# DEVELOPER'S GUIDE

**Elo Touch Solutions**

PayPoint® Plus for iPad®

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# Section 1: Introduction

## Welcome

Welcome to the Elo PayPoint Plus Developer Program. We thank you for your partnership – together we can shape the future of our mPOS capabilities.

## Product Description

The Elo PayPoint Plus is an all-in-one cash register that comes equipped with built-in receipt printer, magnetic stripe reader, barcode reader, cash drawer, and customer facing display. This cash register is an MFi certified accessory by Apple.

Below are specifications:

| Area | PayPoint Plus iOS |
|---|---|
| iPad Compatibility | 9.7" and 12.9" |
| i/O | 1xUSB (power); 2xSerial, 1xmini USB (power), 1x cash drawer port |
| Printer | Paper width: 80mm<br>Printer speed:250mm/sec<br>**Star Micronics** Printer TSP100III (BT) |
| Scanner | 2D (**Honeywell** N3680) |
| Cash Drawer | 5 bill x 5 coin for US/China<br>4 bill x 8 coin for worldwide |
| MSR | 3 track encryptable (**Magtek**) |
| CFD | 2x16 (on US model only) |
| Part Numbers | NA/China: E475092 (9.7") E483400 (12.9")<br>Worldwide: E475289 (9.7") E186611 (12.9") |



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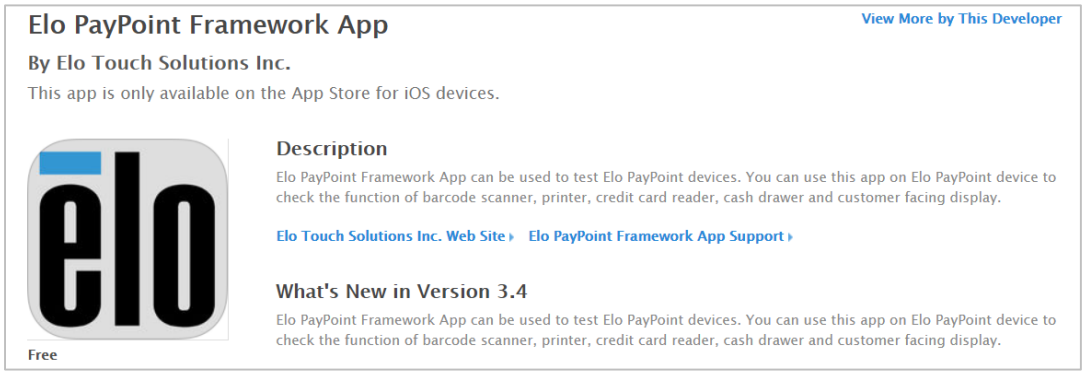
Elo has released a peripheral test app that that allows you to test the functionality of the peripherals, perform MSR key injection and update firmware. Download the "Elo PayPoint Framework App" from the App Store.





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# Confidentiality

By partnering with Elo to integrate with Elo PayPoint Plus ("Register"), you agree you will:

a. Not share, disclose, use, disseminate, or publish any information about the Elo PayPoint Plus Developer Program or the Register or any related SDK, code, software, firmware, API, or prototype to any third party for any reason other than as permitted in writing from Elo under the Elo PayPoint Plus Developer Program.

b. Not share, disclose, or use the Register or any related SDK, code, software, firmware, API, or prototype for any reason not related to or permitted under the Elo PayPoint Plus Developer Program.

c. Limit access to the Register and related SDK, code, software, firmware, API, or prototype and information about the Register and any related SDK, code, software, firmware, API, or prototype and the Elo PayPoint Plus Developer Program to your employees, Affiliates, and onsite consultants and their employees who (i) have a need to know about or use the Register and related SDK, code, software, firmware, API, or prototype in connection with your participation in the Elo PayPoint Plus Developer Program, and (ii) are obligated to you to maintain the security and confidentiality of the Elo PayPoint Developer Program and the Register and related SKD, code, software, firmware, API, or prototype. You will be responsible for each act and omission of each employee, Affiliate, onsite consultant, or employee of an onsite consultant as if such acts and omissions were your own. As used herein, "Affiliate" means any entity that now or hereafter controls, is controlled by or is under common control with a specified entity, where "control" means beneficial ownership, directly or indirectly, of more than 50% of the outstanding shares or other ownership interest (representing the right to elect directors or other managing authority or the right to make the decisions for such entity, as applicable), only for so long as such control exists.

