s given name. A statement to this effect, accompanying the filing of the oath or declaration, will also be acceptable. Without such a statement, the examiner should treat the singular letter(s) as an abbreviation of the inventor’s given name and should object to the oath or declaration using the appropriate form paragraphs. Applicant may overcome this objection by filing a responsive statement that the singular letter(s) is/are the inventor’s given name.

Therefore, the applicant may respond to this Notice by filing a statement to the effect “that the singular letter(s) is/are the inventor’s given name(s).”

Otherwise the applicant may respond to this Notice by filing an oath or declaration showing “at least one given name without abbreviation together with any other given name or initial.”

Supplemental Application Data Sheet 37 CFR 1.76		Attorney Docket Number	20275-0165001
		Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display		

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		☒ Inventor	☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Dilip		[[S.]]Sangam		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Saratoga	State/Province	CA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		13574 Howen Drive			
Address 2					
City	Saratoga	State/Province	CA		
Postal Code	95070	Country	US		

Applicant 2.					
Applicant Authority		☒ Inventor	☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Hendrik		Santo		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					

Supplemental Application Data Sheet 37 CFR 1.76	Attorney Docket Number	20275-0165001
	Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display	

City	San Jose	State/Province	CA	Country of Residence	US				
Citizenship under 37 CFR 1.41(b)		US							
Mailing Address of Applicant:									
Address 1	1558 Nobu Drive								
Address 2									
City	San Jose	State/Province	CA						
Postal Code	95131	Country	US						

Applicant 3.									
Applicant Authority		☒ Inventor	☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118					
Prefix	Given Name	Middle Name	Family Name	Suffix					
	Tushar		Dhayagude						
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service									
City	Santa Clara	State/Province	CA	Country of Residence	US				
Citizenship under 37 CFR 1.41(b)		US							
Mailing Address of Applicant:									
Address 1	1128 Pomeroy Avenue								
Address 2									
City	Santa Clara	State/Province	CA						
Postal Code	95051	Country	US						

Applicant 4.					
Applicant Authority		☒ Inventor	☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	

Supplemental Application Data Sheet 37 CFR 1.76	Attorney Docket Number	20275-0165001
	Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display	

	Klen		Vi	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Palo Alto	State/Province	CA	Country of Residence
Citizenship under 37 CFR 1.41(b)		US		
Mailing Address of Applicant:				
Address 1	2325 Orchard Pkwy.			
Address 2				
City	San Jose	State/Province	CA	
Postal Code	95131	Country	US	

Applicant 5.				
Applicant Authority		☒ Inventor ☐ Legal Representative under 35 U.S.C. 117 ☐ Party of Interest under 35 U.S.C. 118		
Prefix	Given Name	Middle Name	Family Name	Suffix
	Sean		Chen	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Sunnyvale	State/Province	CA	Country of Residence
Citizenship under 37 CFR 1.41(b)		US		
Mailing Address of Applicant:				
Address 1	2325 Orchard Pkwy.			
Address 2				
City	San Jose	State/Province	CA	
Postal Code	95131	Country	US	

Supplemental Application Data Sheet 37 CFR 1.76	Attorney Docket Number	20275-0165001
	Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display	

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
Customer Number	26181
Email Address	

Application Information:

Title of the Invention	System and Method for Backlight Control for an Electronic Display				
Attorney Docket Number	20275-0165001	Small Entity Status Claimed ☐			
Application Type	Utility				
Subject Matter					
Suggested Class (if any)		Sub Class (if any)			
Suggested Technology Center (if any)					
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)			

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ 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 been and will not be the subject of an application filed in another country, or under a multilateral 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:	☒ Customer Number 26181	☒ U.S. Patent Practitioner	☐ U.S. Representative (37 CFR 11.9)	
Prefix	Given Name	Middle Name	Family Name	Suffix
	Matthew	E.	Browning	

Supplemental Application Data Sheet 37 CFR 1.76	Attorney Docket Number	20275-0165001
	Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display	

Registration	64,470
--------------	--------

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). 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 37 CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

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).			
Application Number	Country	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☐ Yes ☒ No

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 ☒			
Organization Name	Atmel Corporation		
Mailing Address Information:			
Address 1	2325 Orchard Pkwy.		
Address 2			
City	San Jose	State/Province	CA
Phone Number		Postal Code	95131
Email Address		Fax Number	

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	/Matthew Browning/			Date (YYYY-MM-DD)	5/3/2012
First Name	Matthew	Last Name	Browning	Registration Number	64,470

Supplemental Application Data Sheet 37 CFR 1.76	Attorney Docket Number	20275-0165001
	Application Number	12/018,399
Title of Invention	System and Method for Backlight Control for an Electronic Display	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Dilip S. et al. Art Unit : 2629
Serial No. : 12/018,399 Examiner : Sepideh Ghafari
Filed : January 23, 2008 Conf. No. : 8064
Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

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

REQUEST TO CHANGE INVENTOR'S NAME

Applicants hereby request to change the name of one of the inventors in the application referenced above from Dilip S to **Dilip Sangam**. In accordance with MPEP §605.04(b), applicant requests to have the name changed, in the above identified application, to correct a typographical error. A Supplemental Application Data Sheet is being filed in accordance with 37 CFR §1.76. This document reflects the correct name for this inventor.

No fee is believed to be due, however, please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: May 3, 2012

/Matthew E. Browning/
Matthew E. Browning
Reg. No. 64,470

Customer Number 26181
Fish & Richardson P.C.
Telephone: (512) 472-5070
Facsimile: (877) 769-7945

Electronic Acknowledgement Receipt	
EFS ID:	12699246
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	26181
Filer:	Matthew E. Browning/Wanda Kellar
Filer Authorized By:	Matthew E. Browning
Attorney Docket Number:	20275-0165001
Receipt Date:	03-MAY-2012
Filing Date:	23-JAN-2008
Time Stamp:	17:04:49
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	Request/Corrected Patent Application Publications	20275-0165001-Response.PDF	42855 634a8de809a6c3e43b288c1e06cb68780469548d	no	1

Warnings:

Information:

2	Miscellaneous Incoming Letter	20275-0165001-NTFCAP.pdf	97149 9fc2d122f6018e60bd5b40e036de16786f346fe6	no	3
Warnings:					
Information:					
3	Application Data Sheet	20275-0165001-SuppADS.PDF	165033 9efa0dcfa6943b0a94ff1e7aa49537478d566b54	no	6
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
4	Request/Corrected Patent Application Publications	20275-0165001-ReqChgInv.PDF	51439 54fcb8204c946a7c4cf130580b213524bd03cb74	no	1
Warnings:					
Information:					
Total Files Size (in bytes):			356476		
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. <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. <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. <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.					



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064
26181 7590 04/27/2012 FISH & RICHARDSON P.C. (SV) PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER GHAFARI, SEPIDEH	
			ART UNIT	PAPER NUMBER
			2629	
			NOTIFICATION DATE	DELIVERY MODE
			04/27/2012	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):

PATDOCTC@fr.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 12018399
Applicant : Dilip S
Filing Date : 01/23/2008
Date Mailed : 04/27/2012

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 1 month(s) from the mail date of this Notice, or the time remaining from the Notice of Allowance and Fee(s) Due, whichever is longer, within which to respond.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED. **This period for reply is NOT extendable under 37 CFR 1.136(a).**

See attachment(s).

*A copy of this notice **MUST** be returned with the reply. Please address response to
"Mail Stop Issue Fee, Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450".*

/Tamika Tolbert/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 12018399

NON-COMPLIANCE WITH 37 CFR 1.63(a)(2)

The oath or declaration dated 04/02/2008 does not comply with 37 CFR 1.63(a)(2) in that with respect to inventor Dilip S. the oath or declaration does not show “at least one given name without abbreviation together with any other given name or initial,” and in that the oath or declaration, or a statement accompanying the oath or declaration, does not state “that the singular lettering set forth is the inventor’s given name.”

As stated in MPEP 605.04(b):

In order to avoid an objection under 37 CFR 1.63(a)(2), applicant should point out in the oath or declaration that the singular lettering set forth is the inventor’s given name. A statement to this effect, accompanying the filing of the oath or declaration, will also be acceptable. Without such a statement, the examiner should treat the singular letter(s) as an abbreviation of the inventor’s given name and should object to the oath or declaration using the appropriate form paragraphs. Applicant may overcome this objection by filing a responsive statement that the singular letter(s) is/are the inventor’s given name.

Therefore, the applicant may respond to this Notice by filing a statement to the effect “that the singular letter(s) is/are the inventor’s given name(s).”

Otherwise the applicant may respond to this Notice by filing an oath or declaration showing “at least one given name without abbreviation together with any other given name or initial.”



UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

26181 7590 03/13/2012
FISH & RICHARDSON P.C. (SV)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

GHAFAARI, SEPIDEH

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 03/13/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064

TITLE OF INVENTION: SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY

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	06/13/2012

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.

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

26181 7590 03/13/2012
FISH & RICHARDSON P.C. (SV)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

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.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064

TITLE OF INVENTION: SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY

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	06/13/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
GHAFARI, SEPIDEH	2629	345-102000

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 3.111. 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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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064
26181	7590	03/13/2012	EXAMINER	
FISH & RICHARDSON P.C. (SV) PO BOX 1022 MINNEAPOLIS, MN 55440-1022			GHAFARI, SEPIDEH	
			ART UNIT	PAPER NUMBER

2629

DATE MAILED: 03/13/2012

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 719 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 719 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)	
	12/018,399	S. ET AL.	
	Examiner	Art Unit	
	SEPIDEH GHAFARI	2629	

-- 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 02/02/2012.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-15 and 17-22.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 * Certified copies not received: _____.

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

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

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

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

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

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ 7. ☐ Examiner's Amendment/Comment 8. ☐ Examiner's Statement of Reasons for Allowance 9. ☐ Other _____.
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/SEPIDEH GHAFARI/ Examiner, Art Unit 2629	/Kevin Nguyen/ Primary Examiner, Art Unit 2629
--	---

<i>Index of Claims</i> 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

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

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47			
CLAIM		DATE							
Final	Original	04/06/2011	10/27/2011	03/07/2012					
1	1	✓	✓	=					
2	2	✓	✓	=					
3	3	✓	✓	=					
4	4	✓	✓	=					
5	5	✓	✓	=					
6	6	✓	✓	=					
7	7	✓	✓	=					
8	8	✓	✓	=					
9	9	✓	✓	=					
10	10	✓	✓	=					
11	11	✓	✓	=					
12	12	✓	✓	=					
13	13	✓	✓	=					
14	14	✓	✓	=					
15	15	✓	✓	=					
	16	✓	-	-					
16	17	✓	✓	=					
17	18	✓	✓	=					
18	19	✓	✓	=					
19	20	✓	✓	=					
20	21	✓	✓	=					
21	22	✓	✓	=					

Search Notes 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

SEARCHED			
Class	Subclass	Date	Examiner
345	102, 83	4/4/2011	/S.G./
345	102	3/7/2012	/S.G./

SEARCH NOTES		
Search Notes	Date	Examiner
consulted with Kevin Nguyen	4/4/2011	/S.G./
Inventor name search	4/7/2011	/S.G./

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
345	102	3/7/2012	/S.G./

/SEPIDEH GHAFARI/ Examiner.Art Unit 2629	
---	--

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	1	("5850205").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:50
S3	1	("4888599").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:51
S4	1828	(345/82).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:15
S5	0	("1and(LED)").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:16
S6	3137	345/82	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:16
S7	3011	S6 and (first circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S8	2930	S7 and (second circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S9	1397	S8 and (LED)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S10	708	S9 and (pluarlity of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S11	1248	S9 and (plurality of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:19
S12	0	345/102.ccls and adjust\$ with (intensity luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:36
S13	0	345/102.ccls and adjust\$3 with (intensity or luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S14	0	345/102.ccls and (adjust\$3 with (intensity or luminosity) and frame)	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S15	39	345/102.ccls. and (adjust\$3 modif\$4 chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	US-PGPUB; USPAT	OR	OFF	2011/03/31 09:08
S16	39	345/102.ccls. and (adjust\$3 modif\$4	US-	OR	OFF	2011/03/31

		chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	PGPUB; USPAT			09:11
S17	28	S16 and LED	US- PGPUB; USPAT	OR	OFF	2011/03/31 09:12
S18	0	345/102.ccls and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:18
S19	0	345/102.ccls and (red strings with green strings)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S20	0	345/102.ccls and (red near green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S21	1250	345/102.ccls. and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:55
S22	2	S16 and vsync	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:22
S23	0	S16 and (ambient near sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:52
S24	0	345/102.ccls and (ambient near sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:54
S25	0	345/102.ccls and (ambient light sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S26	0	345/102.ccls and (ambient adj sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S27	0	345/102.ccls and (ambient)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S28	0	345/102.ccls and (sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S29	0	345/102.ccls and (sens\$3)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:56
S30	0	345/82.ccls and ((sensor or detector) with (ambient))	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:02
S31	8	11/964,683	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:06
S32	11324444	US 2006/0274026 A1	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:07
S33	1	"7782405"	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:08
S34	1250	345/102.ccls. and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 14:11

EAST Search History

S35	2395	345/102.ccls. and (different luminosity level)	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S36	2	11/794,784	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S37	1	"10885364"	US-PGPUB; USPAT	OR	OFF	2011/03/31 15:54
S38	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:03
S39	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:08
S40	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/04/04 08:49
S41	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/04/04 09:24
S42	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/04 15:57
S43	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 09:43
S44	1	(12/018399).APP.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/04/05 16:32
S45	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 16:35
S46	1433	dilip.in.	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S47	20	hendrik with santo	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S48	5	(Tushar with dhayagude)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S49	14	(len with vi)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:58
S50	7	2005/0231457	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:00
S51	100822	"7" and yamamoto	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:01
S52	1	"20050231457".pn.	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:01
S53	13	adjust\$5 with (luminosity luminance brightness) with ((vertical adj5	US-PGPUB;	OR	OFF	2011/10/27 09:08

		(synchronizat\$4 synchroni\$4 sync clock)) (horizontal adj5 (syncchroni\$3 synchronizat\$4 sync))) and light\$3 adj2 emi\$5 adj2 (diode element)	USPAT			
S54	0	345/102.ccls and (adjust\$3 with (intensity or luminosity) and frame)	US- PGPUB; USPAT	OR	OFF	2012/03/05 20:34

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7	((backlight or (light adj3 emi\$5 adj3 (diode or element)) or lamp or (light adj3 source)) AND (adjust\$4 or chang\$3 or offset\$3) AND (bright\$4 or luminosity or luminance) AND second AND clock AND second AND frequency AND multiple AND first AND frequency).clm.	US- PGPUB; USPAT; UPAD	OR	ON	2012/03/07 18:07
S59	0	"345.clas" and (control and circuit\$3 and (electronic adj display) and (first adj circuit\$3) and (control\$3 luminosity) and (plurality adj strings) and (light adj emitting adj diodes) and (second adj circuit\$2) and (display\$2 adj image)(image adj frames) and (video) and (predetermined adj period) and (luminosity adj level) and (second adj clock)).clm.	USPAT; UPAD	OR	OFF	2012/03/06 16:14
S60	0	(control and circuit\$3 and (electronic adj display) and (first adj circuit\$3) and (control\$3 luminosity) and (plurality adj strings) and (light adj emitting adj diodes) and (second adj circuit\$2) and (display\$2 adj image)(image adj frames) and (video) and (predetermined adj period) and (luminosity adj level) and (second adj clock)).clm.	USPAT; UPAD	OR	OFF	2012/03/06 16:14
S61	0	"345.clas" and (control and circuit\$3 and (electronic adj display) and (first adj circuit\$3) and (control\$3 luminosity) and (plurality adj strings) and (light adj emitting adj diodes) and (second adj circuit\$2)).clm.	USPAT; UPAD	OR	OFF	2012/03/06 16:16

3/ 7/ 2012 6:11:22 PM**C:\Users\sg hafari\Documents\EAST\Workspaces\12018399.wsp**

Issue Classification 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

ORIGINAL						INTERNATIONAL CLASSIFICATION												
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED							
345		102				G	0	9	G	3 / 36 (2006.0)								
CROSS REFERENCE(S)																		
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																	
345	82																	

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	16	17												
2	2	17	18												
3	3	19	19												
4	4	18	19												
5	5	19	20												
6	6	20	21												
7	7	21	22												
8	8														
9	9														
10	10														
11	11														
12	12														
13	13														
14	14														
15	15														
	16														

/SEPIDEH GHAFARI/ Examiner.Art Unit 2629 (Assistant Examiner)	03/07/2012 (Date)	Total Claims Allowed: 21	
/KEVIN M NGUYEN/ Primary Examiner.Art Unit 2629 (Primary Examiner)	03/07/2012 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Dilip S. et al.	Art Unit	: 2629
Serial No.	: 12/018,399	Examiner	: Sepideh Ghafari
Filed	: January 23, 2008	Conf. No.	: 8064

Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

MAIL STOP AF

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

SUPPLEMENTAL AMENDMENT IN REPLY TO ACTION OF NOVEMBER 4, 2011

Please amend the above-identified application as follows:

Applicant : Dilip S. et al.
Serial No. : 12/018,399
Filed : January 23, 2008
Page : 2 of 3

Attorney's Docket No.: 20275-0165001 / SILIP110US

Amendments to the Drawings:

The attached replacement sheets of drawings are being submitted as formal drawings and include all figures and replace the original filed sheets.

Attachments following last page of this Amendment:

Replacement Sheet (3 pages)

Applicant : Dilip S. et al.
Serial No. : 12/018,399
Filed : January 23, 2008
Page : 3 of 3

Attorney's Docket No.: 20275-0165001 / SILIP110US

REMARKS

Applicants respectfully submit herewith formal drawings to replace the original filed drawings.

Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: February 7, 2012

/Matthew E. Browning/
Matthew E. Browning
Reg. No. 64,470

Customer Number 26181
Fish & Richardson P.C.
Telephone: (512) 472-5070
Facsimile: (877) 769-7945

11198930.doc

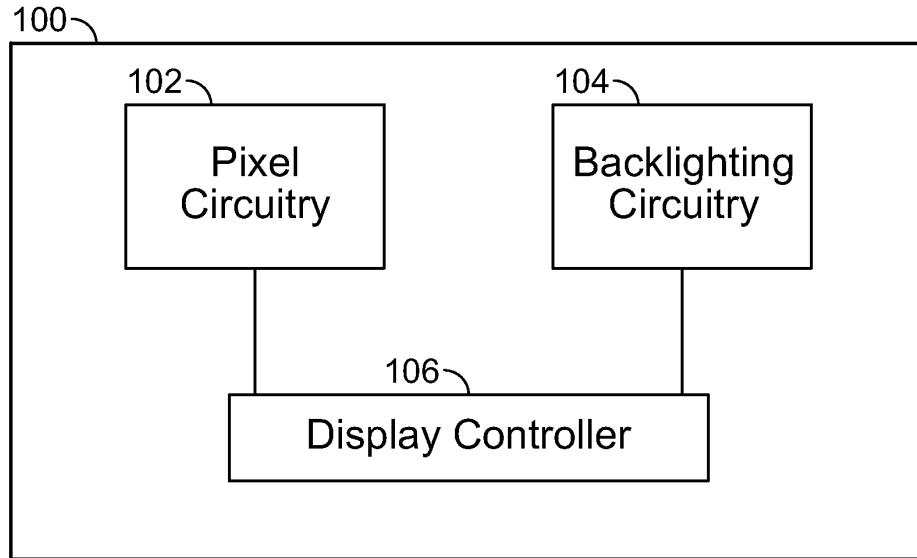


FIG. 1

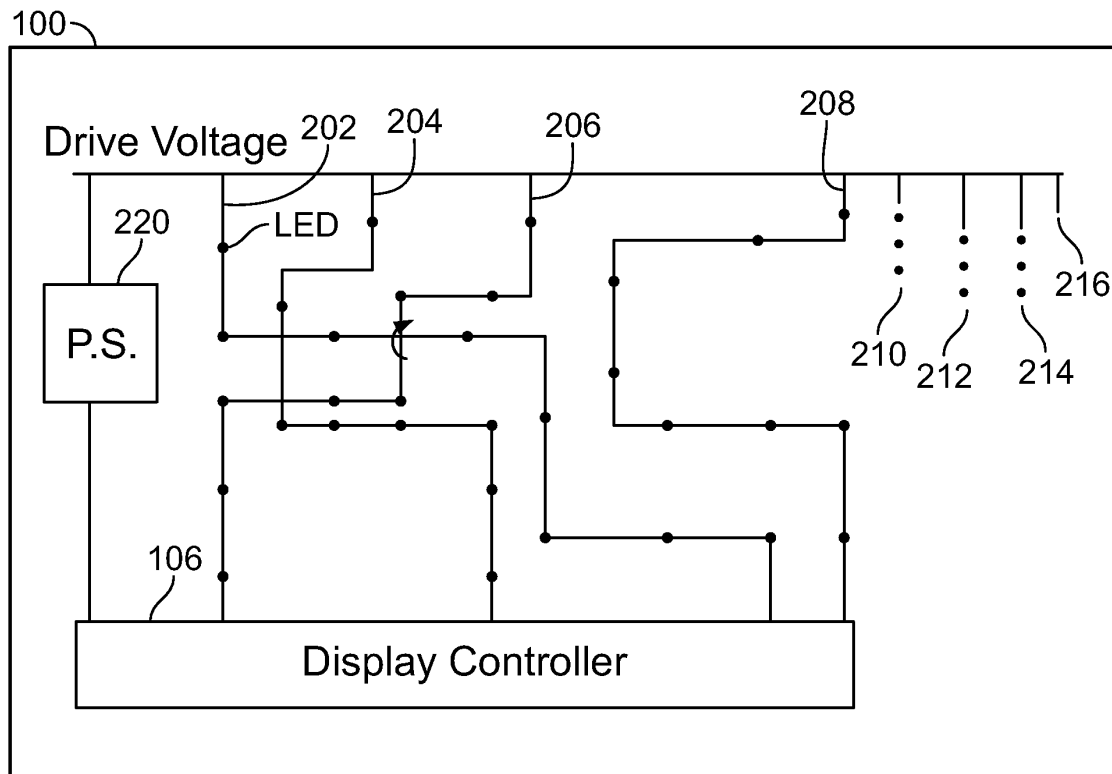


FIG. 2

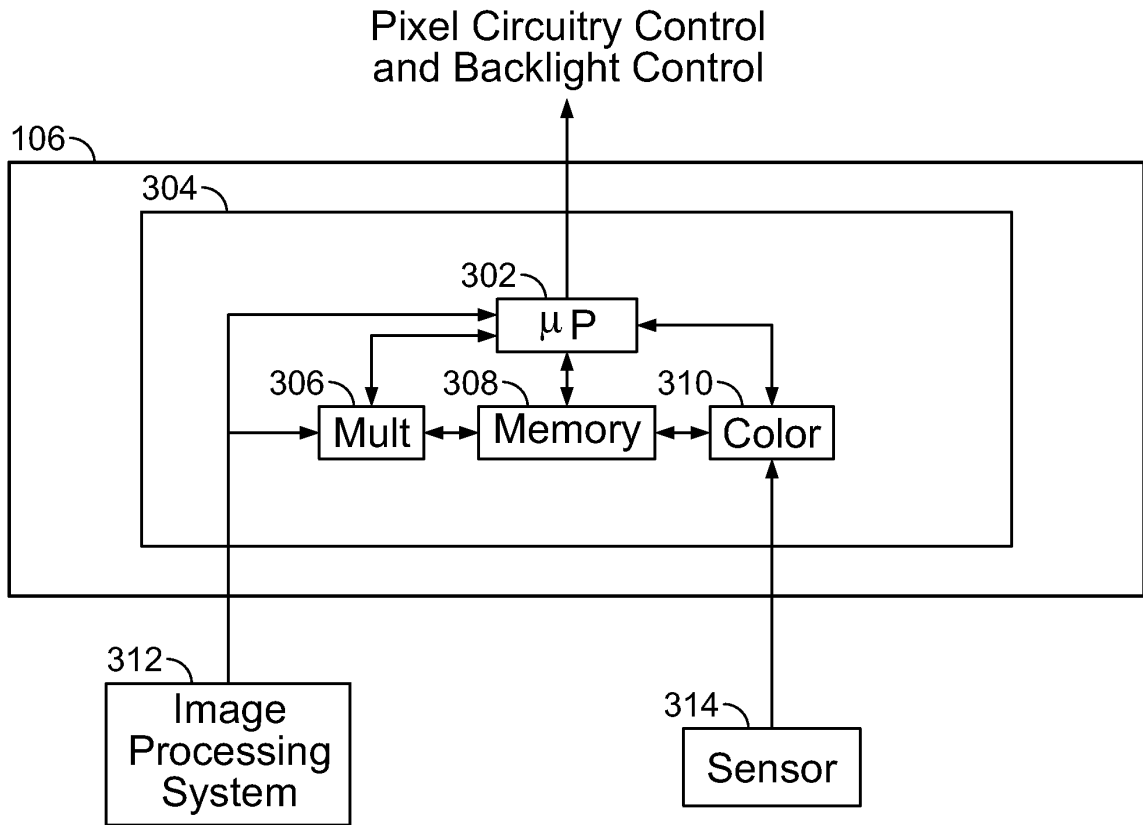


FIG. 3

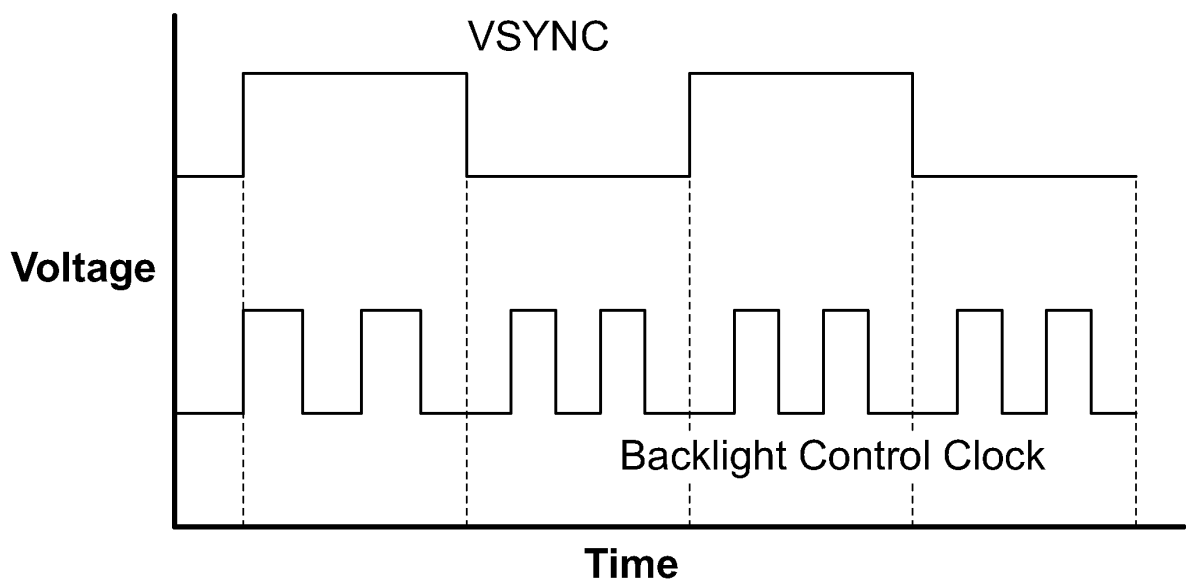


FIG. 4

500

Tile 1 Strings 1-16	Tile 2 Strings 17-32	Tile 3 Strings 33-48	Tile 4 Strings 49-64
Tile 5 Strings 65-80	Tile 6 Strings 81-96	Tile 7 Strings 97-112	Tile 8 Strings 113-128

FIG. 5

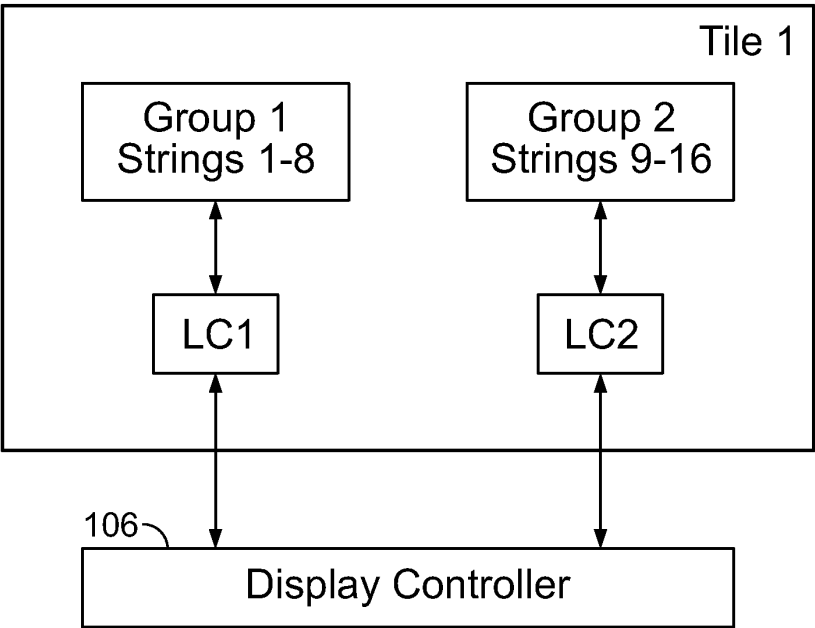


FIG. 6

Electronic Acknowledgement Receipt	
EFS ID:	12014407
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	26181
Filer:	Matthew E. Browning/Wanda Kellar
Filer Authorized By:	Matthew E. Browning
Attorney Docket Number:	20275-0165001
Receipt Date:	07-FEB-2012
Filing Date:	23-JAN-2008
Time Stamp:	11:14:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		20275-0165001-SuppROA.PDF	52683 e8f06899cf28909a331da68027f19a6359081d5	yes	3

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Supplemental Response or Supplemental Amendment			1	1	
Drawings-other than black and white line drawings			2	2	
Applicant Arguments/Remarks Made in an Amendment			3	3	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	20275-0165001-FormalFigs.pdf	960070 8d5c3b4a7a1b06ef82efd42642e49061c0366915	no	3
Warnings:					
Information:					
Total Files Size (in bytes):			1012753		
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. <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. <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. <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.					

SCORE Placeholder Sheet for IFW Content

Application Number: 12018399

Document Date: 2/7/2012

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

- Drawings

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

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Request for Continued Examination (RCE) Transmittal

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

Application Number	12/018,399
Filing Date	January 23, 2008
First Named Inventor	Dilip S.
Art Unit	2629
Examiner Name	Sepideh Ghafari
Attorney Docket Number	20275-0165001

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

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

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

- a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ii. ☐ Other _____
- b. ☒ Enclosed
- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/ Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other _____

2. Miscellaneous

Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a

- a. ☐ period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other _____

3. Fees

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

The Director is hereby authorized to charge the following fees any underpayment of fees or credit any overpayments to

- a. ☒ Deposit Account No. 06-1050.
- i. ☒ RCE fee required under 37 CFR 1.17(e)
- ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)
- iii. ☒ Other any deficiencies
- b. ☐ Check in the amount of \$ _____ enclosed
- c. ☐ Payment by credit card (Form PTO-2038 enclosed)

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

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Matthew E. Browning/	Date	February 2, 2012
Name (Print/Type)	Matthew E. Browning	Registration No.	64,470

CERTIFICATE OF MAILING OR TRANSMISSION

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

Signature			
Name (Print/Type)		Date	

This collection of information is required by 37 CFR 1.114. 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: Mail Stop RCE, 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.

Electronic Patent Application Fee Transmittal				
Application Number:		12018399		
Filing Date:		23-Jan-2008		
Title of Invention:		System and Method for Backlight Control for An Electronic Display		
First Named Inventor/Applicant Name:		Dilip S.		
Filer:		Matthew E. Browning/Wanda Kellar		
Attorney Docket Number:		20275-0165001		
Filed as Large 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:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	930	930
Total in USD (\$)				930

Electronic Acknowledgement Receipt	
EFS ID:	11983231
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	26181
Filer:	Matthew E. Browning/Wanda Kellar
Filer Authorized By:	Matthew E. Browning
Attorney Docket Number:	20275-0165001
Receipt Date:	02-FEB-2012
Filing Date:	23-JAN-2008
Time Stamp:	13:00:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 930
RAM confirmation Number	11500
Deposit Account	061050
Authorized User	
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 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		20275-0165001-ROA.PDF	115011 76f36fbf8c99a10d322b9e1c48bc2d9e77702acb	yes	9
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment After Final		1	1	
	Claims		2	6	
	Applicant Arguments/Remarks Made in an Amendment		7	9	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	20275-0165001-RCE.PDF	137342 b3f7fa4fc258d4be67ca9a45596ca984177d16bb	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30356 bbcb2ceb262a5f63c3f08cd915a6dad95952cd63	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			282709		
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. <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. <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. <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.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Dilip S. et al.	Art Unit :	2629
Serial No. :	12/018,399	Examiner :	Sepideh Ghafari
Filed :	January 23, 2008	Conf. No. :	8064

Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

MAIL STOP AF

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

AMENDMENT IN REPLY TO ACTION OF NOVEMBER 4, 2011

Please amend the above-identified application as follows:

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) [[An]] A control circuit for an electronic display comprising:
 - ~~a plurality of strings of light emitting diodes (LEDs);~~
 - a first circuitry for controlling luminosity levels of ~~the plurality of strings of LEDs a~~ plurality of strings of light emitting diodes (LEDs);
 - ~~a plurality of pixels for displaying a plurality of image frames of a video;~~
 - a second circuitry for controlling ~~the plurality of pixels a~~ plurality of pixels for displaying a plurality of image frames of a video;
 - the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time, the second circuitry configured to change a displayed image frame once every cycle of a first clock signal having a first frequency; and
 - the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time, the first circuitry configured to adjust the luminosity levels according to a second clock signal having a second frequency that is a multiple of the first frequency and is higher than the first frequency based on a clock signal of the second circuitry.
2. (Currently Amended) The ~~display~~ control circuit of claim 1, wherein the predetermined period of time includes approximately 1/30 seconds.
3. (Currently Amended) The ~~display~~ control circuit of claim 1, wherein the plurality of times includes a number selected from a set of one, two, three, four, five, six, seven, eight, nine and ten.
4. (Currently Amended) The ~~display~~ control circuit of claim 1, ~~further comprising: wherein~~ the first clock signal is a VSYNC signal, and

the predetermined period of time is a period of time between two successive rising edges of pulses of ~~[[a]]~~ the VSYNC signal.

5. (Currently Amended) The ~~display control circuit~~ of claim 1, ~~further comprising: wherein the first clock signal is a VSYNC signal, and~~

the first circuitry configured to adjust the luminosity levels of the plurality of LED strings for a plurality of times between an occurrence of two successive pulses of a VSYNC signal.

6. (Currently Amended) The ~~display control circuit~~ of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs.

7. (Currently Amended) The ~~display control circuit~~ of claim 1, the display further comprising:

a first display section associated with a first set of pixels of the plurality of pixels;
a second display section associated with a second set of pixels of the plurality of pixels;
a first set of strings of the plurality of strings associated with the first section;
a second set of strings of the plurality of strings associated with the second section;
the first circuitry configured to adjust luminosity levels of the first set of strings according to a portion of an image frame being displayed by the first set of pixels and to adjust luminosity levels of the second set of strings according to a portion of the image frame being displayed by the second set of pixels.

8. (Currently Amended) The ~~display control circuit~~ of claim 1, further comprising:
an ambient light sensor coupled to the first circuitry; and
the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on ambient lighting conditions.

9. (Currently Amended) The ~~display control circuit~~ of claim 8, wherein the first circuitry is configured to ~~adjusting~~ adjust a luminosity level of a red string of LEDs to a different luminosity level from a luminosity level of a green string of LEDs.

10. (Currently Amended) The ~~display~~ control circuit of claim 1, wherein the display includes a liquid crystal display.

11. (Currently Amended) The ~~display~~ control circuit of claim 1, further comprising:
the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval.

12. (Currently Amended) The ~~display~~ control circuit of claim 1, wherein the plurality of strings of LEDs include a combination of a string of white LEDs and one or more strings of LEDs selected from the group consisting of a string of red LEDs, a string of blue LEDs, or a string of green LEDs.

13. (Currently Amended) A method for controlling an electronic display comprising:
generating a clock signal having a frequency that is a multiple of a reference frequency
by multiplying a reference signal having the reference frequency, the frequency being higher than the reference frequency;
changing a displayed image frame on the electronic display once every cycle of the reference signal; and
using the clock signal for adjusting luminosity levels of a plurality of strings of light emitting diodes (LEDs) in a backlighting circuitry of the electronic display, wherein luminosity levels of at least one of the plurality of strings of LEDs are adjusted a plurality of times based on the clock signal during display of one image frame in a sequence of image frames.

14. (Previously Presented) The method of claim 13, wherein the reference frequency includes a frequency of a VSYNC signal.

15. (Previously Presented) The method of claim 13, wherein adjusting the luminosity levels of a string of LEDs includes adjusting the luminosity levels at the frequency of the clock signal.

16. (Canceled)

17. (Previously Presented) The method of claim 15, wherein adjusting the luminosity levels of the string of LEDs is based on a color of the LEDs and an ambient light condition.

18. (Currently Amended) A liquid crystal display comprising:
a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a string of green LEDs and a string of blue LEDs;
a first circuitry for controlling luminosity levels of the plurality of strings of LEDs;
a plurality of pixels for displaying a plurality of image frames of a video;
a second circuitry for controlling the plurality of pixels;
the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time determined by a frequency of a VSYNC signal having a first frequency, the second circuitry configured to change a displayed image frame once every cycle of the VSYNC signal; and
the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time, the first circuitry configured to adjust the luminosity levels according to a second clock signal having a second frequency that is a multiple of the first frequency and is higher than the first frequency.

19. (Original) The display of claim 18, wherein the predetermined period of time includes approximately 1/30 seconds.

20. (Previously Presented) The display of claim 18, wherein the plurality of times includes a number selected from a set of one, two, three, four, five, six, seven, eight, nine and ten.

21. (Currently Amended) The display of claim 18, wherein the first circuitry is configured to generate a clock signal having a frequency that is higher than the frequency of the VSYNC signal and to adjust the luminosity levels of the strings of LEDs according to the clock signal frequency the second clock signal.

Applicant : Dilip S. et al.
Serial No. : 12/018,399
Filed : January 23, 2008
Page : 6 of 9

Attorney's Docket No.: 20275-0165001 / SILIP110US

22. (Previously Presented) The display of claim 18, wherein the first circuitry for adjusting a luminosity level of the string of red LEDs to a different luminosity level from a luminosity level of the string of blue LEDs based upon an ambient light condition.

REMARKS

Claims 1-15 and 17-22 were pending as of the action mailed on November 4, 2011, with claims 1, 13, and 18 being independent. The applicant is amending claims CCC. Support for the amendments can be found, for example, in FIG. 4 and the corresponding description in the specification. The amendments do not introduce new matter. The applicant respectfully requests reconsideration of the action in light of the foregoing amendments and the following remarks.

