

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5284299

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	RELEASE OF SECURITY INTEREST

**CONVEYING PARTY DATA**

Name	Execution Date
JPMORGAN CHASE BANK, N.A.	12/14/2018

**RECEIVING PARTY DATA**

<b>Name:</b>	ELO TOUCH SOLUTIONS, INC.
<b>Street Address:</b>	251 LITTLE FALLS DR.
<b>City:</b>	WILMINGTON
<b>State/Country:</b>	DELAWARE
<b>Postal Code:</b>	19808

**PROPERTY NUMBERS Total: 145**

Property Type	Number
Application Number:	09440991
Application Number:	12389996
Application Number:	12789733
Application Number:	12471194
Application Number:	12780033
Application Number:	13038543
Application Number:	12511449
Application Number:	11893041
Application Number:	11481630
Application Number:	11789776
Application Number:	13550063
Application Number:	15259432
Application Number:	12705690
Application Number:	11820923
Application Number:	13942545
Application Number:	12001604
Application Number:	11925264
Application Number:	11824965
Application Number:	11891980
Application Number:	11824961

PATENT

<b>Property Type</b>	<b>Number</b>
Patent Number:	6163313
Patent Number:	6091406
Application Number:	09390207
Application Number:	09391352
Application Number:	09408591
Application Number:	09408594
Application Number:	09285407
Application Number:	09579584
Application Number:	09728999
Application Number:	09705383
Application Number:	09972788
Application Number:	10246059
Application Number:	11267759
Application Number:	10389391
Application Number:	10377493
Application Number:	10603514
Application Number:	11544188
Application Number:	10752935
Application Number:	10712753
Application Number:	10712874
Application Number:	10773611
Application Number:	11106394
Application Number:	13184423
Application Number:	13184435
Application Number:	11106166
Application Number:	13037107
Application Number:	10870837
Application Number:	10149129
Application Number:	09869432
Application Number:	11017932
Application Number:	10502969
Application Number:	12182734
Application Number:	12569608
Application Number:	12780077
Application Number:	13107565
Application Number:	13012513
Application Number:	14055797
Application Number:	15274295

<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	10518152
<b>Application Number:</b>	11024514
<b>Application Number:</b>	10581423
<b>Application Number:</b>	11573513
<b>Application Number:</b>	11577087
<b>Application Number:</b>	11813113
<b>Application Number:</b>	11911398
<b>Application Number:</b>	12446943
<b>Application Number:</b>	12863258
<b>Application Number:</b>	13002838
<b>Application Number:</b>	12339874
<b>Application Number:</b>	12991419
<b>Application Number:</b>	13380475
<b>Application Number:</b>	13379321
<b>Application Number:</b>	13122405
<b>Application Number:</b>	13146191
<b>Application Number:</b>	13641825
<b>Application Number:</b>	13013613
<b>Application Number:</b>	13581517
<b>Application Number:</b>	13013596
<b>Application Number:</b>	13296936
<b>Application Number:</b>	13296953
<b>Application Number:</b>	13808058
<b>Application Number:</b>	13521913
<b>Application Number:</b>	13650798
<b>Application Number:</b>	13485913
<b>Application Number:</b>	13274236
<b>Application Number:</b>	13164228
<b>Application Number:</b>	13274173
<b>Application Number:</b>	14182911
<b>Application Number:</b>	14351013
<b>Application Number:</b>	13995412
<b>Application Number:</b>	29382748
<b>Application Number:</b>	29386236
<b>Application Number:</b>	13416871
<b>Application Number:</b>	29386590
<b>Application Number:</b>	13416940
<b>Application Number:</b>	14949746