d. Use the same degree of care as you would use to protect your confidential, non-public or proprietary information and technologies, but in any case no less than a reasonable degree of care, to prevent the unauthorized use, dissemination, disclosure, or publication of information, guides, drawings, photographs, product specifications, data, code, software, firmware, prototypes, API, SDK, or other similar information, documents, or materials about the Elo PayPoint Plus Developer Program or the Register and related SDK, code, software, firmware, API, or prototype. For clarity, this prohibition applies but is not limited to social media posts, links, or shares regarding the Elo PayPoint Plus Developer Program, including your participation in the program.

e. Not make copies of the Register or any related SDK, code, software, firmware, API, or prototype or any related documents or materials received from Elo in connection with the Elo PayPoint Plus Developer Program.

f. Notify Elo of any unauthorized use, dissemination, publication or disclosure of information about the Elo PayPoint Plus Developer Program or the Register or any related SDK, code, software, firmware, API, or prototype of which you become aware.

g. Comply with applicable export control regulations.

h. Promptly, upon Elo's request or at the end of the Elo PayPoint Plus Developer Program, return the Register to Elo.

i. Not use or reverse engineer the Register or any information you gather or develop through your use of the Register or participation in the Elo PayPoint Plus Developer Program for development, manufacturing, distribution, or production purposes.

j. Provide suggestions, comments, or other feedback ("**Feedback**") to Elo about the Register. All Feedback shall be deemed Elo's property, and Elo shall be free to use, disclose, reproduce, license, distribute, or otherwise exploit Feedback as it sees fit without obligation or restriction of any kind.

k. Adhere to the terms and conditions for use of the SDK.

l. Adhere to the terms and conditions for use of the API.


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# Section 2: Hardware

## Contents of the Box

The Register contains the following:

- PayPoint Plus for iOS ("Register")
- Power Cable
- 1 receipt paper roll
- 2 cash drawer keys
- RJ45 to DB9 cable
- Quick install guide
- For the 9.7 we include trays for Air, Air2 and Pro 9.7"

## Quick Start Guide

Step A – ensure lightning connector is pulled out before placing the iPad

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Step B – Install the iPad by starting on the top left corner of the tray and the lightning connector side last.

Step C – Press lightning connector cap into the tray.

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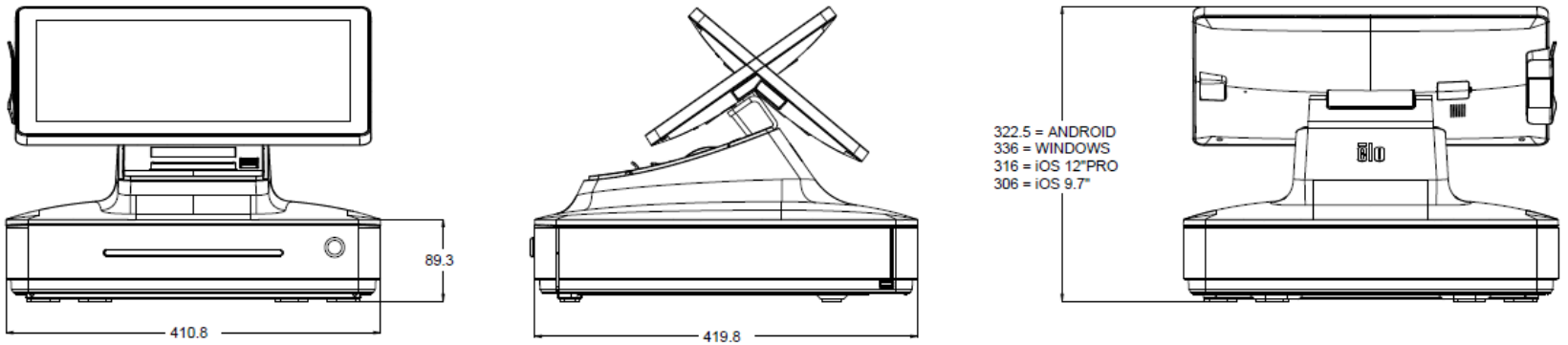
# PayPoint Plus Dimensions




