PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5069516

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BOB LEE MACKEY	06/18/2018
PATRICK SMITH	07/18/2018
ERIK JONATHON THOMPSON	06/06/2018
ARASH AKHAVAN FOMANI	07/22/2018
MAREK MIENKO	07/05/2018

RECEIVING PARTY DATA

Name:	lame: SYNAPTICS INCORPORATED	
Street Address:	1251 MCKAY DRIVE	
City:	SAN JOSE	
State/Country:	CALIFORNIA	
Postal Code:	95131	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15990353

CORRESPONDENCE DATA

Fax Number: (312)616-5700

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

Phone: 312-616-5600

Email: assignments@leydig.com

Correspondent Name: LEYDIG, VOIT & MAYER (WALNUT CREEK)

Address Line 1: 180 N. STETSON

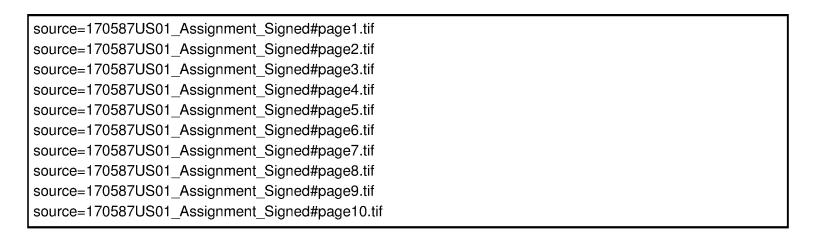
Address Line 2: TWO PRUDENTIAL PLAZA, SUITE 4900

Address Line 4: CHICAGO, ILLINOIS 60601

ATTORNEY DOCKET NUMBER: 170587US01/735978	
NAME OF SUBMITTER: GERALD T. GRAY	
SIGNATURE:	/Gerald T. Gray/
DATE SIGNED: 07/26/2018	
<u> </u>	

Total Attachments: 10

PATENT REEL: 046474 FRAME: 0428



PATENT REEL: 046474 FRAME: 0429

SYNAPTICS INCORPORATED ASSIGNMENT AGREEMENT - WORLDWIDE

WHEREAS, I, an undersigned individual, have invented certain invention(s) described in an application for Letters Patent (the "Application") in:
to Leners ratem (the Application) in.
☐ the United States ☐ Japan ☐ another jurisdiction
□ enclosed herewith or Ξ previously filed on date <u>May 25, 2018</u> under Serial No. <u>15/990,353</u> ;
with docket number and title:735978/US; SYSTEMS AND METHODS FOR REDUCING UNWANTED REFLECTIONS IN DISPLAY SYSTEMS INCORPORATING AN UNDER DISPLAY BIOMETRIC SENSOR.
WHEREAS, Synaptics Incorporated, a corporation of the State of Delaware, having a place of business at 1251 McKay Drive; San Jose, CA 95131; U.S.A. ("Synaptics"), desires to acquire the entire right, title, and interest in and to the invention(s) disclosed in the Application and all embodiments of such invention(s) previously conceived, made, or discovered by me during my employment with or within the scope of my work in any capacity for Synaptics (collectively, the "Inventions"), and in and to the Application and any and all other applications for utility patents, utility models, inventor's certificates, and other forms of invention protection or rights for the Inventions in any and all countries and groups of countries (collectively, the "Applications"), and in and to any and all patents, inventors certificates, and other forms of invention protection or rights arising therefrom (the "Patents").
NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by me to have been received in full from Synaptics:
1. I hereby sell, assign, transfer and convey to Synaptics the entire right, title and interest (a) in and to the Inventions and the Application; (b) in and to all rights to apply for patents and all other forms of invention protection or rights on the Inventions in any and all countries pursuant to the Paris Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on the Inventions in any and all countries and groups of countries, including each and every application filed and each and every patent granted on any application which is a conventional, division, substitution, continuation, or continuation-in-part of any of the Applications; and (d) in and to each and every reissue or extension of any of the Patents.
2. I hereby covenant and agree to cooperate with Synaptics to enable Synaptics to enjoy to the fullest extent the right, title and interest to the Inventions herein conveyed in any and all countries and groups of countries. My cooperation shall include prompt production of pertinent facts and documents, giving testimony, executing petitions, oaths, specifications, declarations or other papers, and providing other assistance to the extent deemed necessary or desirable by Synaptics (a) for perfecting in Synaptics the right, title and interest herein conveyed; (b) for prosecuting the Applications; (c) for filing and prosecuting substitute, conventional, divisional, continuation, continuation-in-part, or additional applications covering the Inventions; (d) for filing and prosecuting applications for reexamination or reissuance of any of the Patents; (e) in assisting Synaptics in any pre-grant or post-grant proceeding involving any of the Inventions, Applications, or Patents; and (f) in assisting Synaptics in any court or administrative proceedings, cancellation proceedings, priority contests, public use proceedings, and infringement actions; provided, however, that reasonable expenses incurred by me in providing such cooperation shall be paid for by Synaptics.
3. I hereby agree that the terms and covenants of this Assignment Agreement (the "Agreement") shall inure to the benefit of Synaptics, its successors, assigns and other legal representatives, and shall be binding upon me, my heirs, my legal representatives, and my assigns.