<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	13663936
<b>Application Number:</b>	13808054
<b>Application Number:</b>	13418035
<b>Application Number:</b>	14182059
<b>Application Number:</b>	13451253
<b>Application Number:</b>	14836026
<b>Application Number:</b>	29406460
<b>Application Number:</b>	29430983
<b>Application Number:</b>	13482665
<b>Application Number:</b>	29420291
<b>Application Number:</b>	29443154
<b>Application Number:</b>	29423592
<b>Application Number:</b>	29459008
<b>Application Number:</b>	29459020
<b>Application Number:</b>	13955802
<b>Application Number:</b>	14759751
<b>Application Number:</b>	13682621
<b>Application Number:</b>	14395295
<b>Application Number:</b>	15445885
<b>Application Number:</b>	13738697
<b>Application Number:</b>	29453940
<b>Application Number:</b>	13873007
<b>Application Number:</b>	15349852
<b>Application Number:</b>	29441655
<b>Application Number:</b>	14322605
<b>Application Number:</b>	15076100
<b>Application Number:</b>	15470040
<b>Application Number:</b>	29464846
<b>Application Number:</b>	29532838
<b>Application Number:</b>	29549154
<b>Application Number:</b>	14152643
<b>Application Number:</b>	15606918
<b>Application Number:</b>	14265998
<b>Application Number:</b>	29485990
<b>Application Number:</b>	29496746
<b>Application Number:</b>	29546193
<b>Application Number:</b>	29591950
<b>Application Number:</b>	14854701

Property Type	Number
Application Number:	14994875
Application Number:	14871496
Application Number:	29516089
Application Number:	29591957
Application Number:	29611645
Application Number:	15214173
Application Number:	15214196
Application Number:	15400584
Application Number:	29583140
Application Number:	29607242
Application Number:	62508549

**CORRESPONDENCE DATA**

**Fax Number:** (800)914-4240

*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.*

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**Email:** Michael.Violet@wolterskluwer.com, ECarrera@cahill.com

**Correspondent Name:** CT CORPORATION

**Address Line 1:** 4400 EASTON COMMONS WAY

**Address Line 2:** SUITE 125

**Address Line 4:** COLUMBUS, OHIO 43219

<b>NAME OF SUBMITTER:</b>	ELAINE CARRERA
<b>SIGNATURE:</b>	/Elaine Carrera/
<b>DATE SIGNED:</b>	12/14/2018

**Total Attachments: 15**

- source=Elo - Patent Release [Executed]#page1.tif
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### RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

JPMorgan Chase Bank, N.A.

Additional name(s) of conveying party(ies) attached?  Yes  No

**2. Name and address of receiving party(ies)**

Name: Elo Touch Solutions, Inc.

Internal Address: \_\_\_\_\_

Street Address: 251 Little Falls Dr.

City: Wilmington

State: DE

Country: USA Zip: 19808

Additional name(s) & address(es) attached?  Yes  No

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s) December 14, 2018

- Assignment  Merger
- Security Agreement  Change of Name
- Joint Research Agreement
- Government Interest Assignment
- Executive Order 9424, Confirmatory License
- Other Release of Security Interest

**4. Application or patent number(s):**

This document is being filed together with a new application.

A. Patent Application No.(s)

See Schedule I

B. Patent No.(s)

See Schedule I

Additional numbers attached?  Yes  No

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Elaine Carrera, Legal Assistant

Internal Address: \_\_\_\_\_

Street Address: c/o Cahill Gordon & Reindel LLP

80 Pine Street

City: New York

State: NY Zip: 10005

Phone Number: (212) 701-3365

Docket Number: \_\_\_\_\_

Email Address: ecarrera@cahill.com

**6. Total number of applications and patents involved:** 144

7. Total fee (37 CFR 1.21(h) & 3.41) \$ \_\_\_\_\_

- Authorized to be charged to deposit account
- Enclosed
- None required (government interest not affecting title)

**8. Payment Information**

Deposit Account Number \_\_\_\_\_

Authorized User Name \_\_\_\_\_

**9. Signature:**

Elaine Carrera  
Signature

December 14, 2018  
Date

Elaine Carrera  
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

**15**

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

**RELEASE OF SECURITY INTEREST IN PATENTS**

This RELEASE OF SECURITY INTEREST IN PATENTS (this “Release”), dated as of December 14, 2018 (the “Effective Date”), is made by JPMorgan Chase Bank, N.A., in its capacity as Collateral Agent (the “Agent”), in favor of the grantor party identified on the signature page hereto (the “Grantor”).