# Printer

The Register has a built in 3-inch thermal printer. The printer is a TSP100iii from Star Micronics and communicates with the iPad via Bluetooth. Below are the specs of the printer:

| | | |
|---|---|---|
| **Printer Method** | Thermal | |
| **Printer Speed** | 43 receipts/minute (250mm/sec) | |
| **Resolution** | 203dpi | |
| **Character set** | ANK 95, 32 Int 128 Graphic plus Chinese, Japanese, Korean, Taiwanese | |
| **Paper Specs** | Width<br>Thickness<br>Roll Diameter<br>Maxi Print Width | 80mm standard, 58mm with paper guide<br>0.053 ~ 0.085 mm<br>Up to 83 mm<br>72mm |
| **Auto Cutter** | Guillotine | |



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The integrated printer on PayPoint Plus has a paper feed, power and BT reset (from left to right) similar to a Star TSP100iiiBT. To connect to the printer via BT, follow the steps below:

- Ensure printer is turned on (indicated by blue LED on PayPoint Plus base)
- Go to "settings" on iPad, turn on Bluetooth
- Connect to TSP-100iii printer from list of devices
- To find the device name of the printer:
  - While holding the printer power button press the printer feed button and release the printer power button
  - The printer will print pertinent information like Dev Name, iOS name, Address and Pairing permission.

Please find additional Star support topics below: http://www.starmicronics.com/support/Default.aspx


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# Scanner

The Register has built-in 2D omni-directional scanner. The scan engine is an N3680 from Honeywell. Below are the specs of the scanner:

| | |
|---|---|
| **Sensor** | CMOS sensor with 640x480 pixel resolution |
| **Illumination and Aiming** | White LED illumination, Red dot aimer |
| **Field of View** | Horizontal: 37.8°, Vertical: 28.8° |
| **Symbologies** | Linear: Codabar, Code 11, Code 128, Code 2 of 5, Code 39, Code 93 and 93i, EAN/JAN-13, EAN/JAN 8, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MSI, GS1 Databar, UPC-A, UPC E, UPC-A/EAN-13 with Extended Coupon Code, Coupon GS1 Code 32(PARAF), EAN-UCC Emulation, GS1 Data bar<br><br>2D Stacked: Codablock A, Codablock F, PDF417, MicroPDF417<br><br>2D Matrix: Aztec Code, Data Matrix, MaxiCode, QR Code, Chinese Sensible (Han Xin) code<br><br>Postal Codes: Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet |

The PayPoint Plus unit ships with a default of "on/off" mode on the 2D scanner. We do not recommend leaving the scanner on 100% of the time – instead use API's to turn on for reading and turn off when done.

The scanner default mode out of the box is:

- Virtual com port interface
- Manual Trigger mode (Hardware or software). A HW manual trigger button is located at the back of the scanner
- Beep on scan
- Set up to read most common codes


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You may need to change settings, configurations or modes on your scanner to fit your application needs. You can make these changes in the following ways:

- scan barcodes for common configuration changes (see page 9 to 14).
- use exposed API's to send serial based commands to scanner (see SDK documentation). Find serial command list here (Page 10-3).
- From the peripheral test app, on barcode tab, send serial command to scanner. Find serial command list here (Page 10-3).

The 2D scanner is compatible with the following Honeywell plug-in's (to be purchased separately). Please call us if you are interested in using either of these plug-in's in your POS app:

1. Easy DL™ Plug-in: Honeywell's Easy DL™ scanning software plug-in parses barcode data found on government-issued identification cards (US and Canada) to deliver ready-to-use information to the host system. The embedded barcode parsing functionality can support applications including age verification or automatic electronic form population. Easy DL™ reduces transaction time by 95%, scanning and populating information in a matter of seconds. See the datasheet here.

2. EasyBCBP™ TotalFreedom Plug-in: Honeywell's EasyBCBP™ identity verification software plug-in parses barcode data found on printed or mobile boarding passes for airport applications such as passenger check-in, passenger boarding, security screening, club lounge entry and duty-free store entry. Powered by Honeywell's TotalFreedom® open-system architecture, EasyBCBP ID verification software eliminates the need for host system software to process the encoded information contained within 2D barcodes found on printed or mobile boarding passes. See datasheet here.