Claim Rejections - 35 USC § 102/103

Claims 1-3, 6-10, 12, 13, 17 are rejected under 102(a) as anticipated by Kojima (US 2007/0216638). Claim 11 is rejected under 103(a) over Kojima in view of Nagai et al. (US 2002/0180719). Claims 4 and 5 are rejected under 103(a) over Kojima (US 2007/0216638) in view of Kinoshita (US 2005/0046704). Claims 18-22 are rejected under 103(a) over Yamamoto (US 2005/0231457) in view of Kinoshita (US 2005/0046704).

Amended claim 1 now recites “second circuitry configured to change a displayed image frame once every cycle of a first clock signal having a first frequency; and ... first circuitry configured to adjust the luminosity levels according to a second clock signal having a second frequency that is a multiple of the first frequency and is higher than the first frequency.” One of mere ordinary skill in the art would not have been led to this feature in view of the cited references and general knowledge in the art.

Kojima discloses a “method for driving a color liquid crystal display (LCD) device assembly.” (Kojima at [0005]). Kojima’s method includes “adjusting the respective pulse-width modulation unit clocks ... in each planar light source unit to long or short by increasing or decreasing the number of frequency division cycles of a system clock in the driving circuit.” (Kojima at [0014]). Kojima’s system clock is not used to time the changing of displayed images. (See, e.g., Kojima at [0126], which gives an example where “the system clock is 100 MHz and that the driving frequency of the LED is 600 Hz.”) Hence, Kojima’s system clock and pulse-width modulation unit clock do not correspond to the claimed “first clock signal” and “second

clock signal having a second frequency that is a multiple of the first frequency.” Kojima fails to disclose the recited feature of amended claim 1.

Yamamoto relates to “a liquid crystal display apparatus which offers high display quality.” (Yamamoto at [0002]). Yamamoto asserts that by “reducing a luminous ratio during a one-frame period in place of shortening the frame period, the blur quantity of a moving image may be improved.” (Yamamoto at [0089]). However, Yamamoto fails to disclose a “first clock signal” and a “second clock signal having a second frequency that is a multiple of the first frequency and is higher than the first frequency” as recited in amended claim 1.

Kinoshita relates to “an imaging apparatus” and “a method for reducing fluorescent lamp flicker which occurs in a video signal obtained from the imaging device when a subject is photographed by the imaging apparatus under the illumination of a fluorescent lamp.” (Kinoshita at [0002]). Kinoshita appears to be cited for its disclosure of a vertical synchronization signal. (See Office Action at pp. 6-8). The applied portions of Kinoshita fail to remedy the deficiencies of Kojima and Yamamoto described above.

Nagai discloses “a display apparatus, a display driving circuit and a method for driving a display.” (Nagai at [0001]). Nagai appears to be cited for its disclosure of a raster blanking interval. (See Office Action at p. 6). The applied portions of Nagai fail to remedy the deficiencies of Kojima and Yamamoto described above.

For at least these reasons, the applicants respectfully request withdrawal of the rejection of claim 1. The applicants respectfully request withdrawal of the rejections of the other claims for at least the same reasons.

Conclusion

The attorney of record below invites the Examiner to call with any questions regarding this matter to continue to advance prosecution. By responding in the foregoing remarks only to particular positions taken in the action, the applicant does not acquiesce in other positions that have not been explicitly addressed. In addition, the applicant's selecting some particular arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist. Finally, the applicant's decision to amend or cancel any claim should not be understood as implying that the applicant agrees with any

Applicant : Dilip S. et al.
Serial No. : 12/018,399
Filed : January 23, 2008
Page : 9 of 9

Attorney's Docket No.: 20275-0165001 / SILIP110US

positions taken in the action with respect to that claim or other claims, or that the applicant adopts any position except as specifically stated in this paper. In particular, by amending a claim the applicant does not necessarily concede that the claim prior to amendment was unpatentable.

Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: February 2, 2012

/Matthew E. Browning/

Matthew E. Browning

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11192665.doc



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064

26181	7590	11/04/2011
FISH & RICHARDSON P.C. (SV)		
PO BOX 1022		
MINNEAPOLIS, MN 55440-1022		

EXAMINER	
GHAFARI, SEPIDEH	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
11/04/2011	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):

PATDOCTC@fr.com

Office Action Summary	Application No.		Applicant(s)	
	12/018,399		S. ET AL.	
	Examiner		Art Unit	
	SEPIDEH GHAFARI		2629	

-- 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 12 August 2011.

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

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ 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

5) ☒ Claim(s) 1-15 and 17-22 is/are pending in the application.

5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-15 and 17-22 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

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

11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12) ☐ 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

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

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

Attachment(s)

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

DETAILED ACTION

Claim Objections

Claim **13** is objected to because of the following informalities: preamble of claim 13 recited “a method for an electronic display comprising:” should be changed to --a method for driving an electronic display comprising:--

Appropriate correction is required.

Claim Rejections - 35 USC § 102

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

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims **1-3, 6-10, 12, 13, 17** are rejected under 102(a) as anticipated by Kojima (US 2007/0216638).

Regarding claim 1, Kojima discloses an electronic display comprising: a plurality of strings of light emitting diodes (LEDs) (Fig. 4); a first circuitry (80, Fig. 4) for controlling luminosity levels of the plurality of strings of LEDs (Fig. 4, para. 77); a plurality of pixels for displaying a plurality of image frames of a video (para. 57); a second circuitry (90, fig. 3) for controlling the plurality of pixels; the

second circuitry (90) for displaying each image frame of the plurality of image frames for a predetermined period of time (para. 107); and the first circuitry (80) for adjusting the luminosity levels (S1,S2,S3,...S255, para. 88, Fig. 2, It was known in the art that the gray levels 256 are pixel luminance levels) of the plurality of strings of LEDs for a plurality of times within the predetermined period of time based on a clock signal of the second circuitry (para. 123 and 129, Figures 1 and 2).

Regarding claim 2, Kojima discloses the display of claim 1, wherein the predetermined period of time includes approximately 1/30 seconds. (para. 104 shows a broadcast station. It was known in the art that 30 frames per second is the broadcast standard in North America and Japan).

Regarding claim 3, Kojima discloses the display of claim 1, wherein the plurality of times includes a number selected from a set of one, two, three, four, five, six, seven, eight, nine and ten (paragraph 123).

Regarding claim 6, Kojima discloses the display of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs (paragraph 77).

Regarding claim 7, Kojima discloses the display of claim 1, further comprising: a first display section associated with a first set of pixels of the plurality of pixels; a second display section associated with a second set of pixels of the plurality of pixels; a first set of strings of the plurality of strings associated with the first section; a second set of strings of the plurality of strings associated with the second section; the first circuitry configured to adjust luminosity levels of

the first set of strings according to a portion of an image frame being displayed by the first set of pixels and to adjust luminosity levels of the second set of strings according to a portion of the image frame being displayed by the second set of pixels (paragraph 123).

Regarding claim 8, Kojima discloses the display of claim 1, further comprising: an ambient light sensor coupled to the first circuitry; and the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on ambient lighting conditions (paragraph 20).

Regarding claim 9, Kojima discloses the display of claim 8, wherein the first circuitry configured to adjusting a luminosity level of a red string of LEDs to a different luminosity level from a luminosity level of a green string of LEDs (paragraph 25 and 77).

Regarding claim 10, Kojima discloses the display of claim 1, wherein the display includes a liquid crystal display (paragraph 107).

Regarding claim 12, Kojima discloses the display of claim 1, wherein the plurality of strings of LEDs include a combination of a string of white LEDs and one or more strings of LEDs selected from the group consisting of a string of red LEDs, a string of blue LEDs, or a string of green LEDs (paragraph 10).

Regarding claim 13, Kojima discloses a method for an electronic display comprising: generating a clock signal (SYS clock) having a frequency (frequency K) that is a multiple of a reference frequency (para. 123, Figures 1 and 2); and using the clock signal (SYS clock) for adjusting luminosity levels of a plurality of strings of light emitting diodes (LEDs) in a backlighting circuitry of the electronic

display, wherein luminosity levels (S1,S2,S3,...S255, para. 88, Fig. 2, It was known in the art that the gray levels 256 are pixel luminance levels) of at least one of the plurality of strings of LEDs (Fig. 4, para. 77) are adjusted a plurality of times based on the clock signal during display of one image frame in a sequence of image frames controlling backlighting circuitry of the display (para. 123, Figures 1 and 2).

Regarding claim 14, Kojima discloses the method of claim 13, wherein the reference frequency includes a frequency of a VSYNC signal (paragraph 58).

Regarding claim 15, Kojima discloses the method of claim 13, wherein controlling the backlighting circuitry of the display includes adjusting the luminosity levels of a string of LEDs includes adjusting the luminosity levels at the frequency of the clock signal (paragraph 18, Fig. 2).

Regarding claim 17, Kojima discloses the method of claim 15, wherein adjusting the luminosity levels of the string of LEDs is based on a color of the LEDs and an ambient light condition (paragraph 20).

Claim Rejections - 35 USC § 103

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

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

Claim **11** is rejected under 103(a) over Kojima in view of Nagai et al. (US 2002/0180719).

Regarding claim 11, Kojima discloses the display of claim 1, further comprising: the first circuitry, yet does not disclose it for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval. Nagai discloses the first circuitry, yet does not disclose it for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval (Nagai Fig. 3).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the display Kojima with Nagai's circuitry. The suggestion/motivation would have been in order to increase image quality.

Claims 4 and 5 are rejected under 103(a) over Kojima (US 2007/0216638) in view of Konoshita (US 2005/0046704).

Regarding claim 4, Kojima discloses the display of claim 1, but does not disclose it further comprising: the predetermined period of time is a period of time between two successive rising edges of pulses of a VSYNC signal.

However, Konoshita discloses the predetermined period of time is a period of time between two successive rising edges of pulses of a VSYNC signal (figure 1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the period of time of Kojima with the pulses of the VSYNC signal as taught by Kinoshita. The suggestion/motivation would have been in order to reduce flicker and make the images more clear.

Regarding claim 5, Kinoshita combined disclose the display of claim 1, further comprising: the first circuitry configured to adjust the luminosity levels of the plurality of LED strings for a plurality of times between an occurrence of two successive pulses of a VSYNC signal (Kinoshita figure 14a). Same motivation used in claim 4, above applies in claim 5.

Claims **18-22** are rejected under 103(a) over Yamamoto (US 2005/0231457) in view of Konoshita (US 2005/0046704).

Regarding **claim 18**, Yamamoto disclose a liquid crystal display comprising: a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a string of green LEDs and a string of blue LEDs (paragraph 131);
a first circuitry (fig 14, see 1145 and 1142) for controlling luminosity levels of the plurality of strings of LEDs (paragraph 69);
a plurality of pixels for displaying a plurality of image frames of a video (paragraph 58);
a second circuitry for controlling the plurality of pixels (111, fig. 14);
the second circuitry tor displaying each image frame of the plurality of image frames tor a predetermined period of time;

and the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time (fig. 17).

Yamamoto does not disclose displaying each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal.

In the same field of endeavor, Kinoshita discloses a LCD device including RGB backlight wherein each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal (see Fig. 14a and accompanying text).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the circuitry of Yamamoto such the each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal as disclosed by Kinoshita. As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to reduce flicker and make the images more clear.

Regarding claim 19, Yamamoto and Kinoshita disclose the display of claim 18, wherein the predetermined period of time includes approximately 1/30 seconds (figure 7 of Kinoshita, and paragraph 11 of Yamamoto). Same motivation used in claim 4, above applies in claim 19.

Regarding claim 20, Yamamoto and Kinoshita disclose the display of claim 18, wherein the plurality of times includes a number selected from a set of

one, two, three, four, five, six, seven, eight, nine and ten (paragraph 62 of Kinoshita). Same motivation used in claim 18, above applies in claim 20.

Regarding claim 21, Yamamoto and Kinoshita disclose the display of claim 18, wherein the first circuitry is configured to generate for generating a clock signal having a frequency that is higher than the frequency of the VSYNC signal and to adjust adjusting the luminosity levels of the strings of LEDs according to the clock signal frequency (Kinoshita figure 14a). Same motivation used in claim 18, above applies in claim 21.

Regarding claim 22, Yamamoto and Kinoshita disclose the display of claim 18, wherein the first circuitry for adjusting a luminosity level of the string of red LEDs to a different luminosity level from a luminosity level of the string of blue LEDs based upon an ambient light condition (paragraphs 61 and 62, Fig. 3, see 1313 two green LEDS and 1312 Red LED). Same motivation used in claim 18, above applies in claim 22.

Response to Arguments

Applicant's argument and amendments filed on August 12, 2011 have been fully considered but are not persuasive. The applicant argues the newly amended claim language which is addressed above.

Conclusion

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

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEPIDEH GHAFARI whose telephone number is (571)270-5896. The examiner can normally be reached on Monday through Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quan-Zhen Wang can be reached on 571-272-3114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/KEVIN M NGUYEN/
Primary Examiner, Art Unit 2629

/SEPIDEH GHAFARI/
Examiner, Art Unit 2629

Notice of References Cited	Application/Control No. 12/018,399	Applicant(s)/Patent Under Reexamination S. ET AL.	
	Examiner SEPIDEH GHAFARI	Art Unit 2629	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0216638	09-2007	Kojima, Kazuo	345/102
*	B	US-2002/0180719	12-2002	Nagai et al.	345/206
*	C	US-2005/0231457	10-2005	Yamamoto et al.	345/102
*	D	US-2005/0046704	03-2005	Kinoshita, Masaya	348/226.1
	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.

<i>Index of Claims</i> 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

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

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

CLAIM		DATE									
Final	Original	04/06/2011	10/27/2011								
1	1	✓	✓								
2	2	✓	✓								
3	3	✓	✓								
4	4	✓	✓								
5	5	✓	✓								
6	6	✓	✓								
7	7	✓	✓								
8	8	✓	✓								
9	9	✓	✓								
10	10	✓	✓								
11	11	✓	✓								
12	12	✓	✓								
13	13	✓	✓								
14	14	✓	✓								
15	15	✓	✓								
16	16	✓	-								
17	17	✓	✓								
18	18	✓	✓								
19	19	✓	✓								
20	20	✓	✓								
21	21	✓	✓								
22	22	✓	✓								

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	1	("5850205").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:50
S3	1	("4888599").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:51
S4	1828	(345/82).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:15
S5	0	("1and(LED)").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:16
S6	3137	345/82	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:16
S7	3011	S6 and (first circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S8	2930	S7 and (second circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S9	1397	S8 and (LED)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S10	708	S9 and (pluarlity of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S11	1248	S9 and (plurality of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:19
S12	0	345/102.ccls and adjust\$ with (intensity luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:36
S13	0	345/102.ccls and adjust\$3 with (intensity or luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S14	0	345/102.ccls and (adjust\$3 with (intensity or luminosity) and frame)	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S15	39	345/102.ccls. and (adjust\$3 modif\$4 chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	US-PGPUB; USPAT	OR	OFF	2011/03/31 09:08
S16	39	345/102.ccls. and (adjust\$3 modif\$4	US-	OR	OFF	2011/03/31

		chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	PGPUB; USPAT			09:11
S17	28	S16 and LED	US- PGPUB; USPAT	OR	OFF	2011/03/31 09:12
S18	0	345/102.ccls and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:18
S19	0	345/102.ccls and (red strings with green strings)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S20	0	345/102.ccls and (red near green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S21	1250	345/102.ccls. and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 10:55
S22	2	S16 and vsync	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:22
S23	0	S16 and (ambient near sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:52
S24	0	345/102.ccls and (ambient near sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:54
S25	0	345/102.ccls and (ambient light sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S26	0	345/102.ccls and (ambient adj sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S27	0	345/102.ccls and (ambient)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S28	0	345/102.ccls and (sensor)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S29	0	345/102.ccls and (sens\$3)	US- PGPUB; USPAT	OR	OFF	2011/03/31 12:56
S30	0	345/82.ccls and ((sensor or detector) with (ambient))	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:02
S31	8	11/964,683	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:06
S32	11324444	US 2006/0274026 A1	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:07
S33	1	"7782405"	US- PGPUB; USPAT	OR	OFF	2011/03/31 13:08
S34	1250	345/102.ccls. and (red with green)	US- PGPUB; USPAT	OR	OFF	2011/03/31 14:11

S35	2395	345/102.ccls. and (different luminosity level)	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S36	2	11/794,784	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S37	1	"10885364"	US-PGPUB; USPAT	OR	OFF	2011/03/31 15:54
S38	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:03
S39	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:08
S40	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/04/04 08:49
S41	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/04/04 09:24
S42	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/04 15:57
S43	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 09:43
S44	1	(12/018399).APP.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/04/05 16:32
S45	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 16:35
S46	1433	dilip.in.	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S47	20	hendrik with santo	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S48	5	(Tushar with dhayagude)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
S49	14	(len with vi)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:58
S50	7	2005/0231457	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:00
S51	100822	"7" and yamamoto	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:01
S52	1	"20050231457".pn.	US-PGPUB; USPAT	OR	OFF	2011/04/06 14:01
S53	13	adjust\$5 with (luminosity luminance brightness) with ((vertical adj5	US-PGPUB;	OR	OFF	2011/10/27 09:08

EAST Search History

	(synchronizat\$4 synchroni\$4 sync clock)) (horizontal adj5 (syncchroni\$3 synchronizat\$4 sync))) and light\$3 adj2 emi\$5 adj2 (diode element)	USPAT			
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EAST Search History (Interference)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Dilip S. et al.	Art Unit	: 2629
Serial No.	: 12/018,399	Examiner	: Sepideh Ghafari
Filed	: January 23, 2008	Conf. No.	: 8064
Title	: SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY		

Mail Stop Amendment

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

AMENDMENT IN REPLY TO ACTION OF APRIL 12, 2011

Please amend the above-identified application as follows:

CERTIFICATE OF MAILING BY EFS-WEB FILING

I hereby certify that this paper was filed with the Patent and Trademark Office using the EFS-WEB system on this date: August 12, 2011.

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An electronic display comprising:
a plurality of strings of light emitting diodes (LEDs);
a first circuitry for controlling [[the]] luminosity levels of the plurality of strings of LEDs;
a plurality of pixels for displaying a plurality of image frames of a video;
a second circuitry for controlling the plurality of pixels;
the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time; and
the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time based on a clock signal of the second circuitry.
2. (Original) The display of claim 1, wherein the predetermined period of time includes approximately 1/30 seconds.
3. (Currently Amended) The display of claim 1, wherein the plurality of times includes a number selected from [[the]]a set of one, two, three, four, five, six, seven, eight, nine and ten.
4. (Currently Amended) The display of claim 1, further comprising:
the predetermined period of time is [[the]]a period of time between two successive rising edges of pulses of [[the]]a VSYNC signal.
5. (Currently Amended) The display of claim 1, further comprising:
the first circuitry configured to adjust the luminosity levels of the plurality of LED strings

for a plurality of times between ~~[[the]]~~an occurrence of two successive pulses of ~~[[the]]~~a VSYNC signal.

6. (Original) The display of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs.

7. (Currently Amended) The display of claim 1, further comprising:
a first display section associated with a first set of pixels of the plurality of pixels;
a second display section associated with a second set of pixels of the plurality of pixels;
a first set of strings of the plurality of strings associated with the first section;
a second set of strings of the plurality of strings associated with the second section;
the first circuitry configured to adjust ~~[[the]]~~ luminosity levels of the first set of strings according to ~~[[the]]~~a portion of an image frame being displayed by the first set of pixels and to adjust ~~[[the]]~~ luminosity levels of the second set of strings according to ~~[[the]]~~a portion of the image frame being displayed by the second set of pixels.