WHEREAS, pursuant to that certain Guarantee and Collateral Agreement, dated as of October 31, 2017, by and among the Agent, the Grantor and certain other parties thereto (as amended, amended and restated, or otherwise modified from time to time, the “Security Agreement”), the Grantor granted to the Agent, a security interest in and to certain collateral;

WHEREAS, pursuant to the Security Agreement, the Grantor executed and delivered a Patent Security Agreement, dated as of October 31, 2017 (the “Patent Security Agreement”), for recordal with the United States Patent and Trademark Office;

WHEREAS, the Patent Security Agreement was recorded with the United States Patent and Trademark Office on October 31, 2017 at Reel/Frame 044652/0421;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Agent hereby agrees as follows:

1. Defined Terms. All capitalized terms used, but not otherwise defined herein, shall have the respective meanings ascribed in or otherwise referenced in the Security Agreement or the Patent Security Agreement, as applicable.
2. Release of. The Agent, without representation or warranty of any kind, hereby releases, discharges, terminates and cancels all of its security interest granted by the Patent Security Agreement, including its security interest in and to the patent registrations and applications set forth on Schedule I attached hereto (the “Released Patent Collateral”). If and to the extent that the Agent has acquired any right, title or interest in and to the Released Patent Collateral under the Patent Security Agreement, the Agent, without representation or warranty of any kind, hereby re-transfers, re-conveys and re-assigns such right, title or interest to the Grantor.
3. Further Assurances. The Agent agrees to take all further actions, and provide to the Grantor and its successors, assigns or other legal representatives, all such cooperation and assistance (including, without limitation, the execution and delivery of any and all documents or other instruments), reasonably requested by the Grantor, at the Grantor’s sole cost and expense, to more fully and effectively effectuate the purposes of this Release.
4. Governing Law. This Release shall be governed exclusively under the laws of New York, without regard to conflicts of law or choice of law principles.





