INFINITE PERIPHERALS
PROVIDER OF CUSTOM RECEIPT PRINTING SOLUTIONS

Linēa-pro 4

User Manual

Made for iPod iPhone

Legal notice

“Made for iPod,” “Made for iPhone,” and “Made for iPad” mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

Compatibility

Made for

- iPod touch 4th generation
- iPhone 4

Linea-pro 4 Models

Model	Description
Linea-pro 4 MSR	Linea-pro 4 with 3-Track mag-stripe reader
Linea-pro 4 MSR 1D	Linea-pro 4 with 3-Track mag-stripe reader and 1D barcode scanner
Linea-pro 4 MSR 2D	Linea-pro 4 with 3-Track mag-stripe reader and 2D barcode scanner
Linea-pro 4 MSR 1D BT	Linea-pro 4 with 3-Track mag-stripe reader and 1D barcode scanner and Bluetooth®
Linea-pro 4 MSR 2D BT	Linea-pro 4 with 3-Track mag-stripe reader and 2D barcode scanner and Bluetooth®

Contents

Overview

Linēa-pro 4 allows mobile workers to convert their iPod touch and iPhone handset into a powerful point-of-sale solution. The Linēa-pro 4 includes optional 1D or 2D barcode scanner, 3-tracks magnetic stripe reader, and a rechargeable battery extender in a very compact and durable protective case.

Features:

Battery: Rechargeable Li-ion Battery - 1300 mAh,
Charging via USB to computer or Charging Station to Linēa-pro 4, Provides auxiliary power to iPod touch and iPhone

Magnetic Card Reader – 3-Track Head:

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

Barcode Scanner - Class II - 1D Laser / 2D Imager*:*

Single / Multi-scan mode
1D - MTBF: 30K hours (Laser Diode & Mirror Unit 10K hours)
2D - MTBF: 50K hours (Imager & Laser Pointer & Focus LED)

Indicators: Audible: Internal electro-magnetic buzzer
Visual: 3 green LEDs

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

Technical Data

General Specifications:

Power supply	Internal voltage 3.3V & 5V
Operation Modes	Active (turn on Linea-pro 4) / Active with Scanning / Stand By (after 5sec without operate)
MCU	Hitachi - HD64F3687
Memory	512k I2C EEPROM memory - for Linea-pro 4 settings
Communications	RS232 Interface - communication between Linea-pro 4 & iPod /iPhone USB Interface - USB Synchronization between iPhone / iPod & PC
RS232 Interface	Speed: 57600bps iPod RS232 Protocol
Power consumption	Active with Scanning: 1D Engine – 110mA; 2D Engine - 230mA Active - approximately 25mA Stand by - 10µA
Buttons	Volume Up Button, Volume Down Button, Status Battery Button, Scan Button
Magnetic Stripe Reader	3-track bidirectional reading capabilities Type: ISO 7816-1/2/3 compatible & RAW mode
Barcode Reader	MDL-1000 - Laser Scan Engine 1D Barcode MDI-2000 – Auto-focus Imager Scan Engine 2D Barcode
Barcode Type	UCC/EAN 128, EAN 13, EAN 8, UPC A, UPC E, UPC E1, Code 11, Code 39, Code 93, Code 128, GS1, 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, PDF417, microPDF417, Data Matrix, QR code, Aztec code, Maxi code, Micro QR code
LEDs	3 green LEDs for status of Battery Charging and status of the Device
Battery	Rechargeable Li-ion Battery 3.7V/1300mAh 1D: Over 14,000 scan and swipes per full charge 2D: Over 8,000 scan and swipes per full charge
Audio Indicator	Electro-Magnetic Buzzer
Weight, g	95 grams without iPod / iPhone 230 grams with iPhone 197 grams with iPod
Dimensions, mm	125mm x 67mm x (19 to 25)mm - depends on scanner 1D/2D & device)
Environment	- Operating temperature 0°C to +40°C - Operating humidity 35 to 85% RH - Storage temperature -5°C to +40°C - Storage humidity 10 to 90% RH
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 4 comes with the following items listed below:

Item	Part Number	Descriptions	Image
1	Linea-pro 4	Linēa-pro 4 Reader / Scanner	
2	CABDAT001240	Usb sync cable	
3	Linēa-pro 4 User Manual	User's manual	

Table 2

*Bulk Shipments may ship without cables and manuals in each box.

Software (Drivers & SDK):

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

For the latest Linēa-pro 4 SDK's, please visit our Linēa-pro developer portal:

http://dev.ipcprint.com/

Getting Started

The IPC Linēa-pro 4 allows you to scan barcode and capture Magnetic Strip information onto your iPod and iPhone. Before using your Linēa-pro 4 the battery should be properly charged. The following Quick Start guide will help to get your Linēa-pro 4 ready for use.

Quick Start:

Step	What to do	Purpose	Where to find more information
1	Fully charge your Linēa-pro 4 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 requires software to be installed onto your iPod or iPhone.	Software is not provided with Linēa-pro 4. Please contact your reseller or Infinite Peripherals for recommendations on Third-Party software solutions. Developers should refer to the section in this manual on "Developing Solutions" Page 18.
3	Attach device to Linēa-pro 4.	Connecting your Linēa-pro and iPod, iPhone.	Attaching Device, Page 12.

