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PROVIDER OF CUSTOM RECEIPT PRINTING SOLUTIONS

Linēa Pro

User Manual



Infinite Peripherals, Inc.

www.ipcprint.com

Linēa Pro User Manual v1.01

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Linëa Pro allows mobile workers to convert their Apple iPod Touch handset into a powerful point-of-sale solution. The Linëa Pro includes a laser barcode scanner, 3-tracks magnetic stripe reader, and a rechargeable battery extender in a very compact and durable protective case.

Features:

Battery: Built-in Rechargeable Li-ion Battery - 1200 mAh
Charging via USB to computer or Charging Station
to Linëa Pro PADs provides auxiliary power to iPod
Touch

Magnetic Card Reader – 3-Track Head:

Swipe Speed: Minimum of 1.97 in/sec
MTBF: 1 million swipes
Bidirectional reading capabilities

Barcode Scanner - Class 1 Laser:

Single / Multi-scan mode
Scanning performance of 100 scans/sec
MTBF: 30000 hours (for Laser Diode & Mirror Unit
10000 hours)

Indicators: Audible: Internal electro-magnetic buzzer
Visual: 5 white LEDs

I/O Connectors: 30-pin plug iPod dock connector
10-pin female Mini-B USB connector for charging
and synchronization

General Specifications:

Feature	Parameters
Power supply	Internal voltage 3.3V & 5V
Working Rates	Active (turn on LINEA) / Active with Scanning / Stand By (after 5sec without operate)
MCU	Hitachi - HD64F3687
Memory	4k I2C EEPROM memory - for LINEA settings
Communications	RS232 Interface - communication between LINEA Pro & IPOD USB Interface - USB Synchronization between IPOD & PC
RS232 Interface	Speed: 57600bps IPOD RS232 Protocol
Power consumption	Active with Scanning - 110mA Active - approximately 6mA Stand by - 200µA
Buttons	Volume Up Button Volume Down Button ON/OFF iPod Button Synchronization/Charge Function Button Scan Button
Magnetic Stripe Reader	3-track bidirectional reading capabilities Type: ISO 7816-1/2/3 compatible & RAW mode
Barcode Reader	CLASS 2 - Laser Scan Engine
Barcode Type	UCC/EAN 128, EAN 13, EAN 8, UPC A, UPC E, UPC E1, Code 11, Code 39, Code 93, Code 128, Matrix 2 to 5, Code 11, 2 of 5 industrial, 2 of 5 interleaved, Codebar, MSI/Plessey, UK/Plessey, IATA, ISBN, ISMN, ISSN, S-code, Telepen, RSS 14, RSS Limited, RSS- Expanded
LEDs	5 white LEDs for status of Battery Charging and status of the Device
Battery	Rechargeable Li-ion Battery 3.7V/1200mAh Battery Life: Over 10,000 scan and swipes per full charge
Other	Electro-Magnetic Buzzer
Operating Environment	Temperature: 0 – 40°C, Humidity: 35 – 85% RH
Storage Environment	Temperature: -5°C – 40°C, Humidity: 10 – 90% RH
Dimensions (L x H x W)	127mm x 23.5mm x 68mm
Weight	105 grams without IPOD / 210grams with IPOD
Cables	Standard USB A to mini B CABLE USB DOWNLOAD CABLE (option)

Table 1

* Specifications subject to change without notice.

Box Contents



Your IPC Linēa Pro comes with the following items listed below:



Item	Part Number	Descriptions	Image
1	Linea-Pro	Linēa Pro Reader / Scanner	
2	Linēa Pro User Manual	User's manual	

Table 2

Software (Drivers & SDK):

Because of the continually evolving SDK, the latest SDK are not distributed on CD.

For the latest Linēa Pro SDK's, please contact your reseller or Infinite Peripherals for information about obtaining the Linea Pro SDK.

Getting Started



The IPC Linēa Pro allows you to scan barcode and capture Magnetic Strip information onto your iPod. Before using your Linēa Pro the battery should be properly charged. The following Quick Start guide will help to get your Linēa Pro ready for use.