**Schedule I**

Country	Status	Applicati on #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	09/440,991	11/16/1999	6535147	3/18/2003	Segmented gain controller	Elo Touch Solutions, Inc.
US	In Force	12/389,996	2/20/2009	8345019	1/1/2013	Method and Apparatus for Two-Finger Touch Coordinate Recognition and Rotation Gesture Recognition	Elo Touch Solutions, Inc.
US	In Force	12/789,733	5/28/2010	8638318	1/28/2014	Multi-Layer Coversheet for SAW Touch Panel	Elo Touch Solutions, Inc.
US	In Force	12/471,194	5/22/2009	8279194	10/2/2012	ELECTRODE CONFIGURATIONS FOR PROJECTED CAPACITIVE TOUCH SCREEN	Elo Touch Solutions, Inc.
US	In Force	12/780,033	5/14/2010	8659579	2/25/2014	Method and Apparatus for Detecting Hold Condition on an Acoustic Touch Surface	Elo Touch Solutions, Inc.*
US	In Force	13/038,543	3/2/2011	8259088	9/4/2012	TOUCH SENSOR AND TOUCH SYSTEM INCLUDING THE SAME	Elo Touch Solutions, Inc.
US	In Force	12/511,449	7/29/2009	8477106	7/2/2013	System and Method for a Projected Capacitive Touchscreen Having Weight Based Coordinate Determination	Elo Touch Solutions, Inc.
US	In Force	11/893,041	8/14/2007	8212792	7/3/2012	Touchscreen Using Oriented Microscopic Linear Conductive Elements	Elo Touch Solutions, Inc.
US	In Force	11/481,630	7/6/2006	8692809	4/8/2014	Auto-Gain Switching Module for Acoustic Touch Systems	Elo Touch Solutions, Inc.
US	In Force	11/789,776	4/25/2007	8243048	8/14/2012	Touchscreen for Detecting Multiple Touches	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	13/550,063	7/16/2012	9454266	9/27/2016	Touchscreen for Detecting Multiple Touches	Elo Touch Solutions, Inc.
US	Pending	15/259,432	9/8/2016			Touchscreen for Detecting Multiple Touches	Elo Touch Solutions, Inc.
US	In Force	12/705,690	2/15/2010	8648815	2/11/2014	Touch Panel That Has an Image Layer and Detects Bending Waves	Elo Touch Solutions, Inc.
US	In Force	11/820,923	6/21/2007	8493332	7/23/2013	Method and System for Calibrating an Acoustic Touchscreen	Elo Touch Solutions, Inc.
US	In Force	13/942,545	7/15/2013	9046966	6/2/2015	Method And System For Calibrating An Acoustic Touchscreen	Elo Touch Solutions, Inc.
US	In Force	12/001,604	12/11/2007	8164582	4/24/2012	Method and Apparatus for Calibrating Targets on a Touchscreen	Elo Touch Solutions, Inc.
US	In Force	11/925,264	10/26/2007	8049740	11/1/2011	Method and Apparatus for Laplace Constrained Touchscreen Calibration	Elo Touch Solutions, Inc.
US	In Force	11/824,965	7/2/2007	8378974	2/19/2013	Method and System for Detecting Touch Events Based on Magnitude Ratios	Elo Touch Solutions, Inc.
US	In Force	11/891,980	8/14/2007	8199118	6/12/2012	Touchscreen Using Both Carbon Nanoparticles and Metal Nanoparticles	Elo Touch Solutions, Inc.
US	In Force	11/824,961	7/2/2007	8730213	5/20/2014	Method and System for Detecting Touch Events Based on Redundant Validation	Elo Touch Solutions, Inc.
US	In Force	989928	12/12/1997	6163313	12/19/2000	Touch Sensitive Screen And Method	Elo Touch Solutions, Inc.
US	In Force	998051	12/24/1997	6091406	7/18/2000	Grating Transducer For Acoustic Touchscreen	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	09/390,207	9/7/1999	6504530	1/7/2003	Touch Confirming Touchscreen Utilizing Plural Touch Sensors	Elo Touch Solutions, Inc.
US	In Force	09/391,352	9/7/1999	6492979	12/10/2002	Dual Sensor Touchscreen Utilizing Projective-Capacitive and Force Touch Sensors	Elo Touch Solutions, Inc.
US	In Force	09/408,591	9/29/1999	6473075	10/29/2002	Adaptive Frequency Touchscreen Controller Employing Digital Signal Processing	Elo Touch Solutions, Inc.
US	In Force	09/408,594	9/29/1999	6630929	10/7/2003	Adaptive Frequency Touchscreen Controller	Elo Touch Solutions, Inc.
US	In Force	09/285,407	4/2/1999	6254105	7/3/2001	Sealing System For Acoustic Wave Touchscreens	Elo Touch Solutions, Inc.
US	In Force	09/579,584	5/26/2000	6636201	10/21/2003	Acoustic Touchscreen Having Waveguided Reflector Arrays	Elo Touch Solutions, Inc.
US	In Force	09/728,999	12/4/2000	6429857	8/6/2002	Apparatus and Method to Improve Resolution of Infrared Touch Systems	Elo Touch Solutions, Inc.
US	In Force	09/705,383	11/3/2000	6593916	7/15/2003	Touchscreen having multiple parallel connections to each electrode in a series resistor chain on the periphery of the touch area	Elo Touch Solutions, Inc.
US	In Force	09/972,788	10/5/2001	7006081	2/28/2006	Acoustic touch sensor with laminated substrate	Elo Touch Solutions, Inc.
US	In Force	10/246,059	9/17/2002	7180508	2/20/2007	Dynamic Corrections for a Non-Linear Touchscreen	Elo Touch Solutions, Inc.
US	In Force	11/267,759	11/3/2005	7952567	5/31/2011	Touch Sensor With Improved Electrode Pattern	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	10/389,391	3/14/2003	7116315	10/3/2006	Water Tolerant Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	10/377,493	2/28/2003	7000474	2/21/2006	Acoustic Device Using Higher Order Harmonic Piezoelectric Element	Elo Touch Solutions, Inc.
US	In Force	10/603,514	6/24/2003	7119800	10/10/2006	Acoustic Touch Sensor with Low-Profile Diffractive Grating Transducer Assembly	Elo Touch Solutions, Inc.
US	In Force	11/544,188	10/6/2006	7456825	11/25/2008	Acoustic Touch Sensor with Low-Profile Diffractive Grating Transducer Assembly	Elo Touch Solutions, Inc.
US	In Force	10/752,935	1/6/2004	7274358	9/25/2007	Focusing-Shaped Reflector Arrays for Acoustic Touchscreens	Elo Touch Solutions, Inc.
US	In Force	10/712,753	11/12/2003	6948371	9/27/2005	Acoustic Wave Touch Detecting Apparatus	Elo Touch Solutions, Inc.
US	In Force	10/712,874	11/12/2003	7204148	4/17/2007	Acoustic Wave Touch Detecting Apparatus	Elo Touch Solutions, Inc.
