

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
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EPAS ID: PAT4198662

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
BOYAN BONEV	12/22/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SYNAPTICS INCORPORATED
<b>Street Address:</b>	1251 MCKAY DRIVE
<b>City:</b>	SAN JOSE
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95131
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15388489
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(312)616-5700
<i>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.</i>	
<b>Phone:</b>	312-616-5600
<b>Email:</b>	ASSIGNMENTS@LEYDIG.COM
<b>Correspondent Name:</b>	LEYDIG, VOIT & MAYER (WALNUT CREEK)
<b>Address Line 1:</b>	TWO PRUDENTIAL PLAZA, SUITE 4900
<b>Address Line 2:</b>	180 N. STETSON
<b>Address Line 4:</b>	CHICAGO, ILLINOIS 60601
<b>ATTORNEY DOCKET NUMBER:</b>	727134
<b>NAME OF SUBMITTER:</b>	ARTHUR J. BOBEL
<b>SIGNATURE:</b>	/Arthur J. Bobel/
<b>DATE SIGNED:</b>	12/22/2016
<b>Total Attachments: 2</b>	
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**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    previously filed on date \_\_\_\_\_ under Serial No. \_\_\_\_\_;

with docket number and title: 160078US02 - SYSTEMS AND METHODS FOR SPOOF DETECTION BASED ON GRADIENT DISTRIBUTION.

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.

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.

IN WITNESS WHEREOF, I have executed and delivered this instrument to Synaptics on the date indicated below.

(Printed legal name of inventor) Boyan Bonev

(Inventor's signature)  (Date) 12-22-2016

(Inventor's mailing address) 1251 McKay Drive, San Jose, CA 95131