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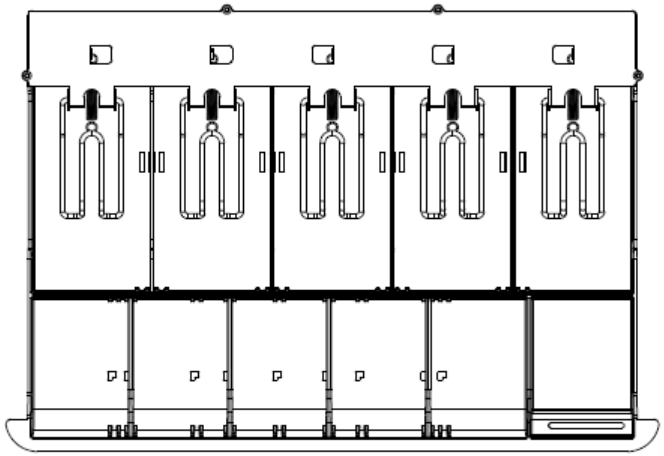
# Cash Drawer

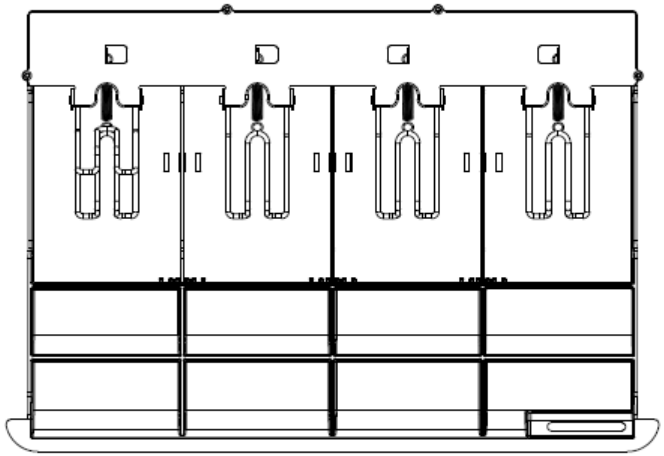
The cash drawer is built similar to a full-size industry standard drawer with external dimensions of 411mm (width) x 420mm (depth) x 89mm (height). The cash drawer open is electronically driven through the printer mechanism (Hence, Star's SDK can be used to drive the cash drawer in a way similar to a standard TSP100iii set up).

The US/China cash drawer insert features a 5 bill and 6 coin configuration. Each bill holder for the NA/China is 170mm x 72mm x 51mm tall. The bill holders are adjustable by +/- 6mm. The coin compartment is 81mm long x 59mm wide 36mm tall. The worldwide cash drawer features a 4 bill and 8 coin configuration. Each bill holder for the Worldwide cash drawer is 170mm x 91mm x 51mm tall. The coin compartment is 41mm long x 91mm wide x 36mm tall.

The cash drawer is secured with a 3 position lock – Locked, open, open with SW trigger. The register will be sold with 3 unique keys combinations (001, 002, 003). The key designation is visible and should match on the lock as well as the key. We will make spare keys available for customers to purchase on as-needed basis.

This PayPoint Plus unit also features a second cash drawer port under the unit. This port allows an additional cash drawer to be used with the PayPoint Plus register. If you are using an APG cash drawer, you will need a 101A (APG) cable to run this second cash drawer.







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# CFD

The PayPoint Plus unit features a 2x16 character VFD on most models (not available for worldwide models outside NA and China). Please see Software Section to download SDK's for iOS.

# MSR

The PayPoint Plus unit features a 3-track encryptable MSR from Magtek. Below are the specs:

| | |
|---|---|
| **Swipe Speed** | 4~60 ips (10.1~152.4 cm/sec) |
| **Swipe Direction** | Bi-directional |
| **# of tracks** | 3 |
| **Encryption** | Default not encrypted. Can be encrypted to Level 3 with Elo's API |
| **Supported formats** | ISO 7811, ISO 7810, AAMVA, CA DMV, ANSI |

You have the ability to encrypt the reader using the following steps (we use Magensa Remote services from Magtek to enable this functionality):

1. Navigate to the Peripheral Test App
2. Click on the "more" tab and then to "advanced".
3. Click on 'MSR Settings'.
4. Enter Customer Code, User ID and Password and hit Enter. (if you do not have a credentials, please contact your Magtek representative)
5. On the MSR Configuration screen chose the desired Security level and KSID and click 'Change'.
6. Please note that once you have set the security to Level 3, it cannot be changed back to Level 2.