8. (Currently Amended) The display of claim 1, further comprising:
an ambient light sensor coupled to the first circuitry; and
the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on ~~[[the]]~~ ambient lighting conditions.

9. (Currently Amended) The display of claim 8, wherein the first circuitry configured to adjusting ~~[[the]]~~a luminosity level of a red string of LEDs to a different luminosity level from ~~[[the]]~~a luminosity level of a green string of LEDs.

10. (Original) The display of claim 1, wherein the display includes a liquid crystal display.

11. (Original) The display of claim 1, further comprising:
the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval.

12. (Currently Amended) The display of claim 1, wherein the plurality of strings of LEDs include a combination of a string of white LEDs and one or more strings of LEDs selected from the group consisting of a string of red LEDs, a string of blue LEDs, or ~~and~~ a string of green LEDs.

13. (Currently Amended) A method for an electronic display comprising:
generating a clock signal having a frequency that is a multiple of a reference frequency;
and
using the clock signal for adjusting luminosity levels of a plurality of strings of light emitting diodes (LEDs) in a backlighting circuitry of the electronic display, wherein luminosity levels of at least one of the plurality of strings of LEDs are adjusted a plurality of times based on the clock signal during display of one image frame in a sequence of image frames ~~controlling backlighting circuitry of the display.~~

14. (Currently Amended) The method of claim 13, wherein the reference frequency includes ~~the~~ a frequency of ~~the~~ a VSYNC signal.

15. (Currently Amended) The method of claim 13, ~~wherein controlling the backlighting circuitry of the display includes~~ adjusting the luminosity levels of a string of LEDs includes adjusting the luminosity levels at the frequency of the clock signal.

16. (Canceled)

17. (Currently Amended) The method of claim 15, wherein adjusting the luminosity levels of the string of LEDs is based on ~~the~~ a color of the LEDs and an ambient light condition.

18. (Currently Amended) [An] A liquid crystal display comprising:
a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a string of green LEDs and a string of blue LEDs;
a first circuitry for controlling ~~the~~ luminosity levels of the plurality of strings of LEDs;
a plurality of pixels for displaying a plurality of image frames of a video;
a second circuitry for controlling the plurality of pixels;

the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time determined by ~~[[the]]~~a frequency of ~~[[the]]~~a VSYNC signal; and

the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time.

19. (Original) The display of claim 18, wherein the predetermined period of time includes approximately 1/30 seconds.

20. (Currently Amended) The display of claim 18, wherein the plurality of times includes a number selected from ~~[[the]]~~a set of one, two, three, four, five, six, seven, eight, nine and ten.

21. (Currently Amended) The display of claim 18, wherein the first circuitry is configured to generate ~~for generating~~ a clock signal having a frequency that is higher than the frequency of the VSYNC signal~~[[,]]~~ and to adjust ~~adjusting~~ the luminosity levels of the strings of LEDs according to the clock signal frequency.

22. (Currently Amended) The display of claim 18, wherein the first circuitry for adjusting ~~[[the]]~~a luminosity level of the string of red LEDs to a different luminosity level from ~~[[the]]~~a luminosity level of the string of blue LEDs based upon an ambient light condition.

REMARKS

Claims 1-22 were pending as of the action mailed on April 12, 2011. Claims 1, 13, and 18 are in independent form.

Claims 1, 3-5, 7-9, 12-15, 17, 18, and 20-22 are amended, and claim 16 is canceled. Support for the amendments can be found in the specification at least, for example, at page 6, lines 14-21 and page 8, line 14 – page 9, line 8.

Reconsideration of the action is respectfully requested in light of the foregoing amendments and the following remarks.

Section 102 Rejections

Claims 1-3 and 6-12 have been rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (U. S. Publication No. 2005/0231457) (“Yamamoto”).

Claim 1. Independent claim 1 recites in pertinent part:

the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time based on a clock signal of the second circuitry.

In the Office Action dated April 12, 2011 (hereafter “Office Action”), the Examiner asserts that Yamamoto discloses adjusting luminosity levels of a plurality of strings of LEDs a plurality of times within the predetermined period of time in which each image frame is displayed. Amended claim 1 recites that the first circuitry adjusts the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time based on a clock signal of the second circuitry that displays image frames. Applicants submit that Yamamoto discloses changing display data and emitted light quantity of a backlight unit to enhance image quality of moving images but fails to disclose adjusting luminosity levels of a plurality of strings of LEDs for a plurality of times within a predetermined period of time based on a clock signal of the circuitry that displays image frames, as recited in claim 1. *See* Yamamoto at [0078], [0089].

With respect to claim 13, the Examiner also asserts that Kinoshita (U.S. Publication No. 2005/0046704) (“Kinoshita”) discloses the feature of using a clock signal for controlling backlighting circuitry of a display. *See* Office Action, pages 4-5. In particular, the Examiner

cites to FIG. 14a of Kinoshita as disclosing the use of a “clock signal” for controlling backlighting circuitry of the display. Applicants submit that Kinoshita discloses adjusting shutter speed of an imaging apparatus to reduce flicker effects of a fluorescent lamp but fails to disclose adjusting luminosity levels of LEDs using a clock signal of circuitry configured to display image frames. FIG. 14a depicts a vertical synchronization signal, but the vertical synchronization signal is not used to adjust luminosity levels of LEDs. The only other signal depicted in FIG. 14a is a signal representing a luminance change of a fluorescent lamp. The luminance change of a fluorescent lamp is merely a luminance emitted by an external fluorescent lamp, and the vertical synchronization signal is not used to adjust the luminance emitted by the fluorescent lamp. *See* Kinoshita at [0119], [0122], [0124]. Accordingly, Kinoshita discloses detecting the flicker effects associated with a fluorescent lamp by detecting the change in luminance emitted from the fluorescent lamp, but fails to disclose adjusting luminosity levels of LEDs using a clock signal of circuitry configured to display image frames, as recited in amended claim 1.

Applicants respectfully submit that the Examiner has not specifically identified the feature of “the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time based on a clock signal of the second circuitry,” as being taught by Yamamoto or Kinoshita. Therefore, Applicants request that the Examiner withdraw the rejection of claim 1 and claims 2-12, which depend from claim 1, and allow the claims.

Claim 13 has been rejected under 35 U.S.C. 102(b) as being anticipated by Kinoshita.

Claim 13. Independent claim 13 recites in pertinent part:

using the clock signal for adjusting luminosity levels of a plurality of strings of light emitting diodes (LEDs) in a backlighting circuitry of the electronic display, wherein luminosity levels of at least one of the plurality of strings of LEDs are adjusted a plurality of times based on the clock signal during display of one image frame in a sequence of image frames.

Applicants submit that amended independent claim 13 includes features similar to independent claim 1. Applicants respectfully submit that claim 13 is allowable for at least the same reasons set forth above with respect to claim 1. Applicant requests that the Examiner

Applicant : Dilip S. et al.
Serial No. : 12/018,399
Filed : January 23, 2008
Page : 8 of 9

Attorney's Docket No.: 20275-0165001 / SILIP110US

withdraw the rejection of claim 13 and claims 14, 15, and 17, which depend from claim 13, and allow the claims.

Claims 4, 5, and 18-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto and Kinoshita.

Claim 18. Independent claim 18 recites in pertinent part:

the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time determined by a frequency of a VSYNC signal; and

the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time.

Applicants submit that independent claim 18 includes features similar to independent claim 1. Applicant respectfully submits that claim 18 is allowable for at least the same reasons set forth above with respect to claim 1. Further, claims 4 and 5 depend from claim 1. Applicants request that the Examiner withdraw the rejection of claim 18 and claims 19-22, which depend from claim 18, and allow the claims.

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Filed : January 23, 2008
Page : 9 of 9

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CONCLUSION

Applicants have made an earnest attempt to place this case in condition for allowance. However, the absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicants hereby request a telephone conference with the Examiner and further request that the Examiner contact the undersigned attorney to schedule the telephone conference.

Applicants believe that no fees are due. However, if this is incorrect, please charge such fees or credit any overpayments to deposit account 06-1050.

Respectfully submitted,

Date: July 13, 2011

/Kirk A. Gottlieb/
Kirk A. Gottlieb
Reg. No. 42,596

Customer Number 26181
Fish & Richardson P.C.
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90514324.doc

Electronic Patent Application Fee Transmittal				
Application Number:		12018399		
Filing Date:		23-Jan-2008		
Title of Invention:		System and Method for Backlight Control for An Electronic Display		
First Named Inventor/Applicant Name:		Dilip S.		
Filer:		Kirk A. Gottlieb/Lisa Gray		
Attorney Docket Number:		20275-0165001		
Filed as Large 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	1251	1	130	130

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				130

Electronic Acknowledgement Receipt	
EFS ID:	10731241
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	26181
Filer:	Kirk A. Gottlieb/Lisa Gray
Filer Authorized By:	Kirk A. Gottlieb
Attorney Docket Number:	20275-0165001
Receipt Date:	12-AUG-2011
Filing Date:	23-JAN-2008
Time Stamp:	20:53:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$130
RAM confirmation Number	6000
Deposit Account	061050
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Extension of Time	20275-0165001ext.pdf	46567 45bc595b4f6811c28bbbe8e31e64c0626d805b93	no	1
Warnings:					
Information:					
2		20275-0165001amendment.pdf	115601 d69c07c8ee9443b84365e5ccabd71f1c6dda802	yes	9
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	9	
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30172 33f81284f939b5ad8d51c817b177d52d5357c044	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			192340		
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. <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. <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. <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.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Dilip S. et al. Art Unit : 2629
Serial No. : 12/018,399 Examiner : Sepideh Ghafari
Filed : January 23, 2008 Conf. No. : 8064
Title : SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN
ELECTRONIC DISPLAY

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

PETITION FOR ONE-MONTH EXTENSION OF TIME UNDER 37 C.F.R. §1.136

Please extend the period for response to the action dated April 12, 2011, for one month to and including August 12, 2011.

The fees in the amount of \$130 are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any necessary charges or credits to Deposit Account 06-1050, referencing the above attorney docket number.

Respectfully submitted,

Date: August 12, 2011

/Xin Ma/
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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/018,399	01/23/2008	Dilip S.	20275-0165001	8064

26181	7590	04/12/2011
FISH & RICHARDSON P.C. (SV)		
PO BOX 1022		
MINNEAPOLIS, MN 55440-1022		

EXAMINER	
GHAFARI, SEPIDEH	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
04/12/2011	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):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	12/018,399	S. ET AL.	
	Examiner	Art Unit	
	SEPIDEH GHAFARI	2629	

-- 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 23 January 2008.

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) 1-22 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) 1-22 is/are rejected.

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

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

Application Papers

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

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

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

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

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

DETAILED ACTION

Claim Rejections - 35 USC § 102

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

A person shall be entitled to a patent unless –

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

2. Claims **1-3, 6-12** are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (US 2005/0231457).

Regarding claim **1**, Yamamoto et al. discloses an electronic display comprising (liquid crystal display, figure 13, element 130): a plurality of strings of light emitting diodes (paragraph 131); first circuitry for controlling the luminosity of the plurality of strings of LEDs (see element 1145 and 1142; Fig. 14), ; a plurality of pixels for displaying a plurality of image frames of a video (Fig. 7); a second circuitry for controlling the plurality of pixels (display data changing circuit; Fig. 14, element 120); the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time (Fig. 7); and the first circuitry (1145 and 1142) for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time (paragraphs 143 and 147).

Regarding claim **2**, Yamamoto et al. discloses the display of claim 1, wherein the predetermined period of time includes approximately 1/30 seconds (paragraph 11).

Regarding claim **3**, Yamamoto discloses the display of claim 1, wherein the plurality of times includes a number selected from the set of one, two, three, four, five, six, seven, eight, nine and ten (paragraph 61).

Regarding claim **6**, Yamamoto discloses the display of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs (paragraph 131).

Regarding claim **7**, Yamamoto discloses the display of claim 1, further comprising: a first display section associated with a first set of pixels of the plurality of pixels (figure 17); a second display section associated with a second set of pixels of the plurality of pixels (figure 17) a first set of strings of the plurality of strings associated with the first section ; a second set of strings of the plurality of strings associated with the second section (Fig. 17); the first circuitry (Id.) configured to adjust the luminosity of the first set of strings according to the portion of an image frame being displayed by the first set of pixels and to adjust the luminosity of the second set of strings according to the portion of the image frame being displayed by the second set of pixels (figure 17 paragraphs 143 and 147) .

Regarding claim **8**, Yamamoto discloses the display of claim 1, further comprising: an ambient light sensor coupled to the first circuitry (paragraph 19); and the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on the ambient lighting conditions (paragraph 20).

Regarding claim **9**, Yamamoto discloses the display of claim 8, wherein the first circuitry configured to adjusting the luminosity of a red string of LEDs to a different

luminosity level from the luminosity level of a green string of LEDs (paragraph 62 and Fig 3, see 1313 two green LEDS and 1312 Red LED).

Regarding claim **10**, Yamamoto discloses the display of claim 1, wherein the display includes a liquid crystal display (liquid crystal display paragraph 5).

Regarding claim **11**, Yamamoto discloses the display of claim 1, further comprising: the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval (figure 31).

Regarding claim **12**, Yamamoto discloses the display of claim 1, wherein the plurality of strings of LEDs include a combination of a string of white LEDs and one or more strings of LEDs selected from the group consisting of a string of red LEDs, a string of blue LEDs and a string of green LEDs (paragraph 72).

Claim Rejections - 35 USC § 102

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

A person shall be entitled to a patent unless –

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

4. Claims **13-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Kinoshita (US 2005/0046704).

Regarding claim 13, Kinoshita discloses the method for an electronic display comprising: generating a clock signal having a frequency that is a multiple of a

reference frequency; and using the clock signal for controlling backlighting circuitry of the display (figure 14a).

Regarding claim 14, Kinoshita discloses the method of claim 13, wherein the reference frequency includes the frequency of the VSYNC signal (paragraph 58).

Regarding claim 15, Kinoshita discloses the method of claim 13, controlling the backlighting circuitry of the display includes adjusting the luminosity level of a string of LEDs at the frequency of the clock signal (figure 14a).

Regarding claim 6, Kinoshita discloses the method of claim 15, wherein adjusting the luminosity level of the string of LEDs multiple times during the display of a single video frame (paragraph 13).

Regarding claim 17, Kinoshita discloses the method of claim 15, wherein adjusting the luminosity of the string of LEDs based on the color of the LEDs and an ambient light condition (Fig. 10, see indoors and outdoors).

Claim Rejections - 35 USC § 103

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

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

6. Claims **4, 5, 18-22** are rejected under 35 U.S.C 103(a) as being unpatentable over Yamamoto (US 2005/0231457) in view of Kinoshita (US 2005/0046704).

Regarding claim **4**, Yamamoto discloses the display of claim 1, yet does not explicitly disclose the predetermined period of time is the period of time between two successive rising edges of pulses of the VSYNC signal.

However Kinoshita discloses the predetermined period of time is the period of time between two successive rising edges of pulses of the VSYNC signal (figure 14a).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the display of claim 1 with the pulses of the VSYNC signal as taught by Kinoshita. The suggestion/motivation would have been in order to reduce flicker and make the images more clear.

Regarding claim **5**, Yamamoto discloses the display of claim 1, further comprising: the first circuitry configured to adjust the luminosity of the plurality of LED strings, but does not explicitly disclose LED strings for a plurality of times between the occurrence of two successive pulses of the VSYNC signal, however Kinoshita discloses such (figure 14a). Same motivation used in claim 4 above applies in claim 5.

Regarding claim **18**, Yamamoto discloses an liquid crystal display comprising: a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a string of green LEDs and a string of blue LEDs (paragraph 131);

a first circuitry (Fig. 14, see 1145 and 1142) for controlling the luminosity of the plurality of strings of LEDs (paragraph 69);

a plurality of pixels for displaying a plurality of image frames of a video (paragraph 58);

a second circuitry for controlling the plurality of pixels (111, fig. 14);

the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time (114, Fig. 14);

the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time (Fig. 17 and accompanying text).

Yamamoto does not disclose displaying each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal.

In the same field of endeavor, Kinoshita discloses a LCD device including RGB backlight wherein each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal (see Fig. 14a and accompanying text).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to modify the circuitry of Yamamoto such the each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal as disclosed by Kinoshita. As one of ordinary skill in the art would appreciate, the suggestion/motivation for doing so would have been to reduce flicker and make the images more clear.

Regarding claim **19**, both Yamamoto and Kinoshita disclose the display of claim 18, where Kinoshita wherein the predetermined period of time includes approximately 1/30 seconds (figure 7 of Kinoshita, and paragraph 11 of Yamamoto).

Regarding claim **20**, Yamamoto and Kinoshita disclose the display of claim 18, wherein Kinoshita discloses the plurality of times includes a number selected from the set of one, two, three, four, five, six, seven, eight, nine and ten (paragraph 62 of Kinoshita).

Regarding claim **21**, Yamamoto discloses the display of claim 18, but does not disclose the first circuitry for generating a clock signal having a frequency that is higher than the frequency of the VSYNC signal, and adjusting the luminosity levels of the strings of LEDs according to the clock signal frequency, however Kinoshita discloses such (figure 14a). Same motivation used in claim 4 above applies in claim 21.

Regarding claim **22**, Yamamoto and Kinoshita disclose the display of claim 18, wherein the first circuitry for adjusting the luminosity of the string of red LEDs to a different luminosity level from the luminosity level of the string of blue LEDs based upon an ambient light condition (paragraphs 61 and 62, Fig 3, see 1313 two green LEDS and 1312 Red LED).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEPIDEH GHAFARI whose telephone number is (571)270-5896. The examiner can normally be reached on Monday through Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quan-Zhen Wang can be reached on 571-272-3114. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/SEPIDEH GHAFARI/
Examiner, Art Unit 2629

/Kevin M Nguyen/

Acting SPE of Art Unit 2629

Notice of References Cited	Application/Control No. 12/018,399	Applicant(s)/Patent Under Reexamination S. ET AL.	
	Examiner SEPIDEH GHAFARI	Art Unit 2629	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2005/0231457	10-2005	Yamamoto et al.	345/102
*	B	US-2005/0046704	03-2005	Kinoshita, Masaya	348/226.1
	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.