US	In Force	10/773,611	2/6/2004	6856259	2/15/2005	Touch Sensor System to Detect Multiple Touch Events	Elo Touch Solutions, Inc.
US	In Force	11/106,394	4/13/2005	8325159	12/4/2012	Acoustic Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/184,423	7/15/2011	8941624	1/27/2015	Acoustic Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/184,435	7/15/2011	8854339	10/7/2014	Acoustic Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	11/106,166	4/13/2005	7545365	6/9/2009	Acoustic Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/037,107	2/28/2011	9310939	4/12/2016	ACOUSTIC TOUCH SENSOR	Elo Touch Solutions, Inc.
US	In Force	10/870,837	6/16/2004	7315336	1/1/2008	Stress Seal for Touchscreen Systems	Elo Touch Solutions, Inc.
US	In Force	10/149,129	12/10/2002	7800589	9/21/2010	Touch screen with relatively conductive grid	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	09/869,432	8/21/2001	6891527	5/10/2005	Processing signals to determine spatial positions	Elo Touch Solutions, Inc.
US	In Force	11/017,932	12/22/2004	8436808	5/7/2013	Processing Signals to Determine Spatial Positions	Elo Touch Solutions, Inc.
US	In Force	10/502,969	7/29/2004	7411581	8/12/2008	Touch Pad	Elo Touch Solutions, Inc.
US	In Force	12/182,734	7/30/2008	8319752	11/27/2012	Touch Pad	Elo Touch Solutions, Inc.
US	In Force	12/569,608	9/29/2009	9696856	7/4/2017	Method and Apparatus for Detecting Simultaneous Touch Events on a Bending-Wave Touchscreen	Elo Touch Solutions, Inc.
US	In Force	12/780,077	5/14/2010	9727175	8/8/2017	System & Method for Detecting Locations of Touches on a Projected Capacitive Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/107,565	5/13/2011	9256327	2/9/2016	System and Method for Detecting Locations of Touches on a Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/012,513	1/24/2011	8576202	11/5/2013	Bezel-Less Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	14/055,797	10/16/2013	9552106	1/24/2017	Bezel-Less Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	Pending	15/274295	9/23/2016			Bezel-Less Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	10/518,152	12/9/2004	7345677	3/18/2008	Method for Locating an Impact on a Surface and Device Therefor	Elo Touch Solutions, Inc.
US	In Force	11/024,514	12/28/2004	7511711	3/31/2009	Method for Locating an Impact on a Surface and Device Therefor	Elo Touch Solutions, Inc.
US	In Force	10/581,423	11/26/2004	7583255	9/1/2009	Man/Machine Interface Device and Method	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	11/573,513	8/10/2005	7649807	1/19/2010	Method for Locating an Impact on a Surface and Device for Implementing Such a Method	Elo Touch Solutions, Inc.
US	In Force	11/577,087	10/10/2005	8085124	12/27/2011	An Acoustically-Controlled Access Control Installation and an Access Control Device for Such an Installation	Elo Touch Solutions, Inc.
US	In Force	11/813,113	4/28/2008	8392486	3/5/2013	Method for Determining the Position of Impacts	Elo Touch Solutions, Inc.
US	In Force	11/911,398	4/13/2005	8692810	4/8/2014	Method for Determining the Location of Impacts by Acoustic Imaging	Elo Touch Solutions, Inc.
US	In Force	12/446,943	7/31/2009	8228121	7/24/2012	Automatic Gain Control Circuit	Elo Touch Solutions, Inc.
US	In Force	12/863,258	1/23/2009	9489089	11/8/2016	Touch-Sensitive Panel	Elo Touch Solutions, Inc.
US	In Force	13/002,838	7/6/2009	8946973	2/3/2015	Device for Changing the Operational State of an Apparatus	Elo Touch Solutions, Inc.
US	In Force	12/339,874	12/19/2008	8237676	8/7/2012	Method for Determining the Locations of at Least Two Impacts	Elo Touch Solutions, Inc.
US	In Force	12/991,419	4/21/2009	8670290	3/11/2014	Method for Determining the Location of an Impact on a Surface of an Object	Elo Touch Solutions, Inc.
US	In Force	13/380475	1/27/2014	9086764	7/21/2015	A Method and a Touch Sensing Device for Implementing the Method	Elo Touch Solutions, Inc.
US	In Force	13/379,321	5/26/2010	9459732	10/4/2016	Method for Determining the Locations of One or More Impacts or Touches on a Surface of an Object Including Two or More Transducers	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	13/122,405	10/5/2009	8896429	11/25/2014	Tactile Man-Machine Interface with Data Communication Interface	Elo Touch Solutions, Inc.
US	In Force	13/146,191	1/22/2010	8749517	6/10/2014	A Touch-Sensing Device with a Touch Hold Function and a Corresponding Method	Elo Touch Solutions, Inc.
US	In Force	13/641,825	4/19/2011	9678606	6/13/2017	Method and Device for Determining a User's Touch Gesture	Elo Touch Solutions, Inc.
US	In Force	13/013,613	1/25/2011	9152278	10/6/2015	Background Capacitance Compensation for a Capacitive Touch Input Device	Elo Touch Solutions, Inc.
US	In Force	13/581,517	3/17/2011	9058071	6/16/2015	METHOD FOR DETECTING A SUSTAINED CONTACT AND CORRESPONDING DEVICE	Elo Touch Solutions, Inc.
US	Pending	13/013,596	1/25/2011			Mechanical Deflection Compensation for a Capacitive Touch Input Device	Elo Touch Solutions, Inc.
US	In Force	13/296,936	11/15/2011	9304629	4/5/2016	Radial Transducer for Acoustic Wave Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/296,953	11/15/2011	9348467	5/24/2016	Radial Layout for Acoustic Wave Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	13/808058	1/2/2013	8619063	12/31/2013	Method for Determining a Touch Event and Touch Sensitive Device	Elo Touch Solutions, Inc.
US	In Force	13/521,913	1/13/2011	9046959	6/2/2015	Noise Reduction in Electronic Device with Touch Sensitive Surface	Elo Touch Solutions, Inc.