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# Section 3: Software

## PayPoint Plus Software:

| | Current released version | Beta Version | Notes |
|---|---|---|---|
| Firmware | 9.27 | 10.X | PayPoint Plus and PayPoint Plus for iPad will be compatible with firmware version 10.1 |
| SDK | 2.0 | 3.X | Common SDK for PayPoint and PayPoint Plus with API to detect platform used.<br><br>All peripherals of PayPoint Plus including Printer, Cash Drawer, MSR, BCR and CFD are supported. In PayPoint Plus, the Printer and Cash drawer (including second port) are driven through the Star Micronics SDK.<br><br>Test App on Device to test peripherals, update firmware and inject key to encrypt MSR |

## How to Download SDK:

- Download the SDK and Documentation
- Download Star Micronics SDK and Documentation (to drive printer, cash drawer and second cash drawer port in the unit)



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## MFi Certification:

PayPoint Plus will be an authorized MFi accessory and we are in the process of MFi certification. Elo will be required to submit approval for all authorized apps that will be integrated to this platform. When ready, please provide information as requested in this MFi document so we can submit for approval to Apple.

## Developer Tools:

We hope that together we are able to bring a world class merchant experience that allows firmware update and an easy plug and play deployment to our merchants. To that end, we would like your feedback on ability to implement SDK such that:

- Your POS app is compatible with PayPoint and PayPoint Plus. We will expose API's that enable identification of hardware.
- You have the ability to build MSR key injection tools within your POS app to build remote key injection capability.
- You have the ability to update firmware within your POS app to build remote firmware update capability.


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# Section 4: Contact Information

Our team is on standby to provide any help or support during the process. Please first reach out to Technical Support team for any questions or assistance.

## Relationship

Dave Murphy
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Courtney Murry
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## Developer Support

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Cameron Cole
HW engineer
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## Additional Resources on PayPoint Plus for iPad

- Detailed specifications
- User Guide
- Quick Install Guide
- Dimension Drawings
- MSR Key injection



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# Section 5: Frequently Asked Questions

## Will the current generation of PayPoint Plus iOS be end of life?

We do not plan to EOL for the current generation of PayPoint Plus iOS. We expect to continue sales and support of that platform along with the introduction of PayPoint Plus.

## Will PayPoint Plus iOS support the recently introduced 10.5" iPad Pro

Yes, we expect that PayPoint Plus will support the recently introduced 10.5" iPad Pro. We also expect to roll out support for this iPad to our current generation of PayPoint.

## Is PayPoint Plus an authorized MFi accessory? What is the process to add our POS app to the MFi?

Yes, PayPoint Plus is an authorized MFi accessory. This document will walk you through the process and the information we will require to submit your POS app with our device once certification is complete. Generally, the approval process takes 5-10 business days.

## I am having trouble connecting to the Bluetooth printer

- Please be sure that your iPad is connected to the Star TSP100 printer
  - Go to your iPad settings, Bluetooth, and make sure the Star printer is listed as a connected device
- Reset the TSP100 Bluetooth printer
  - Press and hold the left printer button on the PayPoint Plus device until the printer LEDs begin to flash
  - Release the printer button and reconnect the iPad through the iOS settings
- Be sure that you are connected to the correct Star printer
  - Press and hold the printer power button
  - While holding the printer power button press the printer feed button and release the printer power button
    - This will print out a Star Diagnostic report
    - The name of the Star printer will be listed at the top of the 'Bluetooth Information' print out under 'Dev Name'
    - Make sure this is the name of the device you are connecting to in the iOS Bluetooth settings


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## Who should we call for questions and support?

Our team as outlined in Section 4 is available for questions. To streamline our ability to respond quickly, we ask that you start with Josh or Courtney in the technical support group. We will also schedule periodic calls with our support and development group to ensure that you have access to our team during the certification process.



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