PATENT REEL: 046474 FRAME: 0430

- 4. I hereby warrant and represent that I have not entered into and will not enter into any assignment, license, contract, or understanding in conflict herewith.
- 5. I hereby agree that if any provision of this Agreement is deemed invalid or otherwise unenforceable, the remaining provisions of this Agreement shall remain valid, enforceable, and binding, and the invalid or otherwise unenforceable provision shall be deemed to be replaced by a provision that is valid and enforceable and that comes closest to expressing the intent expressed by the invalid or unenforceable provision.
- 6. I hereby agree that this Agreement contains the entire understanding between Synaptics and me relating to the subject matter contained herein, and supersedes all prior and collateral communications and understandings between Synaptics and me.
- 7. In the event that the filing date or application number of the Application is not entered at the time I execute this document, and if such information is deemed necessary, I hereby authorize Synaptics, its successors and assigns, its legal representatives, or anyone it properly designates to enter above such filing date or application number.

(Printed legal name of inventor) Bob Lee Mackey	
(Inventor's signature)	
(Inventor's signature)	(Date) 6/18/2013
(Inventor's mailing address) 1251 McKay Drive, S	an Jose, CA 95131
(Printed legal name of additional inventor, if any)P	atrick Smith
(Inventor's signature)	(Date)
(Inventor's mailing address) P.O. Box 18095, San	Jose, CA 93138
(Printed legal name of additional inventor, if any)E	rik Jonathon Thompson
(Inventor's signature)	(Date)
(Inventor's mailing address) 1251 McKay Drive.	San Juse. CA 73131
0 182 12 mm 16 mm 4	auth Alshavan Famani
(Printed legal name of additional inventor, if any) <u>Ar</u>	ash Akhavan Fohlam
(Inventor's signature)	(Date):
(Inventor's mailing address) 801 Church Street,	Apt. 1206, Mountain View, CA 94041
(III) CHOICE & HARRING DAMACKAY	
(Printed legal name of additional inventor, if any)	farek Mienko
(Inventor's signature)	(Date)
(Inventor's mailing address) 1251 McKay Drive	e, San Jose, CA 95131
(

SYNAPTICS INCORPORATED ASSIGNMENT AGREEMENT - WORLDWIDE

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prote of In- any a every subst	1. Thereby sell, assign, transfer and convey to Synaptics the entire right, title and interest (a) in and to the ations and the Application; (b) in and to all rights to apply for patents and all other forms of invention ction or rights on the Inventions in any and all countries pursuant to the Paris Convention for the Protection dustrial Property, the Patent Cooperation Treaty, or otherwise; (c) in and to any and all Applications filed and all Patents granted on the Inventions in any and all countries and groups of countries, including each and application filed and each and every patent granted on any application which is a conventional, division, itution, continuation, or continuation-in-part of any of the Applications; and (d) in and to each and every are or extension of any of the Patents.
coop petiti nece: for p conti for re proce admi oppo actio	2. I hereby covenant and agree to cooperate with Synaptics to enable Synaptics to enjoy to the fullest extent ght, title and interest to the Inventions herein conveyed in any and all countries and groups of countries. My eration shall include prompt production of pertinent facts and documents, giving testimony, executing ons, oaths, specifications, declarations or other papers, and providing other assistance to the extent deemed is sary or desirable by Synaptics (a) for perfecting in Synaptics the right, title and interest herein conveyed; (b) rosecuting the Applications; (c) for filing and prosecuting substitute, conventional, divisional, continuation, nuation-in-part, or additional applications covering the Inventions; (d) for filing and prosecuting applications examination or reissuance of any of the Patents; (e) in assisting Synaptics in any pre-grant or post-grant reding involving any of the Inventions, Applications, or Patents; and (f) in assisting Synaptics in any court or nistrative proceeding involving any of the Inventions, Applications, or Patents, including without limitation sition proceedings, cancellation proceedings, priority contests, public use proceedings, and infringement ins; provided, however, that reasonable expenses incurred by me in providing such cooperation shall be paid by Synaptics.