Country	Status	Application #	Filing Date	Patent #	Issue Date	Title	Owner
US	In Force	13/650,798	10/12/2012	9760215	09/12/2017	METHOD FOR DETECTING A TOUCH-AND-HOLD TOUCH EVENT AND CORRESPONDING DEVICE	Elo Touch Solutions, Inc.
US	In Force	13/485,913	5/31/2012	8890852	11/18/2014	Acoustic Touch Signal Dispersion Mitigation	Elo Touch Solutions, Inc.
US	In Force	13/274,236	10/14/2011	8823685	9/2/2014	An Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	13/164,228	6/20/2011	9176623	11/3/2015	A Method and a Touch Sensing Device for Implementing the Method	Elo Touch Solutions, Inc.
US	In Force	13/274,173	10/14/2011	8681128	3/25/2014	An Improved Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	14/182,911	2/18/2014	9671904	6/6/2017	Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	14/351,013	4/10/2014	8896564	11/25/2014	An Improved Acoustic Touch Apparatus	Elo Touch Solutions, Inc.
US	In Force	13/995412	6/18/2013	9342192	5/17/2016	A Method and a Touch Sensing Device for Implementing the Method	Elo Touch Solutions, Inc.
US	In Force	29/382,748	1/6/2011	D647086	10/18/2011	Touch Computer	Elo Touch Solutions, Inc.
US	In Force	29/386,236	2/25/2011	D654501	2/21/2012	Touch monitor	Elo Touch Solutions, Inc.
US	In Force	13/416,871	3/9/2012	9164627	10/20/2015	Acoustic Touch Apparatus With Variable Thickness Substrate	Elo Touch Solutions, Inc.
US	In Force	29/386,590	3/2/2011	D647898	11/1/2011	Touch computer	Elo Touch Solutions, Inc.
US	In Force	13/416,940	3/9/2012	9201546	12/1/2015	Acoustic Touch Apparatus with Multi-Touch Capability	Elo Touch Solutions, Inc.
US	In Force	14/949,746	11/23/2015	9430100	8/30/2016	Acoustic Touch Apparatus with Multi-Touch Capability	Elo Touch Solutions, Inc.
US	In Force	13/663,936	10/30/2012	8994696	3/31/2015	Multiple Point Addressable SAW	Elo Touch Solutions, Inc.