Quick Start:

Step	What to do	Purpose	Where to find more information
1	Fully charge your Linēa Pro as recommended.	The battery pack should be fully charged before use to ensure long battery life.	Charging Battery, Page 10.
2	Install Software.	Barcode Scanning & Card Reading require software to be installed onto your iPod.	Software is not provided by IPC. Please contact your Linēa Pro reseller or Infinite Peripherals for recommendations on Third-Party solutions. Developers should refer to the section in this manual on "Developing Solutions".
3	Attach iPod to Linēa Pro.	Finalizing setup of your Linēa Pro and iPod.	Attaching iPod Page 12.

Table 3

About Your Linēa Pro



◆ Linēa Pro (Right side)

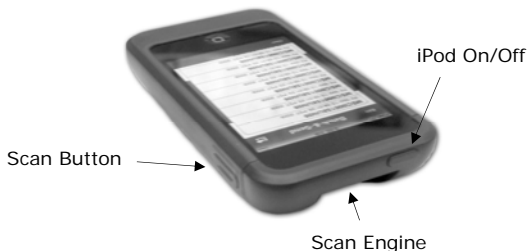


Figure 1

◆ Linēa Pro (Left side)



Figure 2

About Your Linēa Pro



♦ Linēa Pro (Bottom side)

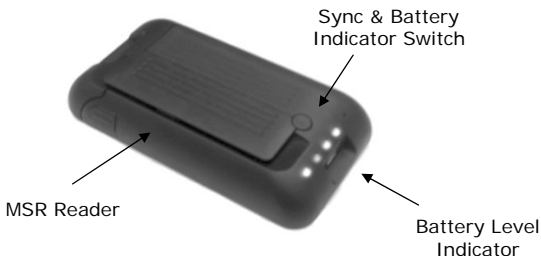


Figure 3

User Notes:

Special software must be used to process the information captured by the barcode scanner and magnetic strip reading feature. Please consult your reseller for this software or contact Infinite Peripherals for recommendations on compatible third party software solutions.

Charging Battery



Charging the Linēa Pro:

The Linēa Pro uses a Lithium Ion rechargeable battery pack. Before first use, the battery pack should be charged for at least (4) hours.

To prevent electrical damage to the Linēa Pro and/or battery pack, please use approved USB to Mini USB cables only.

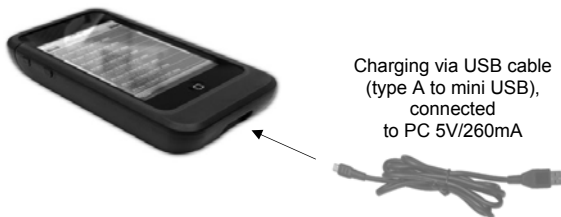


Figure 4



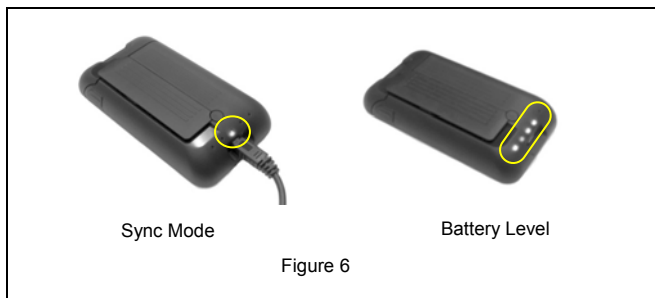
- 1 LED = 20 % of full charge
- 2 LED = 40 % of full charge
- 3 LED = 60 % of full charge
- 4 LED = 80 % of full charge
- 5 LED = 100 % full charge

Figure 5

Status & Operating Modes



The Linēa Pro uses the battery indicator LEDs to indicate various conditions of operation. Possible LED lighting indications may result from charging, active/online status, or because of low battery. The following table and figure explain these conditions and LED indication.



Operating Status	
All LED is OFF	Linēa Pro is in sleep or ready mode
Middle LED is FLASHING	Linēa Pro is in sync mode
Multiple LED is ON	Linēa Pro is displaying battery level status

Table 4

Attaching iPod



When using the Linēa Pro, care must be taken to ensure the Linēa Pro 30 pin connector and the iPod connector are not accidentally damaged. The figures below show how to attach the iPod to the Linēa Pro.

1: Remove the top cover.



Figure 7

2: Slide iPod into cradle.



Figure 8

3: Replace the top cover.