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1433	dilip.in.	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
L2	20	hendrik with santo	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
L3	5	(Tushar with dhayagude)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:57
L4	14	(len with vi)	US-PGPUB; USPAT	OR	OFF	2011/04/06 13:58
S2	1	("5850205").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:50
S3	1	("4888599").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 09:51
S4	1828	(345/82).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:15
S5	0	("1and(LED)").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/03/30 11:16
S6	3137	345/82	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:16
S7	3011	S6 and (first circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S8	2930	S7 and (second circuitry)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S9	1397	S8 and (LED)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S10	708	S9 and (pluarlity of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:18
S11	1248	S9 and (plurality of pixels)	US-PGPUB; USPAT	OR	OFF	2011/03/30 11:19
S12	0	345/102.ccls and adjust\$ with (intensity luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:36

S13	0	345/102.ccls and adjust\$3 with (intensity or luminosity) and frame	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S14	0	345/102.ccls and (adjust\$3 with (intensity or luminosity) and frame)	US-PGPUB; USPAT	OR	OFF	2011/03/30 15:38
S15	39	345/102.ccls. and (adjust\$3 modif\$4 chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	US-PGPUB; USPAT	OR	OFF	2011/03/31 09:08
S16	39	345/102.ccls. and (adjust\$3 modif\$4 chang\$3) with (intensity or luminosity) with (vsync (vertical adj (sync synchroniz\$3)) frame)	US-PGPUB; USPAT	OR	OFF	2011/03/31 09:11
S17	28	S16 and LED	US-PGPUB; USPAT	OR	OFF	2011/03/31 09:12
S18	0	345/102.ccls and (red with green)	US-PGPUB; USPAT	OR	OFF	2011/03/31 10:18
S19	0	345/102.ccls and (red strings with green strings)	US-PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S20	0	345/102.ccls and (red near green)	US-PGPUB; USPAT	OR	OFF	2011/03/31 10:38
S21	1250	345/102.ccls. and (red with green)	US-PGPUB; USPAT	OR	OFF	2011/03/31 10:55
S22	2	S16 and vsync	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:22
S23	0	S16 and (ambient near sensor)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:52
S24	0	345/102.ccls and (ambient near sensor)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:54
S25	0	345/102.ccls and (ambient light sensor)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:55

S26	0	345/102.ccls and (ambient adj sensor)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S27	0	345/102.ccls and (ambient)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S28	0	345/102.ccls and (sensor)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:55
S29	0	345/102.ccls and (sens\$3)	US-PGPUB; USPAT	OR	OFF	2011/03/31 12:56
S30	0	345/82.ccls and ((sensor or detector) with (ambient))	US-PGPUB; USPAT	OR	OFF	2011/03/31 13:02
S31	8	11/964,683	US-PGPUB; USPAT	OR	OFF	2011/03/31 13:06
S32	11324444	US 2006/0274026 A1	US-PGPUB; USPAT	OR	OFF	2011/03/31 13:07
S33	1	"7782405"	US-PGPUB; USPAT	OR	OFF	2011/03/31 13:08
S34	1250	345/102.ccls. and (red with green)	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:11
S35	2395	345/102.ccls. and (different luminosity level)	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S36	2	11/794,784	US-PGPUB; USPAT	OR	OFF	2011/03/31 14:16
S37	1	"10885364"	US-PGPUB; USPAT	OR	OFF	2011/03/31 15:54
S38	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:03
S39	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/03/31 16:08
S40	1	"12018399"	US-PGPUB; USPAT	OR	OFF	2011/04/04 08:49
S41	1	"11964683"	US-PGPUB; USPAT	OR	OFF	2011/04/04 09:24
S42	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/04 15:57
S43	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 09:43
S44	1	(12/018399).APP.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/04/05 16:32
S45	1	"11053256"	US-PGPUB; USPAT	OR	OFF	2011/04/05 16:35

4/ 6/ 2011 1:58:43 PM

C:\ Documents and Settings\ sghafari\ My Documents\ EAST\ Workspaces\ 12018399.wsp

<i>Search Notes</i> 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

SEARCHED			
Class	Subclass	Date	Examiner
345	102, 83	4/4/2011	/S.G./

SEARCH NOTES		
Search Notes	Date	Examiner
consulted with Kevin Nguyen	4/4/2011	/S.G./
Inventor name search	4/7/2011	/S.G./

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/SEPIDEH GHAFARI/ Examiner.Art Unit 2629	
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Receipt date: 04/08/2009

12018399, GAU: 2629

Approved for use through 09/30/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399	
	Filing Date		2008-01-23	
	First Named Inventor	Dilip S.		
	Art Unit	2629		
	Examiner Name	Unknown		
	Attorney Docket Number	SILIP110US		

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1	5850205	A	1998-12-15	Blouin			
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1	20070285378	A1	2001-12-13	Lankhorst, et al			
	2	20070262732	A1	2007-11-15	Shen			
	3	20060001641	A1	2006-01-05	Degwekar			
	4	20020118321	A1	2002-08-29	GE			
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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵

Receipt date: 04/08/2009 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399	12018399 - GAU: 2629
	Filing Date		2008-01-23	
	First Named Inventor	Dilip S.		
	Art Unit	2629		
	Examiner Name	Unknown		
	Attorney Docket Number	SILIP110US		

	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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report and Written Opinion for PCT Application No. PCT/US09/31705, 10 pages No date	☐

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Examiner Signature	/Sepideh Ghafari/	Date Considered	04/06/2011
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.



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BIB DATA SHEET

CONFIRMATION NO. 8064

SERIAL NUMBER 12/018,399	FILING or 371(c) DATE 01/23/2008 RULE	CLASS 345	GROUP ART UNIT 2629	ATTORNEY DOCKET NO. 20275-0165001		
APPLICANTS Dilip S., Saratoga, CA; Hendrik Santo, San Jose, CA; Tushar Dhayagude, Santa Clara, CA; Klen Vi, Palo Alto, CA; Sean Chen, Sunnyvale, CA; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 02/07/2008						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/SEPIDEH GHAFARI/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 6	TOTAL CLAIMS 22	INDEPENDENT CLAIMS 3
ADDRESS FISH & RICHARDSON P.C. (SV) PO BOX 1022 MINNEAPOLIS, MN 55440-1022 UNITED STATES						
TITLE System and Method for Backlight Control for An Electronic Display						
FILING FEE RECEIVED 550	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

<i>Index of Claims</i> 	Application/Control No. 12018399	Applicant(s)/Patent Under Reexamination S. ET AL.
	Examiner SEPIDEH GHAFARI	Art Unit 2629

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

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

CLAIM		DATE									
Final	Original	04/06/2011									
	1	✓									
	2	✓									
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	20	✓									
	21	✓									
	22	✓									



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

POWER OF ATTORNEY NOTICE

23623
TUROCY & WATSON, LLP
127 Public Square
57th Floor, Key Tower
CLEVELAND, OH 44114



Date Mailed: 01/25/2011

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/12/2011.

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

/hchristian/

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



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

POA ACCEPTANCE LETTER

26181
FISH & RICHARDSON P.C. (SV)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022



Date Mailed: 01/25/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/12/2011.

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.

/hchristian/

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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

REVOCATION AND NEW POWER OF ATTORNEY

Under 37 CFR §3.73(b) ATMEL Corporation, a Delaware corporation, certifies that it is the assignee of 100% of the right, title and interest in the patent applications listed on the attached Appendix (Table 1) by virtue of assignments, including assignments from inventors of the patent applications. The assignments for these patent applications were recorded in the Patent and Trademark Office on the Real and Frame numbers provided in the Appendix (Table 1).

The undersigned, acting on behalf of the assignee, is empowered to act on behalf of the assignee and hereby revokes all powers of attorney previously granted in the applications and appoints the practitioners associated with:

PTO Customer Number: 26181

with full power of substitution and revocation, to prosecute the application and to transact all business in the United States Patent and Trademark Office connected therewith.

All correspondence regarding the application should be sent to:

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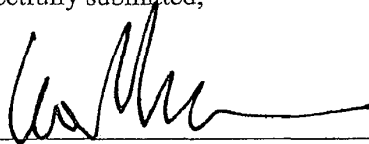
Direct all telephone calls to Kirk A. Gottlieb, Reg. No. 42,596, at telephone number (650) 839-5070.

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 patents issued thereon.

Respectfully submitted,

Date: 23 Dec 2010



Name: Leo Merken

Title: Director of Intellectual Property

TABLE 1

Attorney Docket No.	Application Serial No.	Recordation Date Reel/Frame
20275-0156001	11/652,739	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 04/10/2008; Reel/Frame 020799/0755
20275-0157001	11/805,525 (Pat. No. 7,663,326)	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 08/10/2007; Reel/Frame 019678/0624
20275-0158001	11/805,522	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 07/27/2007; Reel/Frame 019618/0435
20275-0159001	11/805,523 (Pat. No. 7,598,800)	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 08/08/2007; Reel/Frame 019724/0746
20275-0160001	11/652,736 (Pat. No. 7,777,704)	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 04/10/2008; Reel/Frame 020785/0891
20275-0161001	12/046,280	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 05/16/2008; Reel/Frame 020960/0841
20275-0162001	12/145,414	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 09/05/2008; Reel/Frame 021491/0102
20275-0163P01	61/104,637	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 11/04/2009; Reel/Frame 023468/0005
20275-0163001	12/409,088	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 05/28/2009; Reel/Frame 022745/0945
20275-0164001	11/942,239	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 02/11/2008; Reel/Frame 020491/0442
20275-0165001	12/018,399	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 04/04/2008; Reel/Frame 020759/0722
20275-0166001	12/111,114	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 11/04/2009; Reel/Frame 023468/0075
20275-0167001	12/045,588	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 05/16/2008; Reel/Frame 020960/0936
20275-0168001	12/649,057	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 03/19/2010; Reel/Frame 024106/0687
20275-0169001	12/504,308	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 10/23/2009; Reel/Frame 023413/0782
20275-0170001	12/610,941	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 11/09/2009; Reel/Frame 023490/0137
20275-0171001	12/712,930	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 03/09/2010; Reel/Frame 024048/0916
20275-0172001	12/648,610	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 03/03/2010; Reel/Frame 024021/0779
20275-0173001	12/688,742	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 02/08/2010; Reel/Frame 023911/0823
20275-0174001	12/772,067	Recorded 11/17/2010; Reel/Frame 025383/0625 Recorded 08/03/2010; Reel/Frame 024778/0604

Electronic Acknowledgement Receipt	
EFS ID:	9220499
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	23623
Filer:	Kirk A. Gottlieb/Mi Kyong Shin
Filer Authorized By:	Kirk A. Gottlieb
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	12-JAN-2011
Filing Date:	23-JAN-2008
Time Stamp:	23:28:47
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	Power of Attorney	RevandPOA.pdf	122282	no	3
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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.

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P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	12/018,399
Filing Date	01/23/2008
First Named Inventor	Dilip S
Art Unit	2629
Examiner Name	Unknown
Attorney Docket Number	03380.0012.NPUS00/SILIP110US

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



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23623

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Address 127 Public Square
57th Floor, Key Tower

City Cleveland

State Ohio

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Country United States

Telephone (216) 696-8730

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Applicant/Inventor



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



Attorney or agent of record. Registration Number 43,243.



Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____.

Signature /Thomas E. Watson/

Typed or Printed
Name Thomas E. Watson

Date October 29, 2009

Telephone (216) 696-8730

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



*Total of 1 forms are submitted.

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Electronic Acknowledgement Receipt	
EFS ID:	6352750
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27195
Filer:	Thomas Edward Watson/Amanda Lauer
Filer Authorized By:	Thomas Edward Watson
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	29-OCT-2009
Filing Date:	23-JAN-2008
Time Stamp:	10:52:40
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.)
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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.

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CHANGE OF CORRESPONDENCE ADDRESS *Application*

Address to:
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P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	12/018,399
Filing Date	01/23/2008
First Named Inventor	Dilip S
Art Unit	2629
Examiner Name	Unknown
Attorney Docket Number	03380.0012.NPUS00/SILIP110US

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Individual Name Turocy & Watson, LLP

Address 127 Public Square
57th Floor, Key Tower

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Zip 44114

Country United States

Telephone (216) 696-8730

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I am the:



Applicant/Inventor



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



Attorney or agent of record. Registration Number 51,034.



Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____.

Signature /Vinay Joshi/

Typed or Printed
Name Vinay Joshi

Date October 12, 2009

Telephone (216) 696-8730

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



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Electronic Acknowledgement Receipt	
EFS ID:	6245431
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27195
Filer:	Vinay V. Joshi/Amanda Lauer
Filer Authorized By:	Vinay V. Joshi
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	12-OCT-2009
Filing Date:	23-JAN-2008
Time Stamp:	16:54:42
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	Change of Address	ChangeCorrespondence.pdf	1368950 bcc57350c0a9811c60441025041add5e1cf7c077	no	1

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.

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

CHANGE OF CORRESPONDENCE ADDRESS *Application*

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

Application Number	12/018,399
Filing Date	01/23/2008
First Named Inventor	Dilip S
Art Unit	2629
Examiner Name	Unknown
Attorney Docket Number	03380.0012.NPUS00/SILIP110US

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

The address associated with
Customer Number:

23623

OR

Firm or
Individual Name Turocy & Watson, LLP

Address 127 Public Square
57th Floor, Key Tower

City Cleveland

State Ohio

Zip 44114

Country United States

Telephone (216) 696-8730

Email

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:



Applicant/Inventor



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



Attorney or agent of record. Registration Number 51,034.



Registered practitioner named in the application transmittal letter in an application without an
executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____.

Signature /Vinay Joshi/

Typed or Printed
Name Vinay Joshi

Date September 2, 2009

Telephone (216) 696-8730

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



*Total of 1 forms are submitted.

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

Electronic Acknowledgement Receipt	
EFS ID:	6004344
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27195
Filer:	Vinay V. Joshi/Eddie Rowell
Filer Authorized By:	Vinay V. Joshi
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	02-SEP-2009
Filing Date:	23-JAN-2008
Time Stamp:	17:02:11
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	Change of Address	ChangeCorrespondence.pdf	1364196 ec6fe3fbca85858ecda8ee826de4aec3bd27b03b	no	1

Warnings:

Information:

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New International Application Filed with the USPTO as a Receiving Office

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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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
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

27195
TUROCY & WATSON, LLP
127 Public Square
57th Floor, Key Tower
CLEVELAND, OH 44114

PUBLICATION NOTICE



Title:System and Method for Backlight Control for An Electronic Display

Publication No.US-2009-0184904-A1

Publication Date:07/23/2009

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

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399	
	Filing Date		2008-01-23	
	First Named Inventor	Dilip S.		
	Art Unit	2629		
	Examiner Name	Unknown		
	Attorney Docket Number	SILIP110US		

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
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	1	20070285378	A1	2001-12-13	Lankhorst, et al			
	2	20070262732	A1	2007-11-15	Shen			
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399	
	Filing Date		2008-01-23	
	First Named Inventor	Dilip S.		
	Art Unit	2629		
	Examiner Name	Unknown		
	Attorney Docket Number	SILIP110US		

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NON-PATENT LITERATURE DOCUMENTS

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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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report and Written Opinion for PCT Application No. PCT/US09/31705, 10 pages	☐

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EXAMINER SIGNATURE

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

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		12018399
	Filing Date		2008-01-23
	First Named Inventor	Dilip S.	
	Art Unit	2629	
	Examiner Name	Unknown	
	Attorney Docket Number	SILIP110US	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

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

Signature	/Vinay Joshi/	Date (YYYY-MM-DD)	2009-04-08
Name/Print	Vinay Joshi	Registration Number	51034

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 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.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To: VIOLA T. KUNG HOWREY LLP 2941 FAIRVIEW PARK DRIVE BOX 7 FALLS CHURCH, VA 22042
--

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing (day/month/year)	
Applicant's or agent's file reference 3380001200PC	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US 09/31705	International filing date (day/month/year) 22 January 2009 (22.01.2009)
Applicant MSILICA	

1.	☒	The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith. Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report. Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35 For more detailed instructions, see the notes on the accompanying sheet.
2.	☐	The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3.	☐	With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that: ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices. ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
4.		Reminders Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication. The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date. Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months. See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the <i>PCT Applicant's Guide</i> , Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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Form PCT/ISA/220 (January 2004)

(See notes on accompanying sheet)

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To: VIOLA T. KUNG HOWREY LLP 2941 FAIRVIEW PARK DRIVE BOX 7 FALLS CHURCH, VA 22042

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing <i>(day/month/year)</i>	06 MAR 2009
Applicant's or agent's file reference 3380001200PC	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US 09/31705	International filing date <i>(day/month/year)</i> 22 January 2009 (22.01.2009)
Applicant MSILICA	

1.	☒	The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith. Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report. Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35 For more detailed instructions, see the notes on the accompanying sheet.
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4.		Reminders Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication. The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date. Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months. See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the <i>PCT Applicant's Guide</i> , Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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Form PCT/ISA/220 (January 2004)

(See notes on accompanying sheet)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 3380001200PC	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US 09/31705	International filing date (<i>day/month/year</i>) 22 January 2009 (22.01.2009)	(Earliest) Priority Date (<i>day/month/year</i>) 23 January 2008 (23.01.2008)
Applicant MSILICA		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 7 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1
- ☒ as suggested by the applicant.
- ☐ as selected by this Authority, because the applicant failed to suggest a figure.
- ☐ as selected by this Authority, because this figure better characterizes the invention.
- b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 09/31705

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G09G 3/36 (2009.01)

USPC - 345/102

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC- 345/102Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC- 345/30, 102

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST (PGPB,USPT,EPAB,JPAB); Google; Google Scholar

Search Terms Used: electronic, display, led, strings, backlight, light, diode, luminous, circuit, pixel, time, VSYNC, color, raster, sensor, ambient, frequency, blank

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/0285378 A1 (LANKHORST et al.) 13 December 2007 (13.12.2007), Abstract, para [0033], [0041]-[0043], [0050], [0104]	1-12, 18-22
Y	US 2007/0262732 A1 (SHEN) 15 November 2007 (15.11.2007), para [0004], [0021], [0024]-[0025]	1-22
Y	US 2006/0001641 A1 (DEGWEKAR et al.) 05 January 2006 (05.01.2006), para [0038], [0041]-[0043], [0062]	11, 13-16, 21
Y	US 2002/0118321 A1 (GE) 29 August 2002 (29.08.2002), para [0070]	7
Y	US 5,850,205 A (BLOUIN) 15 December 1998 (15.12.1998), col 4, ln 20-28, ln 32-39	8-9, 17

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 February 2009 (23.02.2009)

Date of mailing of the international search report

06 MAR 2009

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
VIOLA T. KUNG
HOWREY LLP
2941 FAIRVIEW PARK DRIVE BOX 7
FALLS CHURCH, VA 22042

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **06 MAR 2009**

Applicant's or agent's file reference
3380001200PC

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/US 09/31705

International filing date (day/month/year)
22 January 2009 (22.01.2009)

Priority date (day/month/year)
23 January 2008 (23.01.2008)

International Patent Classification (IPC) or both national classification and IPC
**IPC(8) - G09G 3/36 (2009.01)
USPC - 345/102**

Applicant **MSILICA**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. **571-273-3201**

Date of completion of this opinion
23 February 2009 (23.02.2009)

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (April 2007)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 09/31705

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed.
☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 09/31705

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-22	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-6, 10, 12, 18-20, and 22 lack an inventive step under PCT Article 33(3) as being obvious over US 2007/0285378 A1 to Lankhorst et al. (hereinafter, 'Lankhorst') in view of US 2007/0262732 A1 (Shen).

As per claim 1, Lankhorst discloses an electronic display comprising: a plurality of strings of light emitting diodes, LEDs (para [0041]-[0042]; a first circuitry for controlling the luminosity of the plurality of strings of LEDs (para [0043]); a plurality of pixels for displaying a plurality of image frames of a video (para [0033]); a second circuitry for controlling the plurality of pixels (para [0104]); and the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time (para [0050]). However, Lankhorst does not disclose the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time. However, Shen does disclose the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time (para [0024]). It would have been obvious to one of ordinary skill in the art to combine the electronic display taught by Lankhorst with the second circuitry for displaying each image frame taught by Shen, since such would allow for a consistent and synchronized production of frame rate and illumination relative to backlighting on an electronic display.

As per claim 2, Lankhorst in view of Shen disclose the display of claim 1. However, Lankhorst in view of Shen does not expressly disclose wherein the predetermined period of time includes approximately 1/30 seconds. However, the predetermined period of time includes approximately 1/30 seconds was well known in the art of electronic display systems to provide for a base frame rate of 30 frames per second. It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the implementation of the predetermined period of time to include approximately 1/30 seconds, since such would allow for a base frame rate of 30 frames per second.

As per claim 3, Shen further discloses the limitation of the display of claim 1, wherein the plurality of times is a number selected from the set of one, two, three, four, five, six, seven, eight, nine and ten (para [0024]- describing that the plurality of times can be two through four times).