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US	In Force	13/808054	1/2/2013	9448714	9/20/2016	Touch and Non-Touch Based Interaction of a User with a Device	Elo Touch Solutions, Inc.
US	In Force	13/418,035	3/12/2012	8692812	4/8/2014	Layered Border for Touch Sensor Device	Elo Touch Solutions, Inc.
US	Pending	14/182,059	2/17/2014			Layered Border for Touch Sensor Device	Elo Touch Solutions, Inc.
US	In Force	13/451,253	4/19/2012	9197208	11/24/2015	PROJECTED CAPACITIVE TOUCH SENSOR WITH ASYMMETRIC BRIDGE PATTERN	Elo Touch Solutions, Inc.
US	Pending	14/836,026	8/26/2015			PROJECTED CAPACITIVE TOUCH SENSOR WITH ASYMMETRIC BRIDGE PATTERN	Elo Touch Solutions, Inc.
US	In Force	29/406,460	11/15/2011	D669076	10/16/2012	Touch Monitor (Model 5500)	Elo Touch Solutions, Inc.
US	In Force	29/430,983	8/31/2012	D693343	11/12/2013	Touch Monitor (Model 5500)	Elo Touch Solutions, Inc.
US	In Force	13/482,665	5/29/2012	8913033	12/16/2014	Projected Capacitive Touch Sensor Circuit	Elo Touch Solutions, Inc.
US	In Force	29/420,291	5/7/2012	D681636	5/7/2013	Touch Monitor (Model 1509)	Elo Touch Solutions, Inc.
US	In Force	29/443,154	1/14/2013	D688673	8/27/2013	Touch Monitor (Model 1509 Stand)	Elo Touch Solutions, Inc.
US	In Force	29/423,592	6/1/2012	D687431	8/6/2013	Touch Screen Display Device (VuPoint "Bakersfield")	Elo Touch Solutions, Inc.
US	In Force	29/459008	6/25/2013	D723699	3/3/2015	Touch Screen Display Device (VuPoint "Bakersfield")	Elo Touch Solutions, Inc.
US	In Force	29/459020	6/25/2013	D723700	3/3/2015	Touch Screen Display Device (VuPoint "Bakersfield")	Elo Touch Solutions, Inc.

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US	In Force	13/955,802	7/31/2013	9513746	12/6/2016	Molded Acoustic Frame for APR Technology	Elo Touch Solutions, Inc.
US	Pending	14/759,751	7/8/2015			Gesture Event Determination	Elo Touch Solutions, Inc.
US	In Force	13/682,621	11/20/2012	9128567	9/8/2015	Segmented Waveguide Core For Narrow Border Saw	Elo Touch Solutions, Inc.
US	In Force	14/395,295	10/17/2014	9582125	2/28/2017	Projected Capacitive Touch Sensor with Asymmetric Bridge Pattern	Elo Touch Solutions, Inc.
US	Pending	15/445885	2/28/2017			Projected Capacitive Touch Sensor with Asymmetric Bridge Pattern	Elo Touch Solutions, Inc.
US	In Force	13/738,697	1/10/2013	9170686	10/27/2015	Multi-Transducer Waveguide Arrays	Elo Touch Solutions, Inc.
US	In Force	29/453940	5/3/2013	D742720	11/10/2015	Mounting Bracket (IDS Wall Mount)	Elo Touch Solutions, Inc.
US	In Force	13/873007	4/29/2013	9507464	11/29/2016	Acoustic Touch Apparatus And Methods Using Touch Sensitive Lamb Waves	Elo Touch Solutions, Inc.
US	Pending	15/349852	11/11/2016			Acoustic Touch Apparatus And Methods Using Touch Sensitive Lamb Waves	Elo Touch Solutions, Inc.
US	In Force	29/441655	1/8/2013	D714788	10/7/2014	Cradle (design)	Elo Touch Solutions, Inc.
US	In Force	14/322605	7/2/2014	9292145	3/22/2016	Multi-User Multi-Touch Projected Capacitance Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	15/076,100	3/21/2016	9606693	3/28/2017	Multi-User Multi-Touch Projected Capacitance Touch Sensor	Elo Touch Solutions, Inc.
US	Pending	15/470,040	3/27/2017			Multi-User Multi-Touch Projected Capacitance Touch Sensor	Elo Touch Solutions, Inc.
US	In Force	29/464846	8/21/2013	D735805	8/4/2015	Electronic device housing for a touch screen register or the like	Elo Touch Solutions, Inc.