Table 3

About Your Linēa-pro 4

- **Linēa-pro 4 (Right side)**

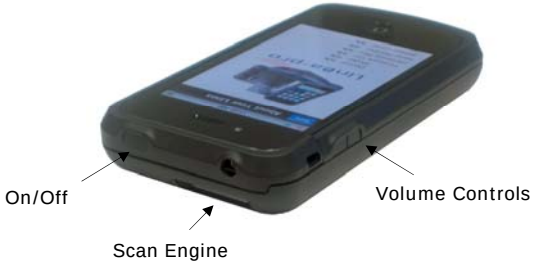


Figure 1

- **Linēa-pro 4 (Left side)**

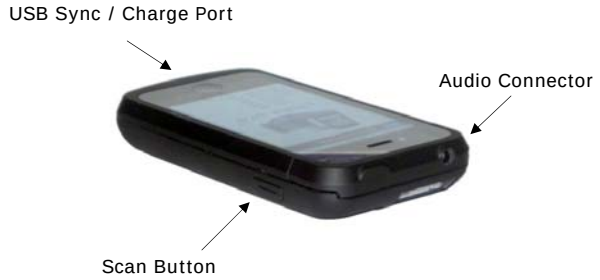


Figure 2

About Your Linēa-pro 4

- **Linēa-pro 4 (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 4:

The Linēa-pro 4 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 4 and/or battery pack, please use approved USB to Mini USB cables only.

Figure 4

1 LED = 33 % of full charge
2 LED = 66 % of full charge
3 LED = 100 % of full charge

Figure 5

Status & Operating Modes

The Linēa-pro 4 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.

Figure 6

Operating Status	
All LED is OFF	Linēa-pro 4 is in sleep or ready mode
Middle LED is FLASHING	Linēa-pro 4 is in sync mode
Multiple LED is ON	Linēa-pro 4 is displaying battery level status

Table 4

Attaching Device

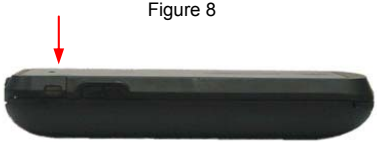
When using the Linēa-pro 4, care must be taken to ensure the Linēa-pro 4 30 pin connector and the iPod and iPhone connector are not accidentally damaged. The figures below show how to attach your device to the Linēa-pro 4.

1: Unlock the top cover as shown in figure above.

Figure 7

2: Slide the device as shown in the figure above.

Figure 8



3: Replace the top cover as shown in the figure above.

Figure 9

1D Barcode Scanning

Using the 1D barcode scanner:

The Linēa-pro 4 1D 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 fist 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

2D Barcode Scanning

Using the 2D barcode scanner:

The Linēa-pro 4 2D uses a scan engine that supports one-dimensional (1D) and two-dimensional (2D) barcode symbols. The effective reading distance of the barcode reader varies depending on the barcode size.

Scanning 2D Barcodes:

To scan a 2D barcode fist activate the scanner. Then position the scan head to center the red aiming laser near the center of the barcode and the illumination box is over the outer edges 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 11

Card Reading

Reading Magnetic Strips:

The Linēa-pro 4 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 12

User Notes:

To use the magnetic card reader feature, special software must be used to read and process the card 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 4 battery, follow the steps below.

1. Remove the device as shown in the figure below.

Figure 13

2. Squeeze battery cover latch to the left as shown in the figure above.

Figure 14

3. Lift the battery cover as shown in the figure above. Remove the existing Battery pack. Reverse Steps 1-2 to install the new battery pack.

Notice: Use only factory recommended replacement battery to prevent damage to the Linēa-pro 4.

Syncing

The Linēa-pro 4 portable barcode scanner and card reader is designed specifically for use with iPod/iPhone there by allowing the iPod and iPhone to sync with iTunes through the Linēa-pro 4 while connected.

To sync iPod with iTunes through the Linēa-pro 4 follow the steps below;

1. Connect the Linēa-pro 4 to a computer using a Mini USB cable as shown in the figure below.
2. Wait for the sync mode 2-beeps and the center LED flashes green.

The Linēa-pro 4 should now be in sync mode. Refer to the iTunes documentation for syncing your iPod and iPhone.

Figure 15

To disable sync mode, exit iTunes then unplug the Linēa-pro 4 from the Mini USB cable.

Developing Solutions

Integrating the Linēa-pro 4 into your solution requires the use of the Linēa-pro 4 SDK. The SDK incorporates an API specifically for developing application to use the barcode scanning and card reading capability of the Linēa-pro 4.

For details on using the Linēa-pro 4 SDK, please refer to the SDK's documentation.

For the latest Linēa-pro 4 SDK's, please visit our Linēa-pro developer portal:

http://dev.ipcprint.com/

Troubleshooting

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.	* Linēa-pro 4 not turned On. * Card inserted incorrectly. * Swipe method incorrect. * Faulty read head. * Unreadable magnetic strip.
2	Partial card data returned during swiping.	* 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.	* Linēa-pro 4 battery is to low. * Linēa-pro 4 not turned on by software. * Faulty scan engine.
2	No barcode data returned during scanning.	* Unreadable barcode. * Linēa-pro 4 battery is to low. * Faulty scan engine. * Software decode incorrectly.
3	Partial barcode data returned during scanning.	* Unreadable barcode. * Linēa-pro 4 battery is to low. * Faulty scan engine. * Software decode incorrectly.
4	Unable to perform multi-scanning.	* Multi-scan mode not enabled. * Software does not support multi-scans.
5	Unable to hear scanner beep.	* Sound mode not enabled. * Linēa-pro 4 battery is to low.
6	Unable to scan certain barcodes symbols.	* Barcode type is not enabled. * Barcode type is not supported.

Table 6

Federal Communications Commission

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 Continued

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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