Synaptics Incorporated Assignment Agreement v. 2014-10-15

PATENT REEL: 046474 FRAME: 0432

- 3. I hereby agree that the terms and covenants of this Assignment Agreement (the "Agreement") shall inure to the benefit of Synaptics, its successors, assigns and other legal representatives, and shall be binding upon me, my heirs, my legal representatives, and my assigns.
- 4. I hereby warrant and represent that I have not entered into and will not enter into any assignment, license, contract, or understanding in conflict herewith.
- 5. I hereby agree that if any provision of this Agreement is deemed invalid or otherwise unenforceable, the remaining provisions of this Agreement shall remain valid, enforceable, and binding, and the invalid or otherwise unenforceable provision shall be deemed to be replaced by a provision that is valid and enforceable and that comes closest to expressing the intent expressed by the invalid or unenforceable provision.
- 6. I hereby agree that this Agreement contains the entire understanding between Synaptics and me relating to the subject matter contained herein, and supersedes all prior and collateral communications and understandings between Synaptics and me.
- 7. In the event that the filing date or application number of the Application is not entered at the time I execute this document, and if such information is deemed necessary, I hereby authorize Synaptics, its successors and assigns, its legal representatives, or anyone it properly designates to enter above such filing date or application number.

(Printed legal name of inventor)Bob Lee Mackey	
(Inventor's signature)	(Date)
(Inventor's mailing address) 1251 McKay Drive, San Jose,	
(Printed legal name of additional inventor, if any) Patrick Sm (Inventor's signature)	(Date) 7/(\$\frac{1}{2} \sqrt{18}
(Printed legal name of additional inventor, if any) <u>Erik Jona</u>	then Thompson
(Inventor's signature)	(Date)
(Inventor's mailing address) 1251 McKay Drive, San Jos	e, CA 95131
(Printed legal name of additional inventor, if any)Arash Akh	avan Fomani
(Inventor's signature)	(Date)
(Inventor's mailing address) 801 Church Street, Apt. 120	6, Mountain View, CA 94041

Synaptics Incorporated Assignment Agreement v. 2014-10-15

Page 2 of 3

SYNAPTICS INCORPORATED ASSIGNMENT AGREEMENT – WORLDWIDE

WHEREAS, I, an undersigned individual, have invented certain invention(s) described in an application for Letters Patent (the "Application") in:
☐ the United States ☐ Japan ☐ another jurisdiction;
☐ enclosed herewith or Ξ previously filed on date <u>May 25, 2018</u> under Serial No. <u>15/990.353;</u>
with docket number and title: 735978/US; SYSTEMS AND METHODS FOR REDUCING UNWANTED REFLECTIONS IN DISPLAY SYSTEMS INCORPORATING AN UNDER DISPLAY BIOMETRIC SENSOR.
WHEREAS, Synaptics Incorporated, a corporation of the State of Delaware, having a place of business at 1251 McKay Drive; San Jose, CA 95131; U.S.A. ("Synaptics"), desires to acquire the entire right, title, and interest in and to the invention(s) disclosed in the Application and all embodiments of such invention(s) previously conceived, made, or discovered by me during my employment with or within the scope of my work in any capacity for Synaptics (collectively, the "Inventions"), and in and to the Application and any and all other applications for utility patents, utility models, inventor's certificates, and other forms of invention protection or rights for the Inventions in any and all countries and groups of countries (collectively, the "Applications"), and in and to any and all patents, inventors certificates, and other forms of invention protection or rights arising therefrom (the "Patents").
NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by me to have been received in full from Synaptics:
1. I hereby sell, assign, transfer and convey to Synaptics the entire right, title and interest (a) in and to the Inventions and the Application; (b) in and to all rights to apply for patents and all other forms of invention protection or rights on the Inventions in any and all countries pursuant to the Paris Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on the Inventions in any and all countries and groups of countries, including each and every application filed and each and every patent granted on any application which is a conventional, division, substitution, continuation, or continuation-in-part of any of the Applications; and (d) in and to each and every reissue or extension of any of the Patents.
2. I hereby covenant and agree to cooperate with Synaptics to enable Synaptics to enjoy to the fullest extent the right, title and interest to the Inventions herein conveyed in any and all countries and groups of countries. My cooperation shall include prompt production of pertinent facts and documents, giving testimony, executing petitions, oaths, specifications, declarations or other papers, and providing other assistance to the extent deemed necessary or desirable by Synaptics (a) for perfecting in Synaptics the right, title and interest herein conveyed; (b) for prosecuting the Applications; (c) for filing and prosecuting substitute, conventional, divisional, continuation, continuation-in-part, or additional applications covering the Inventions; (d) for filing and prosecuting applications for reexamination or reissuance of any of the Patents; (e) in assisting Synaptics in any pre-grant or post-grant proceeding involving any of the Inventions, Applications, or Patents; and (f) in assisting Synaptics in any court or administrative proceeding involving any of the Inventions, Applications, or Patents, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, and infringement actions; provided, however, that reasonable expenses incurred by me in providing such cooperation shall be paid for by Synaptics.
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Synaptics Incorporated Assignment Agreement v. 2014-10-15