As per claim 4, Shen further discloses the limitation of the display of claim 1, wherein the predetermined period of time is the period of time between two successive rising edges of pulses of the VSYNC signal (para [0024]).

As per claim 5, Shen further discloses the limitation of the display of claim 1, further comprising: the first circuitry configured to adjust the luminosity of the plurality of LED strings for a plurality of times between the occurrence of two successive pulses of the VSYNC signal (para [0021] and [0024]).

As per claim 6, Lankhorst further discloses the limitation of the display of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs (para [0041]-[0042]).

As per claim 10, Lankhorst further discloses the limitation of the display of claim 1, wherein the display is a liquid crystal display (Abstract).

As per claim 12, Shen further discloses the limitation of the display of claim 1, wherein the plurality of strings of LEDs comprise a combination of a string of white LEDs and one or more strings of LEDs selected from the group consisting of a string of red LEDs, a string of blue LEDs and a string of green LEDs (para [0004]).

—See supplemental pages—

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 09/31705

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box No. V 2 Citations and explanations:

As per claim 18, Lankhorst discloses an liquid crystal display comprising: a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a string of green LEDs and a string of blue LEDs (para [0041]-[0042]); a first circuitry for controlling the luminosity of the plurality of strings of LEDs (para [0043]); a plurality of pixels for displaying a plurality of image frames of a video (para [0033]); a second circuitry for controlling the plurality of pixels (para [0104]); and the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for a plurality of times within the predetermined period of time (para [0050]). However, Lankhorst does not disclose the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal. However, Shen does disclose the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time determined by the frequency of the VSYNC signal (para [0024]). It would have been obvious to one of ordinary skill in the art to combine the electronic display taught by Lankhorst with the second circuitry for displaying each image frame taught by Shen, since such would allow for a consistent and synchronized production of frame rate and illumination relative to backlighting on an electronic display.

As per claim 19, Lankhorst in view of Shen disclose the display of claim 18. However, Lankhorst in view of Shen does not expressly disclose wherein the predetermined period of time includes approximately 1/30 seconds. However, the predetermined period of time includes approximately 1/30 seconds was well known in the art of electronic display systems to provide for a base frame rate of 30 frames per second. It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the implementation of the predetermined period of time to include approximately 1/30 seconds, since such would allow for a base frame rate of 30 frames per second.

As per claim 20, Shen further discloses the limitation of the display of claim 18, wherein the plurality of times is a number selected from the group consisting of one, two, three, four, five, six, seven, eight, nine and ten (para [0024]- describing that the plurality of times can be two through four times)

As per claim 22, Lankhorst further discloses the limitation of the display of claim 18, wherein the first circuitry for adjusting the luminosity of the string of red LEDs to a different luminosity level from the luminosity level of the string of blue LEDs based upon an ambient light condition (para [0041]-[0042]).

Claims 13-16 lack an inventive step under PCT Article 33(3) as being obvious over US 2006/0001641 A1 to Degwekar et al. (hereinafter, 'Degwekar') in view of Shen.

As per claim 13, Degwekar discloses a method for an electronic display comprising: generating a clock signal having a frequency that is a multiple of a reference frequency (para [0041]-[0043]). However, Degwekar does not disclose using the clock signal for controlling backlighting circuitry of the display. However, Shen does disclose using the clock signal for controlling backlighting circuitry of the display (para [0024]). It would have been obvious to one of ordinary skill in the art to combine the method for an electronic display taught by Degwekar with the using of the clock signal for controlling backlighting circuitry taught by Shen, since such would allow for backlight illumination to be based upon the modulation of a clock signal.

As per claim 14, Shen further discloses the limitation of the method of claim 13, wherein the reference frequency includes the frequency of the VSYNC signal (para [0024]).

As per claim 15, Shen further discloses the limitation of the method of claim 13, controlling the backlighting circuitry of the display includes adjusting the luminosity level of a string of LEDs at the frequency of the clock signal (para [0024]-[0025]).

As per claim 16, Shen further discloses the limitation of the method of claim 15, wherein adjusting the luminosity level of the string of LEDs multiple times during the display of a single video frame (para [0024]).

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Lankhorst in view of Shen and further in view of US 2002/0118321 A1 (Ge).

As per claim 7, Lankhorst in view Shen does disclose the display of claim 1. However, Lankhorst in view of Shen does not disclose the display further comprising: a first display section associated with a first set of pixels of the plurality of pixels; a second display section associated with a second set of pixels of the plurality of pixels; a first set of strings of the plurality of strings associated with the first section; a second set of strings of the plurality of strings associated with the second section; the first circuitry configured to adjust the luminosity of the first set of strings according to the portion of an image frame being displayed by the first set of pixels and to adjust the luminosity of the second set of strings according to the portion of the image frame being displayed by the second set of pixels. However, Ge does disclose a first display section associated with a first set of pixels of the plurality of pixels (para [0070]); a second display section associated with a second set of pixels of the plurality of pixels (para [0070]); a first set of strings of the plurality of strings associated with the first section (para [0070]); a second set of strings of the plurality of strings associated with the second section (para [0070]); the first circuitry configured to adjust the luminosity of the first set of strings according to the portion of an image frame being displayed by the first set of pixels and to adjust the luminosity of the second set of strings according to the portion of the image frame being displayed by the second set of pixels (para [0070]- disclosing a separate driver for each tile). It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the first and second displays taught by Ge, since such would allow for each individual tile to be adjusted individually in order to produce enhanced contrast control across the display.

—See next page—

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 09/31705

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:
Box No. V 2 Citations and explanations:

Claims 8-9 lack an inventive step under PCT Article 33(3) over Lankhorst in view of Shen and further in view of US 5,850,205 A (Blouin).

As per claim 8, Lankhorst in view of Shen does disclose the display of claim 1. However, Lankhorst in view of Shen does not disclose the display further comprising: an ambient light sensor coupled to the first circuitry; and the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on the ambient lighting conditions. However, Blouin does disclose an ambient light sensor coupled to the first circuitry (col 4, ln 32-39); and the first circuitry configured for adjusting the luminosity levels of the plurality of strings of LEDs based on the ambient lighting conditions (col 4, ln 20-28). It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the ambient light sensor taught by Blouin, since such would allow for the display to automatically adjust brightness level in order to compensate for the amount of ambient light present in the area.

As per claim 9, Lankhorst further discloses the limitation of the display of claim 8, wherein the first circuitry configured to adjusting the luminosity of a red string of LEDs to a different luminosity level from the luminosity level of a green string of LEDs (para [0041]-[0042]-describing variable independent LED brightness).

Claims 11 and 21 lack an inventive step under PCT Article 33(3) as being obvious over Lankhorst in view of Shen and further in view of Degwekar.

As per claim 11, Lankhorst in view of Shen does disclose the display of claim 1. However, Lankhorst in view of Shen does not disclose the display further comprising: the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval. However, Degwekar does disclose the display further comprising: the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to become zero during a raster blanking interval (para [0038]). It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the first circuitry taught by Degwekar, since such would allow for the elimination of any screen artifacts upon image refreshing.

As per claim 21, Lankhorst in view of Shen discloses the display of claim 18. Shen further adjusting the luminosity levels of the strings of LEDs according to the clock signal frequency (para [0024]). However, Lankhorst in view of Shen does not disclose wherein the first circuitry for generating a clock signal having a frequency that is higher than the frequency of the VSYNC signal. However, Degwekar does disclose wherein the first circuitry for generating a clock signal having a frequency that is higher than the frequency of the VSYNC signal (para [0038], [0042], and [0062]). It would have been obvious to one of ordinary skill in the art to combine the display taught by Lankhorst and Shen with the first circuitry taught by Degwekar since such would allow for the production of higher levels of illuminosity for various colors.

Claim 17 lacks an inventive step under PCT Article 33(3) as being obvious over Degwekar in view of Shen and further in view of Blouin.

As per claim 17, Degwekar in view of Shen does disclose the method of claim 15. However, Degwekar in view of Shen does not disclose wherein adjusting the luminosity of the string of LEDs based on the color of the LEDs and an ambient light condition. However, Blouin does disclose adjusting the luminosity of the string of LEDs based on the color of the LEDs and an ambient light condition (col 4, ln 20-28 and ln 32-39). It would have been obvious to one of ordinary skill in the art to combine the method for an electronic display taught by Degwekar and Shen with the adjusting of the LEDs taught by Blouin, since such would allow for the display to automatically adjust brightness level in order to compensate for the amount of ambient light present in the area.

Claims 1-22 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

If a demand for international preliminary examination is made, the written opinion of the International Searching Authority will, except in certain cases where the International Preliminary Examining Authority did not act as International Searching Authority and where it has notified the International Bureau under Rule 66.1bis(b), be considered to be a written opinion of the International Preliminary Examining Authority. If a demand is made, the applicant may submit to the International Preliminary Examining Authority a reply to the written opinion together, where appropriate, with amendments before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later (Rule 43bis.1(c)).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the *PCT Applicant's Guide*, Volume II.

Electronic Acknowledgement Receipt	
EFS ID:	5118411
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27195
Filer:	Vinay V. Joshi/Eddie Rowell
Filer Authorized By:	Vinay V. Joshi
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	08-APR-2009
Filing Date:	23-JAN-2008
Time Stamp:	14:07:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	US_IDS_Form__SB_08a.pdf	601922 4d8921cac5c37c2605fb8188b1303cf83a5ac96	no	4

Warnings:

Information:

2	NPL Documents	NPL1.pdf	1362034 ff01a88e5203f76aaed998a5f857aba8f5153d24	no	10
Warnings:					
Information:					
Total Files Size (in bytes):			1963956		
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. <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. <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. <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.					



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
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

POWER OF ATTORNEY NOTICE

27194
HOWREY LLP-CA
C/O IP DOCKETING DEPARTMENT
2941 FAIRVIEW PARK DRIVE, SUITE 200
FALLS CHURCH, VA 22042-2924



Date Mailed: 04/07/2009

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/31/2009.

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

/vvan/

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



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
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

POA ACCEPTANCE LETTER

27195
AMIN, TUROCY & CALVIN, LLP
127 Public Square
57th Floor, Key Tower
CLEVELAND, OH 44114



Date Mailed: 04/07/2009

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/31/2009.

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.

/vvan/

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

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

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

27195

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

27195

OR

☐ Firm or Individual Name	Amin, Turocy & Calvin, LLP		
Address	127 Public Square, 57th Floor, Key Tower		
City	Cleveland	State	Ohio
Country	United States		
Telephone	(216) 696-8730	Email	vjoshi@thepatentattorneys.com

Assignee Name and Address:

mSilica Inc.
3300 Central Expressway
Santa Clara, CA 95051

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	3/30/2009
Name	Dilip S.	Telephone	408 654 7666
Title	Authorized Person for mSilica		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Dilip S. et al

Application No./Patent No.: 12/018,399 Filed/Issue Date: January 23, 2008

Entitled: **SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY**

mSilica Incorporated, a corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

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

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

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 020759, Frame 0722, or for which a copy thereof is attached.

OR

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

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

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

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

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

☐ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

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

<u>/Vinay Joshi/</u>	<u>3/10/09</u>
Signature	Date
<u>Vinay Joshi</u>	<u>(216) 696-8730</u>
Printed or Typed Name	Telephone Number
<u>Patent Attorney, Reg. No. 51,034</u>	
Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 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.

Electronic Acknowledgement Receipt	
EFS ID:	5065686
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27194
Filer:	Vinay V. Joshi/Eddie Rowell
Filer Authorized By:	Vinay V. Joshi
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	31-MAR-2009
Filing Date:	23-JAN-2008
Time Stamp:	10:34:06
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	Power of Attorney	POA.PDF	121510 7e1dba24a7ff2050eadb6bfc0b840a03daeb a1e8	no	1

Warnings:

Information:

2	Assignee showing of ownership per 37 CFR 3.73(b).	373Statement.pdf	44391 326a4b3a88b2bb3d093c7846a8bf03898d55ab4a	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				165901	
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. <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. <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. <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.					



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
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

POA ACCEPTANCE LETTER

27194
HOWREY LLP-CA
C/O IP DOCKETING DEPARTMENT
2941 FAIRVIEW PARK DRIVE, SUITE 200
FALLS CHURCH, VA 22042-2924



Date Mailed: 03/19/2009

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/11/2009.

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.

/lvongxay/

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

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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

27194

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

27194

OR

☐ Firm or Individual Name	Amin, Turocy & Calvin, LLP		
Address	127 Public Square, 57th Floor, Key Tower		
City	Cleveland	State Ohio	Zip 44114
Country	United States		
Telephone	(216) 696-8730	Email	vjoshi@thepatentattorneys.com

Assignee Name and Address:

mSilica
2901 Tasman Drive, Suite 203
Santa Clara, CA 94054

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	3/07/08
Name	Dilip S.	Telephone	408 634 7666
Title	Authorized Person for mSilica		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Dilip S. et al

Application No./Patent No.: 12/018,399 Filed/Issue Date: January 23, 2008

Entitled: **SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC DISPLAY**

mSilica Incorporated, a corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

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

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

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 020759, Frame 0722, or for which a copy thereof is attached.

OR

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

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

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

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

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

☐ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

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

<u>/Vinay Joshi/</u>	<u>3/10/09</u>
Signature	Date
<u>Vinay Joshi</u>	<u>(216) 696-8730</u>
Printed or Typed Name	Telephone Number
<u>Patent Attorney, Reg. No. 51,034</u>	
Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 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.

Electronic Acknowledgement Receipt	
EFS ID:	4944896
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27194
Filer:	Vinay V. Joshi/Eddie Rowell
Filer Authorized By:	Vinay V. Joshi
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	11-MAR-2009
Filing Date:	23-JAN-2008
Time Stamp:	13:12:05
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	Power of Attorney	ATCpowerofattorney.PDF	101828 037dff840c699ddf488230ddb457f62cf0c8cd48	no	1

Warnings:

Information:

2	Assignee showing of ownership per 37 CFR 3.73(b).	373Statement.pdf	44391 326a4b3a88b2bb3d093c7846a8bf03898d55ab4a	no	1
Warnings:					
Information:					
Total Files Size (in bytes):				146219	
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. <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. <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. <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.					



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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
12/018,399	01/23/2008	2629	550	03380.0012.NPUS00	22	3

CONFIRMATION NO. 8064

UPDATED FILING RECEIPT



OC000000029348364

27194
HOWREY LLP
C/O IP DOCKETING DEPARTMENT
2941 FAIRVIEW PARK DRIVE, SUITE 200
FALLS CHURCH, VA 22042-2924

Date Mailed: 04/11/2008

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 write to the Office of Initial Patent Examination's Filing Receipt Corrections. 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)

Dilip S., Saratoga, CA;
Hendrik Santo, San Jose, CA;
Tushar Dhayagude, Santa Clara, CA;
Klen Vi, Palo Alto, CA;
Sean Chen, Sunnyvale, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 02/07/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/018,399**

Projected Publication Date: 07/23/2009

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

System and Method for Backlight Control for An Electronic Display

Preliminary Class

345

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).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)	Attorney Docket Number	03380.0012.NPUS00	
	First Named Inventor	Dilip S, et al.	
	<i>COMPLETE IF KNOWN</i>		
	Application Number	12/018,399	
	Filing Date	1/23/2008	
	Art Unit	2629	
☐ Declaration Submitted With Initial Filing OR ☒ Declaration Submitted after Initial Filing (surcharge (37CFR1.16(e)) required)		Examiner Name	Not yet assigned

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

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

System and Method for Backlight Control for an Electronic Display

(Title of the Invention)

the specification of which

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY) 01/23/2008 as United States Application Number or PCT International

Application Number 12/018,399 and was amended on (MM/DD/YYYY) (if applicable).

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

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

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

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

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

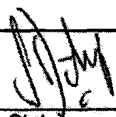
[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 21 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 completing the form, call 1-800-PTO-9199 and select option 2

American LegalNet, Inc.
www.USCourtForms.com

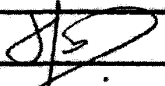
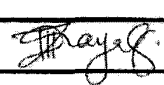
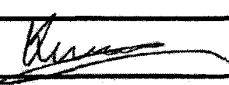
DECLARATION — Utility or Design Patent Application

Direct all correspondence to:	☒ The address associated with Customer Number:	27194	OR	☐ Correspondence address below
Name Howrey LLP				
Address				
City		State		ZIP
Country	Telephone 650-798-3514		Email joshiv@howrey.com	
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.				
NAME OF SOLE OR FIRST INVENTOR:		☐ A petition has been filed for this unsigned inventor		
Given Name (first and middle [if any]) Dilip		Family Name or Surname S		
Inventor's Signature 				Date 03/31/2008
Residence: City Saratoga	State CA	Country United States	Citizenship United States of America	
Mailing Address 13574 Howen Drive				
City Saratoga	State CA	Zip 95070	Country United States	
☒ Additional inventors or a legal representative are being named on the 2 supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.				

DECLARATION**ADDITIONAL INVENTOR(S)**

Supplemental Sheet

Page 3 of 4

Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Hendrik		Santo	
Inventor's Signature 		Date	
San Jose Residence: City	CA State	USA Country	USA Citizenship
1588 Nobu Drive 1558			
Mailing Address			
San Jose City	CA State	95131 Zip	USA Country
Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Tushar		Dhayagude	
Inventor's Signature 		Date	
Santa Clara Residence: City	CA State	USA Country	USA Citizenship
1128 Pomeroy Avenue			
Mailing Address			
Santa Clara City	CA State	95051 Zip	USA Country
Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Kien		Vi	
Inventor's Signature 		Date 3/30/08	
Palo Alto Residence: City	CA State	USA Country	USA Citizenship
1873 Edgewood Drive			
Mailing Address			
Palo Alto City	CA State	94303 Zip	USA Country

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 21 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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DECLARATION**ADDITIONAL INVENTOR(S)**

Supplemental Sheet

Page 4 of 4

Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Sean		Chen	
Inventor's Signature <i>S Chen</i>		Date <i>3/31/08</i>	
Residence: City	State	Country	Citizenship
Sunnyvale Sunnyvale			
1752 Lark Lane			
Mailing Address			
City		State	Zip
Sunnyvale		CA	94087
City		State	Country
USA		USA	
Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Inventor's Signature		Date	
Residence: City		State	Citizenship
		Country	
Mailing Address			
City		State	Zip
		Country	
Name of Additional Joint Inventor, if any:		☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Inventor's Signature		Date	
Residence: City		State	Citizenship
		Country	
Mailing Address			
City		State	Zip
		Country	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 21 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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Electronic Acknowledgement Receipt	
EFS ID:	3095519
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27194
Filer:	Daniel W. Bedell/Christy O'Connell
Filer Authorized By:	Daniel W. Bedell
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	02-APR-2008
Filing Date:	23-JAN-2008
Time Stamp:	20:05:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	Declaration.pdf	482125	no	4
			3cbf51dace02504d4a1c7fee9e3bc56dffcc1fac		

Warnings:

Information:

Total Files Size (in bytes):

482125

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.

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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.

Electronic Patent Application Fee Transmittal				
Application Number:		12018399		
Filing Date:		23-Jan-2008		
Title of Invention:		System and Method for Backlight Control for An Electronic Display		
First Named Inventor/Applicant Name:		Dilip S.		
Filer:		Daniel W. Bedell/Christy O'Connell		
Attorney Docket Number:		03380.0012.NPUS00		
Filed as Small Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	2051	1	65	65
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				65

Electronic Acknowledgement Receipt	
EFS ID:	3095547
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27194
Filer:	Daniel W. Bedell/Christy O'Connell
Filer Authorized By:	Daniel W. Bedell
Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	02-APR-2008
Filing Date:	23-JAN-2008
Time Stamp:	20:11:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$65
RAM confirmation Number	4184
Deposit Account	083038
Authorized User	
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 1.17 (Patent application and reexamination processing fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (PTO-06)	fee-info.pdf	8172 112e9ad05b5031beaeb89e3ef3d2406f4a2cd1b8	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			8172		
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. <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. <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. <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.					