Figure 9

Barcode Scanning



Using the barcode scanner:

The Linēa Pro uses a scan engine that supports one-dimensional (1D) barcode symbols. The effective reading distance of the barcode reader varies depending on the barcode size.

Scanning 1D Barcodes:

To scan a 1D barcode first activate the scanner. Then position the scan head as close to the barcode label as possible so that the scan line crosses both ends of the barcode as shown in the figure below.

Slowly pull back the unit increasing the distance between the barcode and scan head until the barcode has been read by the scanner.



Figure 10

Card Reading



Reading Magnetic Strips:

The Linëa Pro has a built-in magnetic card reader. The card reader incorporates a (3) track magnetic read head requiring a single swipe to read field data from all three tracks.

The magnetic read head faces up towards the top of the cradle. When placing the card into the reader, the magnetic strip must be facing up as shown in the figure below. Keep the edge of the card flat on the inner base of the reader to ensure that the magnetic strip passes over the read head evenly.



Figure 11

User Notes:

To use the magnetic card reader feature, special software must be used to read and process the information. Please consult your reseller if this software is available or contact Infinite Peripherals for recommendations on compatible third party software solutions.

Replacing Battery



To replace the Linēa Pro battery, follow the steps below.

1. Remove the Linēa Pro top cover as shown in the figure below.

Figure 12



2. Slide the iPod completely out from cradle as shown in the figure below.

Figure 13



3. Lift the battery cover as shown in the figure below. Remove the existing Battery pack. Reverse Steps 1-3 to install the new battery pack.

Figure 14



Notice: Use factory recommended replacement battery to prevent damage to the Linēa Pro.

Syncing



The Linēa Pro portable barcode scanner and card reader is designed specifically for use with iPod there by allowing the iPod to sync with iTunes through the Linēa Pro while connected.

To sync iPod with iTunes through the Linēa Pro follow the steps below;

1. Connect the Linēa Pro to a computer using a Mini USB cable as shown in the figure below.
2. Press and hold the battery status button for (10) seconds or until the middle LED is lit as shown below.

The Linēa Pro should now be in sync mode. Refer to the iTunes documentation for syncing your iPod.



Figure 15

To disable sync mode, exit iTunes then unplug the Linēa Pro from the Mini USB cable.

Integrating the Linëa Pro into your iPod solution requires the use of the Linëa Pro SDK. The SDK incorporates an API specifically for developing application to use the barcode scanning and card reading capability of the Linëa Pro.

For details on using the Linëa Pro SDK, please refer to the SDK's documentation.

For the latest Linëa Pro SDK's, please contact your reseller or Infinite Peripherals for information about obtaining the Linea Pro SDK.

Card Reading

If you are having problems with reading card magnetic strip refer to the table below for possible causes.

Item	Problem	Possible Cause
1	No card data returned during swiping.	<ul style="list-style-type: none">* Linēa Pro not turned On.* Card inserted incorrectly.* Swipe method incorrect.* Faulty read head.* Unreadable magnetic strip.
2	Partial card data returned during swiping.	<ul style="list-style-type: none">* Swipe method incorrect.* Faulty read head.* Unreadable magnetic strip.

Table 5

Troubleshooting



Barcode Scanning

If you're having problems scanning barcodes refer to the table below for possible causes.

Item	Problem	Possible Cause
1	Scanner does not turn On.	<ul style="list-style-type: none">* Linëa Pro battery is to low.* Linëa Pro not turned on by software.* Faulty scan engine.
2	No barcode data returned during scanning.	<ul style="list-style-type: none">* Unreadable barcode.* Linëa Pro battery is to low.* Faulty scan engine.* Software decode incorrectly.
3	Partial barcode data returned during scanning.	<ul style="list-style-type: none">* Unreadable barcode.* Linëa Pro battery is to low.* Faulty scan engine.* Software decode incorrectly.
4	Unable to perform multi-scanning.	<ul style="list-style-type: none">* Multi-scan mode not enabled.* Software does not support multi-scans.
5	Unable to hear scanner beep.	<ul style="list-style-type: none">* Sound mode not enabled.* Linëa Pro battery it to low.
6	Unable to scan certain barcodes symbols.	<ul style="list-style-type: none">* Barcode type is not enabled.* Barcode type is not supported.

Table 6

Federal Communications Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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