PATENT REEL: 046474 FRAME: 0434

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(Printed legal name of inventor) <u>Bob Lee Mackey</u>	
(Inventor's signature)	(Date)
(Inventor's mailing address)1251 McKay Drive.	San Jose, CA 95131
(Printed legal name of additional inventor, if any)I	Patrick Smith
(Inventor's signature)	(Date)
(Inventor's mailing address) P.O. Box 18095, Sar	1 Jose, CA 95158
(Printed legal name of additional inventor, if any)	
(Inventor's signature) Juliane	(Date) 6/6/18
(Inventor's mailing address)1251 McKay Drive	
(Printed legal name of additional inventor, if any)A	rash Akhavan Fomani
(Inventor's signature)	(Date)
(Inventor's mailing address) 801 Church Street.	
(Printed legal name of additional inventor, if any)	Marek Mienko
(Inventor's signature)	(Date)
(Inventor's mailing address) 1251 McKay Driv	

Page 2 of 2

SYNAPTICS INCORPORATED ASSIGNMENT AGREEMENT - WORLDWIDE

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☐ enclosed herewith or Ξ previously filed on date <u>May 25, 2018</u> under Serial No. <u>15/990,353</u> ;
with docket number and title: <u>735978/US; SYSTEMS AND METHODS FOR REDUCING</u> UNWANTED REFLECTIONS IN DISPLAY SYSTEMS INCORPORATING AN UNDER DISPLAY BIOMETRIC SENSOR.
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(Printed legal name of inventor) Bob Lee Mackey		
(Inventor's signature)	(Date)	
(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131		
(Printed legal name of additional inventor, if any) Patrick Smith		
(Inventor's signature)	(Date)	
(Inventor's mailing address) P.O. Box 18095, San Jose, CA 95158		
(Printed legal name of additional inventor, if any)Erik Jonathon Thompson		
(Inventor's signature)	(Date)	
(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131		
(Printed legal name of additional inventor, if any)Arash Akhavan Fomani		
a land regar indicate of indicate in investment investment investment in its constant in investment in its constant in its con	(Date) 07-/22/23 \\	
(Inventor's signature)	(Date) 3 F / E C / C 2 X	
(Inventor's mailing address) 801 Church Street, Apt. 1206, Mountain View, CA 94041		
(Printed legal name of additional inventor, if any) <u>Marek Mienko</u>		
(Inventor's signature)	(Date)	
(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131		

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Synaptics Incorporated Assignment Agreement v. 2014-10-15

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(Inventor's signature)	(Date)	
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(Printed legal name of additional inventor, if any) Patrick Smith		
(Inventor's signature)	(Date)	
(Inventor's mailing address) P.O. Box 18095, San Jose, CA 95158		
(Printed legal name of additional inventor, if any) Erik Jonathon Thor (Inventor's signature) 1251 McKay Drive San Jose CA 95	(Date)	
(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131 (Printed legal name of additional inventor, if any) Arash Akhavan Fomani		
(Inventor's signature)	(Date)	
(Inventor's mailing address) 801 Church Street, Apt. 1206, Mountain View, CA 94041		
(Printed legal name of additional inventor if any) <u>Marck Mienko</u> (Inventor's signature) (Date) 07/05/2018		
(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131		

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Page 2 of 2