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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/018,399	01/23/2008	Dilip S.	03380.0012.NPUS00

CONFIRMATION NO. 8064

27194
HOWREY LLP
C/O IP DOCKETING DEPARTMENT
2941 FAIRVIEW PARK DRIVE, SUITE 200
FALLS CHURCH, VA 22042-2924

FORMALITIES LETTER



Date Mailed: 02/11/2008

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

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

- The oath or declaration is missing.

A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.

Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of **\$65** for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this notice.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$65** for a small entity

- **\$65** Surcharge.

Replies should be mailed to:

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

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.

<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/sgorems/

Office of Initial Patent Examination (571) 272-4000 or 1-800-PTO-9199



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Alexandria, Virginia 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
12/018,399	01/23/2008	2629	485	03380.0012.NPUS00	22	3

CONFIRMATION NO. 8064

27194
HOWREY LLP
C/O IP DOCKETING DEPARTMENT
2941 FAIRVIEW PARK DRIVE, SUITE 200
FALLS CHURCH, VA 22042-2924

FILING RECEIPT



OC000000028186133

Date Mailed: 02/11/2008

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 write to the Office of Initial Patent Examination's Filing Receipt Corrections. 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)

Dilip S., Residence Not Provided;

Power of Attorney: None

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 02/07/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/018,399**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

System and Method for Backlight Control for An Electronic Display

Preliminary Class

345

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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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>	Attorney Docket No.	03380.0012.NPUS00
	First Inventor	Dilip S., et al.
	Title	System and Method for Backlight Control for an Electronic Display
	Express Mail Label No.	

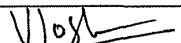
APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
1. ☐ Fee Transmittal Form (e.g., PTO/SB/17) <i>(Submit an original and a duplicate for fee processing)</i> 2. ☐ Applicant claims small entity status. See 37 CFR 1.27. 3. ☒ Specification [Total Pages <u>17</u>] Both the claims and abstract must start on a new page <i>(For information on the preferred arrangement, see MPEP 608.01(a))</i> 4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>6</u>] 5. Oath or Declaration [Total Sheets <u> </u>] a. ☐ Newly executed (original or copy) b. ☐ A copy from a prior application (37 CFR 1.63(d)) <i>(for continuation/divisional with Box 18 completed)</i> i. ☐ DELETION OF INVENTOR(s) Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b). 6. ☐ Application Data Sheet. See 37 CFR 1.76 7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program <i>(Appendix)</i> ☐ Landscape Table on CD 8. Nucleotide and/or Amino Acid Sequence Submission <i>(if applicable, items a. - c. are required)</i> a. ☐ Computer Readable Form (CRF) b. Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ACCOMPANYING APPLICATION PARTS 9. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 10. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney <i>(when there is an assignee)</i> 11. ☐ English Translation Document <i>(if applicable)</i> 12. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of foreign patent documents, publications, & other information 13. ☐ Preliminary Amendment 14. ☐ Return Receipt Postcard (MPEP 503) <i>(Should be specifically itemized)</i> 15. ☐ Certified Copy of Priority Document(s) <i>(if foreign priority is claimed)</i> 16. ☐ Nonpublication Request under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: _____

Prior application information: Examiner _____ Art Unit: _____

19. CORRESPONDENCE ADDRESS				
☒ The address associated with Customer Number		27194		OR ☐ Correspondence address below
Name				
Address				
City	State	Zip Code		
Country	Telephone	650-798-3514	Email	joshiv@howrey.com

Signature		Date	1/23/08
Name (Print/Type)	Vinay V. Joshi 	Registration No. (Attorney/Agent)	51,034

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 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.

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APPLICATION IN
THE UNITED STATES
PATENT AND TRADEMARK OFFICE
SYSTEM AND METHOD FOR BACKLIGHT CONTROL FOR AN ELECTRONIC
DISPLAY

INVENTORS:

Dilip S
Hendrik Santo
Tushar Dhayagude
Kien Vi
Sean Chen

Prepared by:
Vinay V. Joshi, Esq.
Howrey LLP
1950 University Avenue, 4th Floor
East Palo Alto, CA 94303
(650) 798-3500

Attorney's Docket No.: 03380.0012.NPUS00
United States of America Patent Application

FIELD OF INVENTION

The present invention relates to electronic display technology, and particularly to controlling the intensity of light emitting diodes (LEDs) in the backlights of electronic displays.

BACKGROUND OF THE INVENTION

5 Backlights are used to illuminate thick and thin film displays including liquid crystal displays (LCDs). LCDs with backlights are used in small displays for cell phones and personal digital assistants (PDAs), as well as in large displays for computer monitors and televisions. Typically, the light source for the backlight includes one or more cold cathode fluorescent lamps (CCFLs). The light source for the backlight can also be an incandescent light bulb, an
10 electroluminescent panel (ELP), or one or more hot cathode fluorescent lamps (HCFLs).

The display industry is enthusiastically pursuing the use of LEDs as the light source in the backlight technology because CCFLs have many shortcomings: they do not easily ignite in cold temperatures, require adequate idle time to ignite, and require delicate handling. LEDs generally have a higher ratio of light generated to power consumed than the other backlight sources. So,
15 displays with LED backlights consume less power than other displays.

LEDs are also advantageous over CCFLs because they require a very short period of time, for example, around one hundred nano-seconds, to switch from full dim to full bright. CCFLs, HCFLs and incandescent lamps can require more than a millisecond to switch from full dim to full bright. LED backlighting has traditionally been used in small, inexpensive LCD panels.
20 However, LED backlighting is becoming more common in large displays such as those used for computers and televisions. In large displays, multiple LEDs are required to provide adequate backlight for the LCD display.

With the proliferation of inexpensive LCD displays of various sizes, displays are being used in a multitude of applications. For example, LCD displays are now commonly used in automotive applications in devices such as Global Positioning System (GPS) devices and entertainment systems like televisions and DVD players.

5 To control the intensity of the LED backlight, pulse-width modulation (PWM) is often used. PWM of a signal or power source involves the modulation of its duty cycle, to control the amount of power sent to a load. PWM uses a square wave whose duty cycle is modulated resulting in the variation of the average value of the waveform. PWM alternates between a high voltage that causes the emission of bright light and a low voltage that does not cause the
10 emission of light, instead of providing a continuous voltage to the LED for causing a continuous output of a certain intensity of light.

In PWM, the LED switches quickly enough that the human eye does not perceive the on and off states, but instead perceives an intensity of light that depends on the duration of the on state. Presently, the adjustments to the backlighting are made independently of the images being
15 displayed by the pixel circuitry. For example, a laptop is typically factory set to provide only two different levels of brightness: a higher level of brightness during the full power mode and a lower level of brightness during the battery power mode. Some prior art also discloses adjusting the backlight intensity at the beginning of each frame (*see* U.S. Patent No. 7,138,974).

In video production, animation, and related fields, a frame is one of the many still images
20 which compose the complete moving picture. Prior to the development of digital video technology, frames were recorded on a long strip of photographic film, and each image looked rather like a framed picture when examined individually, hence the name. When the moving picture is displayed, each frame is flashed on a screen for a short time (usually 1/24th, 1/25th or

1/30th of a second) and then immediately replaced by the next one. Persistence of vision blends the frames together, producing the illusion of a moving image. The video frame is also sometimes used as a unit of time, being variously 1/24, 1/25 or 1/30 of a second, so that a momentary event might be said to last 6 frames. The frame rate, the rate at which sequential
5 frames are presented, varies according to the video standard in use. In North America and Japan, 30 frames per second is the broadcast standard, with 24 frames per second now common in production for high-definition video. In much of the rest of the world, the rate of 25 frames per second is standard.

This frame-by-frame backlight control of the prior art, in which the backlight is adjusted
10 only once for each frame, has several deficiencies. For example, when a very dark image immediately follows a bright image, the frame-by-frame control technique can result in undesired visual artifacts. Similarly, for the frame in which one portion of the displayed image is bright and another portion is dark, the frame-by-frame control technique can result in undesired visual artifacts. The apparatus and techniques of the present invention overcome these deficiencies and
15 provide other unique features.

SUMMARY OF THE INVENTION

The present invention provides novel apparatus and techniques for controlling backlighting of a display. According to one aspect of the present invention, the intensity of the backlight is adjusted multiple times within the duration of a frame. This feature provides
20 additional flexibility in setting the luminosity of the display and also provides the ability to make a gradual transition between the luminosities of two successive frames, for example, from a bright frame to a dark frame. In another aspect of the present invention, the display is divided into a number of tiles or sections and the backlighting for each tile is separately controlled. This

feature provides for superior contrast control across the display. In yet another aspect of the present invention, the backlighting can be adjusted based on ambient lighting and its effect on the perceived colors. The features of the present invention provide for an enhanced contrast ratio for the display, the removal or reduction of visual artifacts, and the flexibility to selectively
5 emphasize and deemphasize colors based on the ambient lighting conditions.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects and advantages of the present invention will be apparent upon consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which like reference characters refer to like parts throughout, and in
10 which:

FIG. 1 illustrates a functional block diagram for a display of the present invention;

FIG. 2 illustrates an exemplary backlighting system of the present invention;

FIG. 3 illustrates an exemplary functional block diagram of control circuitry of the present invention;

15 FIG. 4 illustrates exemplary waveforms of the present invention;

FIG. 5 illustrates an exemplary backlighting system arrangement of the present invention;

and

FIG. 6 illustrates an exemplary functional block diagram of control circuitry of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 illustrates a functional block diagram for a typical display, such as a liquid crystal display (LCD), in which the present invention can be implemented. The display 100

includes a pixel circuitry 102, the backlighting circuitry 104 and the display controller 106. The pixel circuitry 102 includes a large number of pixels, for example, two million pixels, arranged in a matrix of rows and columns across the display. The pixels are used for rendering the image. The pixel circuitry 102 also includes row and column drivers for selecting the pixels and
5 providing image data to the pixels.

The backlighting circuitry 104 includes a number of strings of light emitting diodes (LEDs) arranged across the display 100. Typically, each string is coupled to a power supply on one end and to the ground on the other end. Preferably, each string of LEDs includes either red, blue or green LEDs. The LED strings can be selectively turned on and off for providing the
10 various desired colors. The pixel circuitry 102 and the backlighting circuitry 104 are controlled by the display controller 106. The display controller 106 is a part of the system controller of the product that houses the display, for example, the television set or the laptop computer, and is provided by the product manufacturer.

The display controller 106 can be either a general purposes microcomputer or a special
15 purpose microcomputer. The display controller 106 can be implemented on a single integrated circuit (IC) chip or on multiple IC chips. The display controller 106 can be programmable or non-programmable. The display controller 106 can be implemented in hardware, software or firmware.

Figure 2 illustrates an exemplary backlighting system 104 having eight LED strings 202,
20 204, 206, 208, 210, 212, 214 and 216. The LED strings 202, 204, 206 and 208 include green LEDs. The LED strings 210 and 212 include red LEDs. The LED strings 214 and 216 include blue LEDs. Each string 202, 204, 206, 208, 210, 212, 214 or 216 can include eight, ten or other number of LEDs. The display controller 106 receives a feedback signal from the LED strings

202, 204, 206, 208, 210, 212, 214 and 216 and uses it to control the power supply 220 that provides the drive voltage for the LED strings 202, 204, 206, 208, 210, 212, 214 and 216. In the preferred embodiment of the present invention, LEDs are implemented in packages, with each package having some red, some blue and some green LEDs. Also, in the preferred embodiment
5 of the present invention, each string only includes LEDs of a particular color. Thus, in the preferred embodiment of Figure 2, the LED strings of various colors are intertwined.

In typical television and computer systems, the display controller uses the display controller 106 uses HSYNC and VSYNC signals to control the pixel circuitry 104. Display apparatus must show around thirty frames per second so as to form moving images by virtue of
10 persistence of vision in human eyes. Each frame includes a plurality of scan lines, and each scan line includes a plurality of pixels. Thus image signals received by the pixel circuitry 104 from an image processing system, by way of the display controller 106, include data corresponding to a series of pixels.

In order to ensure that the display controller 106 can locate the position corresponding to
15 each pixel data, aside from the pixel data, the image processing system provides the display controller 106 with a horizontal synchronization (HSYNC) signal to indicate the start of a scan line, and a vertical synchronization (VSYNC) signal to indicate the start of a frame. The HSYNC and VSYNC signals are essentially clock signals. In one embodiment, a start of a new scan line and the start of a new frame can be triggered by the rising edges (i.e., the change from a
20 low level state to a high level state) of the timing pulses of the HSYNC and VSYNC signals, respectively.

In that embodiment, when the display controller 106 detects the rising edge of one of the timing pulses of the HSYNC signal, the subsequent pixel data received thereby will be

interpreted as those belonging to the next scan line, and when the display controller 106 detects the rising edge of one of the timing pulses of the VSYNC signal, the subsequent pixel data received thereby will be interpreted as those belonging to the next frame. In this manner, image signals can be decoded and displayed correctly in sequence. One of ordinary skill in the art will appreciate that in another embodiment, falling edges of the HSYNC and VSYNC pulses can be used by the display controller 106 to initiate a new scan lines and a new frame, respectively.

Figure 3 illustrates an exemplary functional block diagram for the display controller 106 of the present invention. The display controller 106 includes a microcomputer 304. The microcontroller 304 includes a microprocessor 302 coupled to the multiplication circuitry, the memory 308 and the color circuitry 310. The microprocessor 302 can be a general purpose microprocessor or a special purpose microprocessor and can be programmable or non-programmable. The memory 308 is coupled to the multiplication circuitry 306 and the color circuitry 310.

The memory 308 can be random access memory (RAM), read only memory (ROM), a cache, a buffer, a temporary storage, registers, dynamic memory, or the like. The memory 308 is coupled to the multiplication circuitry 306 and the color circuitry 310. The multiplication circuitry 306 is configured to generate a clock signal having frequency that is a multiple of a reference frequency. The multiplication circuitry 306 can be implemented in hardware, software or firmware. The multiplication circuitry can be programmable or non programmable. In one embodiment, the multiplier value can user programmable. In another embodiment, the multiplier value can be permanently set in the factory. In yet another example, the multiplier value can be set on the fly, or adjusted periodically, by considering factors such as the variation in the luminosity of the frames to be displayed and the ambient lighting conditions.

In one embodiment, the image processing system 312 provides the VSYNC signal to the multiplier circuitry 306, as a reference signal, either directly or by way of the microprocessor 302. In another embodiment, the VSYNC frequency is programmed into the multiplier circuitry 306 or the microprocessor 302. The multiplier circuitry generates a clock signal, referred
5 hereinafter as the backlight control clock, having a frequency that is a multiple of the VSYNC signal frequency. In one embodiment, the backlight control clock has a frequency that is an integer multiple of the VSYNC signal frequency, for example, 2, 3, 4, 5, 10, 12, 15 or 20 times larger than the VSYNC signal frequency. In one embodiment, the backlight control clock has a frequency that is a fraction of the VSYNC signal frequency. In one embodiment, the backlight
10 control clock has a frequency that is a non-integer multiple of the VSYNC signal frequency, for example, 2.3, 3.6, 4.1, 4.5, 10.3, 10.6, 15.4 or 20.3 times larger than the VSYNC signal frequency. Figure 4 illustrates an exemplary backlight control clock of the present invention, in which the backlight control clock has twice the frequency of the VSYNC signal.

The microprocessor 302 uses the backlight control clock to control the strings 202-216 of
15 the backlight circuitry 104. Specifically, the microprocessor 302 adjusts the luminosities of the strings 202-216 at the frequency of the backlight control clock. In one embodiment, the microprocessor 302 adjusts the luminosities of the strings 202-216 at the rising edge of each pulse of the backlight control clock. In one embodiment, the microprocessor 302 adjusts the luminosities of the strings 202-216 at the falling edge of each pulse of the backlight control
20 clock. In one embodiment, the microprocessor 302 adjusts the luminosities of the strings 202-216 during the high voltage portion of each pulse of the backlight control clock. In one embodiment, the microprocessor 302 adjusts the luminosities of the strings 202-216 during the low voltage portion of each pulse of the backlight control clock.

The luminosities of the strings 202-216 are adjusted by changing the drive voltages and drive currents of the strings 202-216. By way of example, if the backlight control clock has twice the frequency of the VSYNC signal, the luminosities of the strings 202-216 will be adjusted twice during the rendering of each frame. Therefore, if a dark frame follows a bright frame, the microprocessor 302 can reduce the luminosity of the strings 202-216 half way through the rendering of the bright frame, thereby causing a visually smoother transition to the dark frame by removing or reducing the visual artifacts that would have caused by the immediate switch from the bright frame to the dark frame.

The techniques of the present invention can be used to provide blanking intervals during the operation of the display. During the blanking intervals, the backlighting is turned off. For example, in a video frame, during the raster blanking period, during which the image is refreshed (also known as blanking interval), the backlight unit needs to be blanked so that there are no visual artifacts. This happens naturally in a CRT monitor where the phosphor stores the light energy which decays slowly and the image is completely dark during the blanking interval. The present invention accomplishes the blanking intervals for LCD monitors by using synchronization to provide blanking during portions of a video frame by shutting down the backlight unit. This also reduces power consumption in the backlight unit and improves its efficiency.

In Figure 3, the sensor 314 is shown coupled to the color circuitry 310. The sensor 314 is an ambient light sensor. The color circuitry 310 can be an intelligent and programmable unit implemented in hardware, firmware or software. The color circuitry 310 can be a part of the microprocessor 302 or a separate unit coupled to the microprocessor 302. In one aspect of the present invention, the color circuitry 310 is configured to determine if a certain color or certain

colors should be displayed with higher or lower levels of luminosities, to provide a better color contrast ratio. For example, certain ambient light condition might make it difficult for the viewer to differentiate between two similar colors. Under those conditions, the color circuitry 310 might be programmed to analyze, for example, that some or all strings of the green LEDs should be
5 displayed at a higher luminosity level than the strings of the red LEDs, to provide a better color contrast ratio.

An example of a room with ambient lighting could be a conference room with video conferencing capability, where the color of the ambient light is altered to get the best performance for the video camera. This room would potentially have around 30-40% of the
10 visible color gamut (up to 60% of NTSC (National Television System Committee color gamut) and will require color compensation from the LCD panel to make the colors look natural. This backlight scheme of the present invention can be used to enhance the color spectrum to 100% to 110% of NTSC color gamut.

Figure 5 illustrates an exemplary embodiment of the display 500 of the present invention,
15 in which the display 500 is divided into eight tiles. Each tile includes a number of strings of LEDs. Tile 1 includes LED strings 1-16, tile 2 includes LED strings 17-32, tile 3 includes LED strings 33-48, tile 4 includes LED strings 49-64, tile 5 includes LED strings 65-80, tile 6 includes LED strings 81-96, tile 7 includes LED strings 97-112 and tile 8 includes LED strings 113-128. Preferably, each tile includes a mixture of the strings of red, blue and green LEDs.

Figure 6 illustrates an exemplary functional block diagram for controlling backlighting in
20 tile 1 of the display of the present invention. The 16 LED strings of tile 1 are shown divided into two groups: group 1 having strings 1-8 and group 2 having strings 9-16. In other embodiments, the strings 1-16 of tile 1 can be divided into various numbers of groups or not be divided at all.

The strings 1-8 of group 1 are coupled to the local controller 1 (LC1) and the strings 9-16 of group 2 are coupled to the local controller 2 (LC2). LC1 and LC2 integrated circuit chips are coupled to display controller 106.