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US	In Force	29/532838	7/10/2015	D747763	1/19/2016	Electronic Device Housing For A Touch Screen Register Or The Like	Elo Touch Solutions, Inc.
US	Pending	29/549154	12/18/2015			Electronic Device Housing For A Touch Screen Register Or The Like	Elo Touch Solutions, Inc.
US	In Force	14/152,643	1/10/2014	9665861	5/30/2017	Multi-Mode Point of Sale Device	Elo Touch Solutions, Inc.
US	Pending	15/606,918	5/26/2017			Multi-Mode Point of Sale Device	Elo Touch Solutions, Inc.
US	Pending	14/265998	4/30/2014			Water Immune FTIR	Elo Touch Solutions, Inc.
US	In Force	29/485990	3/25/2014	D725182	3/24/2015	Electronic Device for Housing a Touch Screen Register	Elo Touch Solutions, Inc.
US	In Force	29/496746	7/16/2014	D744479	12/1/2015	All in One Touch Computer	Elo Touch Solutions, Inc.
US	In Force	29/546193	11/19/2015	D778277 S	2/7/2017	All in One Touch Computer	Elo Touch Solutions, Inc.
US	Pending	29/591,950	1/25/2017			All in One Touch Computer	Elo Touch Solutions, Inc.
US	Pending	14/854,701	9/15/2015			MULTI-MODE POINT-OF-SALE DEVICE	Elo Touch Solutions, Inc.
US	Pending	14/994875	1/13/2016			FREQUENCY MULTIPLEXED OPTICAL TOUCHSCREEN	Elo Touch Solutions, Inc.
US	Pending	14/871496	9/30/2015			SUPPORTING MULTIPLE USERS ON A LARGE SCALE PROJECTED CAPACITIVE TOUCHSCREEN	Elo Touch Solutions, Inc.
US	In Force	29/516,089	1/29/2015	D778,279 S	2/7/2017	Electronic Device	Elo Touch Solutions, Inc.
US	In Force	29/591,957	1/25/2017	D794,630	8/15/2017	Electronic Device	Elo Touch Solutions, Inc.
US	Pending	29/611,645	7/24/2017			Electronic Device	Elo Touch Solutions, Inc.

Country	Status	Applicati on #	Filing Date	Patent #	Issue Date	Title	Owner
US	Pending	15/214,173	7/19/2016			PROJECTED- CAPACITIVE (PCAP) TOUCHSCREEN	Elo Touch Solutions, Inc.
US	Pending	15/214,196	7/19/2016			PROJECTED- CAPACITIVE (PCAP) TOUCHSCREEN	Elo Touch Solutions, Inc.
US	Pending	15/400,584	1/6/2017			DEVICE CONTROLLER AND VIEWER	Elo Touch Solutions, Inc.
US	Pending	29/583,140	11/2/2016			DISPLAY STAND	Elo Touch Solutions, Inc.
US	Pending	29/607242	6/12/2017			DISPLAY STAND	Elo Touch Solutions, Inc.
US	Pending	62/508,549	5/19/2017			PCAP WITH ENHANCED IMMUNITY TO WATER CONTAMINANTS	Elo Touch Solutions, Inc.