5 The embodiments of Figures 5 and 6 of the present invention provide for a regional control of the display 500. LC1 and LC2 can be programmable modules, each including a multiplier circuit, a microprocessor, color circuitry and memory for generating its own backlight control signal for controlling backlighting of the portion for tile 1 to which it is assigned.

10 One of ordinary skill in the art will appreciate that the techniques, structures and methods of the present invention above are exemplary. The present inventions can be implemented in various embodiments without deviating from the scope of the invention.

CLAIMS

1. An electronic display comprising:
 - a plurality of strings of light emitting diodes (LEDs);
 - a first circuitry for controlling the luminosity of the plurality of strings of LEDs;
 - 5 a plurality of pixels for displaying a plurality of image frames of a video;
 - a second circuitry for controlling the plurality of pixels;
 - the second circuitry for displaying each image frame of the plurality of image frames for a predetermined period of time; and
 - the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for
 - 10 a plurality of times within the predetermined period of time.
2. The display of claim 1, wherein the predetermined period of time includes approximately 1/30 seconds.
3. The display of claim 1, wherein the plurality of times includes a number selected from the set of one, two, three, four, five, six, seven, eight, nine and ten.
- 15 4. The display of claim 1, further comprising:
 - the predetermined period of time is the period of time between two successive rising edges of pulses of the VSYNC signal.
5. The display of claim 1, further comprising:
 - the first circuitry configured to adjust the luminosity of the plurality of LED strings for a
 - 20 plurality of times between the occurrence of two successive pulses of the VSYNC signal.
6. The display of claim 1, wherein the plurality of strings of LEDs include a string of red LEDs, a string of blue LEDs and a string of green LEDs.
7. The display of claim 1, further comprising:

a first display section associated with a first set of pixels of the plurality of pixels;
a second display section associated with a second set of pixels of the plurality of pixels;
a first set of strings of the plurality of strings associated with the first section;
a second set of strings of the plurality of strings associated with the second section;

5 the first circuitry configured to adjust the luminosity of the first set of strings according to
the portion of an image frame being displayed by the first set of pixels and to adjust the
luminosity of the second set of strings according to the portion of the image frame being
displayed by the second set of pixels.

8. The display of claim 1, further comprising:

10 an ambient light sensor coupled to the first circuitry; and
the first circuitry configured for adjusting the luminosity levels of the plurality of strings
of LEDs based on the ambient lighting conditions.

9. The display of claim 8, wherein the first circuitry configured to adjusting the luminosity
of a red string of LEDs to a different luminosity level from the luminosity level of a green string
15 of LEDs.

10. The display of claim 1, wherein the display includes a liquid crystal display.

11. The display of claim 1, further comprising:
the first circuitry for causing the luminosity levels of the plurality of strings of LEDs to
become zero during a raster blanking interval.

20 12. The display of claim 1, wherein the plurality of strings of LEDs include a combination of
a string of white LEDs and one or more strings of LEDs selected from the group consisting of a
string of red LEDs, a string of blue LEDs and a string of green LEDs.

13. A method for an electronic display comprising:

generating a clock signal having a frequency that is a multiple of a reference frequency;
and

using the clock signal for controlling backlighting circuitry of the display.

14. The method of claim 13, wherein the reference frequency includes the frequency of the
5 VSYNC signal.

15. The method of claim 13, controlling the backlighting circuitry of the display includes
adjusting the luminosity level of a string of LEDs at the frequency of the clock signal.

16. The method of claim 15, wherein adjusting the luminosity level of the string of LEDs
multiple times during the display of a single video frame.

10 17. The method of claim 15, wherein adjusting the luminosity of the string of LEDs based on
the color of the LEDs and an ambient light condition.

18. An liquid crystal display comprising:

a plurality of strings of light emitting diodes (LEDs) including a string of red LEDs, a
string of green LEDs and a string of blue LEDs;

15 a first circuitry for controlling the luminosity of the plurality of strings of LEDs;

a plurality of pixels for displaying a plurality of image frames of a video;

a second circuitry for controlling the plurality of pixels;

the second circuitry for displaying each image frame of the plurality of image frames for a
predetermined period of time determined by the frequency of the VSYNC signal; and

20 the first circuitry for adjusting the luminosity levels of the plurality of strings of LEDs for
a plurality of times within the predetermined period of time.

19. The display of claim 18, wherein the predetermined period of time includes
approximately 1/30 seconds.

20. The display of claim 18, wherein the plurality of times includes a number selected from the set of one, two, three, four, five, six, seven, eight, nine and ten.
21. The display of claim 18, wherein the first circuitry for generating a clock signal having a frequency that is higher than the frequency of the VSYNC signal, and adjusting the luminosity
- 5 levels of the strings of LEDs according to the clock signal frequency.
22. The display of claim 18, wherein the first circuitry for adjusting the luminosity of the string of red LEDs to a different luminosity level from the luminosity level of the string of blue LEDs based upon an ambient light condition.

ABSTRACT

The present invention discloses apparatus and techniques relating to the intelligent control of a display's backlight LED strings. The present invention provides for controlling the display intensity on a region-by-region basis and for adjusting the intensity multiple times within
5 the duration of a frame. The present invention also provides backlight adjustment in a manner that emphasizes certain colors and deemphasizes certain colors. The present invention also provides for adjustment of the backlight based on the ambient temperature.

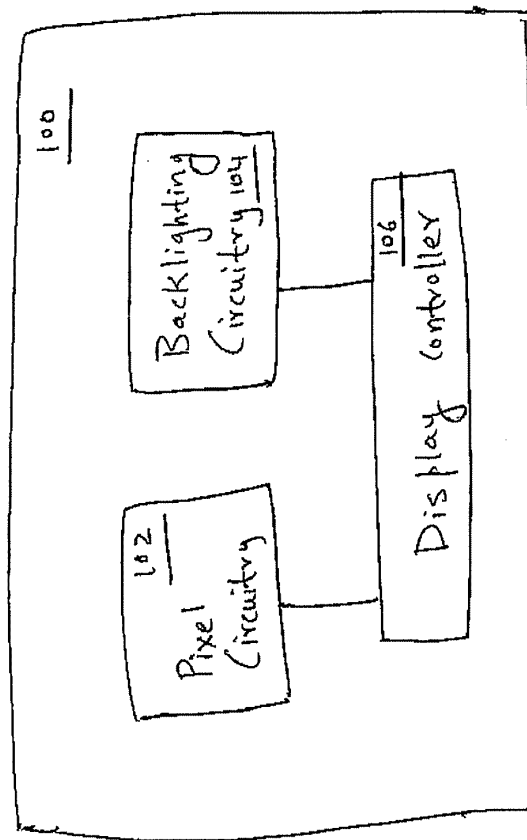


Figure 1

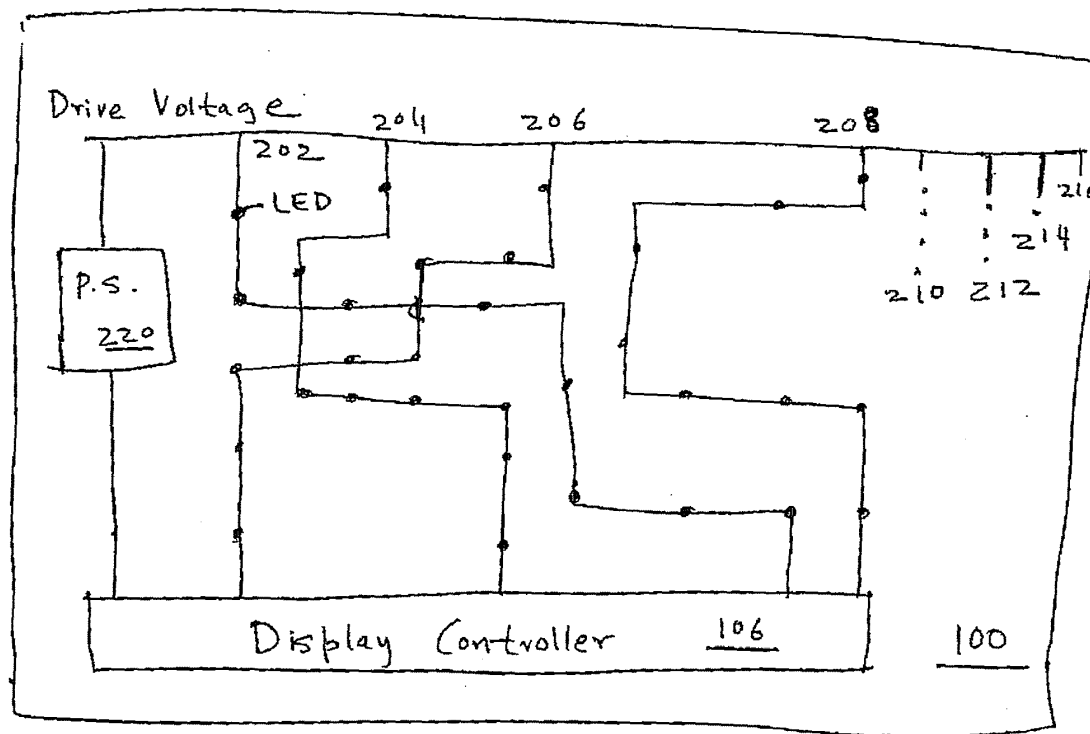


Figure 2

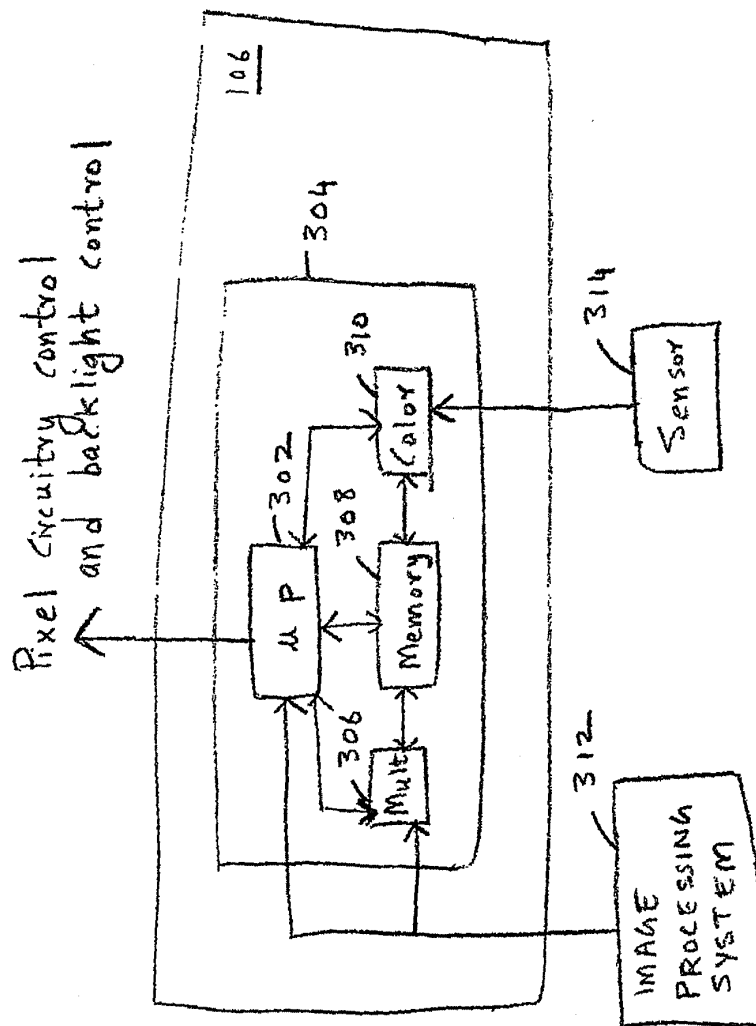


Figure 3

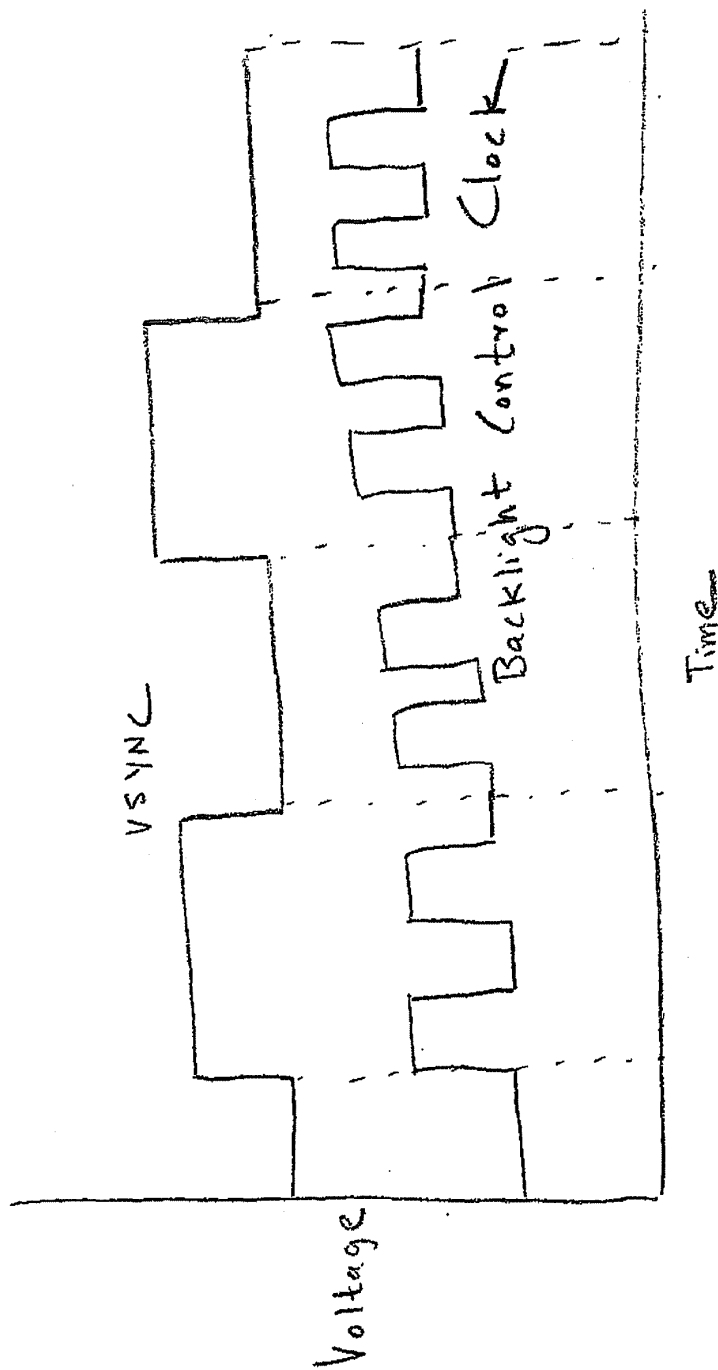


Figure 4

Tile 1 Strings 1-16	Tile 2 Strings 17-32	Tile 3 Strings 33-48	500 ✓ Tile 4 Strings 49-64
Tile 5 Strings 65-80	Tile 6 Strings 81-96	Tile 7 Strings 97-112	Tile 8 Strings 113-128

Figure 5

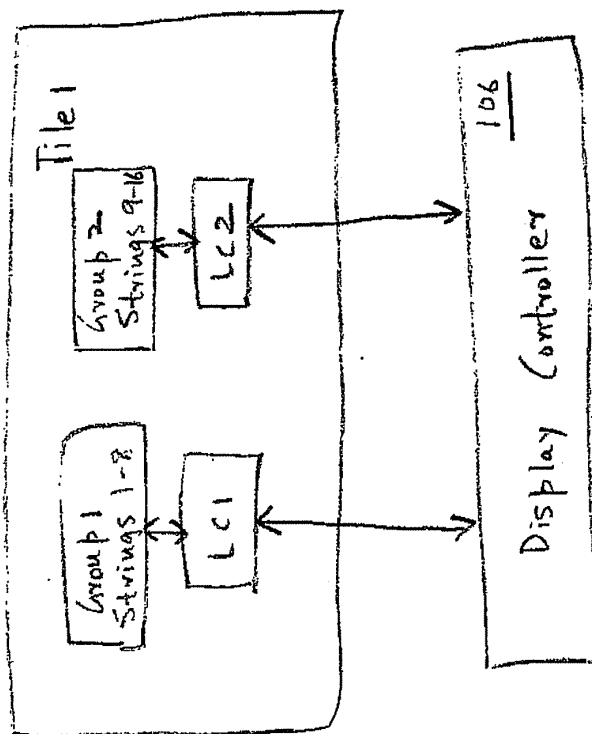


Figure 6

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		System and Method for Backlight Control for An Electronic Display		
First Named Inventor/Applicant Name:		Dilip S.		
Filer:		Vinay V. Joshi/Tracy Gibbs		
Attorney Docket Number:		03380.0012.NPUS00		
Filed as Small Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	75	75
Utility Search Fee	2111	1	255	255
Utility Examination Fee	2311	1	105	105
Pages:				
Claims:				
Claims in excess of 20	2202	2	25	50
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				485

Electronic Acknowledgement Receipt	
EFS ID:	2754812
Application Number:	12018399
International Application Number:	
Confirmation Number:	8064
Title of Invention:	System and Method for Backlight Control for An Electronic Display
First Named Inventor/Applicant Name:	Dilip S.
Customer Number:	27194
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Attorney Docket Number:	03380.0012.NPUS00
Receipt Date:	23-JAN-2008
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Payment Type	Deposit Account
Payment was successfully received in RAM	\$485
RAM confirmation Number	8442
Deposit Account	083038
Authorized User	
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 1.17 (Patent application and reexamination processing fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		0338000112NPUS00application.pdf	1089916 5c894605c249bdbc46023fd875f92e997b86cc4	yes	24
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal of New Application		1	1	
	Specification		2	13	
	Claims		14	17	
	Abstract		18	18	
	Drawings-only black and white line drawings		19	24	
Warnings:					
Information:					
2	Fee Worksheet (PTO-06)	fee-info.pdf	8485 7f85f2ad1661ec5fb4ce445b800d326e9fe0876	no	2
Warnings:					
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Total Files Size (in bytes):			1098401		
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Filing Date: 01/23/08

PTO/SB/06 (12-04)

Approved for use through 7/31/2006. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/018,399	
APPLICATION AS FILED – PART I						
(Column 1)		(Column 2)		SMALL ENTITY		OR
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	75	N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	255	N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	105	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	22	minus 20 = 2	X\$ 25	50	X\$50	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = 0	X\$105	0	X\$210	
APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 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).			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))						
			180		370	
			TOTAL	485	TOTAL	0
* 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						OR
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)
Total (37 CFR 1.16(i))	*	Minus **	=	X =		X =
Independent (37 CFR 1.16(h))	*	Minus ***	=	X =		X =
Application Size Fee (37 CFR 1.16(s))				N/A		N/A
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				TOTAL ADD'T FEE		TOTAL ADD'T FEE
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY
OTHER THAN SMALL ENTITY						OR
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)
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Independent (37 CFR 1.16(h))	*	Minus ***	=	X =		X =
Application Size Fee (37 CFR 1.16(s))				N/A		N/A
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				TOTAL ADD'T FEE		TOTAL ADD'T FEE
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

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

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/018,399		Filing Date 01/23/2008		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☒ OR		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			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	22 minus 20 =	*	X \$ =			X \$ =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	X \$ =			X \$ =				
☐ 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).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(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 (\$)		RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		TOTAL ADD'L FEE		
AMENDMENT	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 \$ =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$ =			
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE		TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

Legal Instrument Examiner:
/PEGGY s. YARBOROUGH/

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