



INFINITE
PERIPHERALS

STIMARE 

INFINEA[®] TAB 4[®]

iPad[®] 1D/2D SCANNER

INFINEA TAB 4

USER MANUAL



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Legal Notice

“Made for iPad,” indicates that an electronic accessory has been designed to connect specifically to 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 iPad may affect wireless performance.

COMPATABILITY

Made for

iPad 4

iPad is a trademark of Apple Inc., registered in the U.S. and other countries.
Lightning is a trademark of Apple Inc.



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OVERVIEW

The Infinea TAB 4 allows mobile employees to convert their iPad into a powerful solution for retail, warehousing, supply chain, ticketing and hospitality industries. The Infinea TAB 4 includes a 3-track encrypted or unencrypted magnetic stripe reader, optional 1D or 2D barcode scanner, optional Bluetooth, and optional RFID.

FEATURES

Battery Rechargeable Li-ion Battery - 1100 mAh
 Charging via USB or Charging Station

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/2D Imager
Single / Multi-scan mode
1D - MTBF: 30K hours
2D - MTBF: 10K hours

RFID

MIFARE MINI
MIFARE CLASSIC-1K, MIFARE CLASSIC-4K
MIFARE ULTRALIGHT, ULTRALIGHT-C
ISO 14443, ISO 15693
MIFARE PLUS 2K/4K
DESFire card

I/O Connectors

8-pin Lightning connector
10-pin female Mini-B USB connector
External RS

Indicators Visual: 2 LEDs for device status

TECHNICAL DATA - INFINEA TAB 4

GENERAL SPECIFICATIONS

Electrical	
Power Supply	Internal voltage 3.3V & 5V
Compatibility	iPad 4
Communications	USB Interface - between Infinea TAB 4 and iPad 4 USB Synchronization between iPad 4 & PC
Power Consumption	Deep sleep ~20uA
Magnetic Stripe Reader	3-track bidirectional reading capabilities Type: ISO 7816-1/2/3 compatible & RAW mode.023
Encryption Methods	3DES-112 (DUKPT) key management AES-128 (Fixed) key management AES-256 (Fixed) key management
Barcode Scanner	1D Laser or 2D High-Speed Imager
Barcode Type	1D Barcode Scanner Supported Symbologies: JAN/UPC/EAN incl. add on, Codabar/ NW-7, Code 11, Code 39, Code 93, Code 128, GS1-128 (EAN-128), GS1 DataBar (RSS), IATA, Industrial 2 of 5, Interleaved 2 of 5, ISBN-ISMN-ISSN, Matrix 2 of 5, MSI/ Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey Postal Code: Chinese Post, Korean Postal Authority code
	2D Imager Supported Symbologies: PDF417, Data Matrix (ECC200, ECC000, 050, 080, 100, 140), QR Code, Code 128, EAN-13, EAN-8, Code 39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5
RFID Reader (optional)	MIFARE MINI MIFARE CLASSIC-1K, MIFARE CLASSIC-4K MIFARE ULTRALIGHT, ULTRALIGHT-C ISO 14443, ISO 15693 MIFARE PLUS 2K/4K DESFire card
Bluetooth® Communication (optional)	Bluetooth 1.1 Class 2 Distance - Up to 10m Serial Port Profile (SPP)
LEDs	2 LEDs for device status
Buttons	2 Scanning Buttons
Battery	Rechargeable Li-ion Battery 3.7V/1100mAh, charging from USB port
Cables	Standard USB A to mini B cable
Audio Indicator	Electromagnetic Buzzer
Mechanical	
Dimensions	2D - 128mm x 44mm x 51mm - L x W x H
Weight	4.1 ounces with battery and 2D barcode scanner (without iPad)
Environment	
Operating 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
Certifications	
	PCI PTS 3.x SRED compliant (optional)

* Specifications subject to change without notice.

BOX CONTENTS

Your Infinea TAB 4 comes with the following items listed below.

Infinea TAB 4



USB charge/Sync Cable*



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

SOFTWARE: SDK

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

For the latest Infinea TAB 4 SDK's please visit our developer portal.

www.ipcprint.com/developer

GETTING STARTED

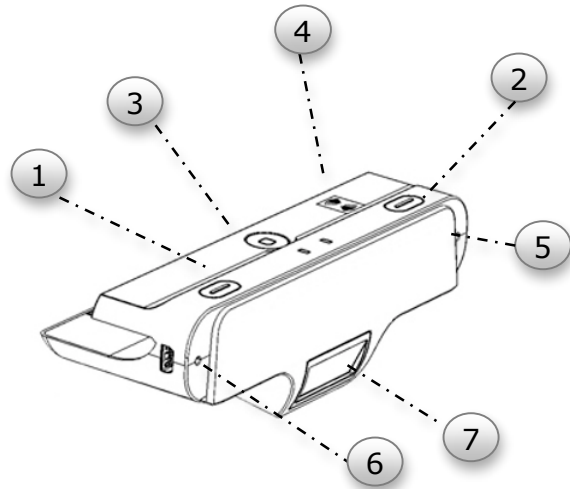
The Infinea TAB 4 allows you to scan barcode and capture Magnetic Stripe information on to your iPad. Before using your Infinea TAB 4 the battery should be properly charged. The following Quick Start guide will help to get your Infinea TAB 4 ready for use.

QUICK START GUIDE

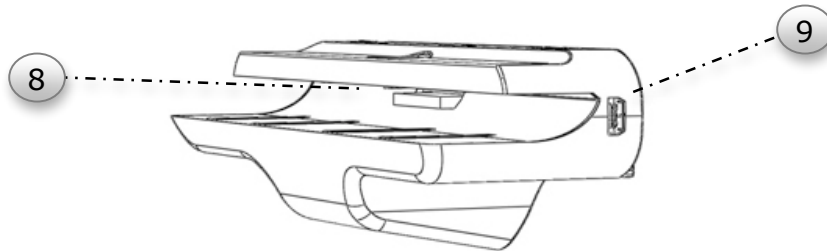
Step	What to do	Purpose	Where to find more Information
1	Fully charge your Infinea TAB 4 as recommended	The battery pack should be fully charged before use to ensure long battery life.	Charging Battery, Page 10.
2	Install Software	Barcode Scanning & Card Reading requires software to be installed onto your iPad.	Software is not provided with Infinea TAB 4. Please contact your reseller or Infinite Peripherals for Third-Party software solution options. Developers should refer to the section in this manual on “Developing Applications”. Page 19
3	Attach device to iPad	Connecting your Infinea TAB 4 and iPad.	Assembling your Infinea TAB 4. Page 8
4	Turn On Infinea TAB 4	Initialize scanner, MSR, or RFID functions for use.	Power On Your Infinea TAB 4. Page 9

ABOUT YOUR INFINEA TAB 4

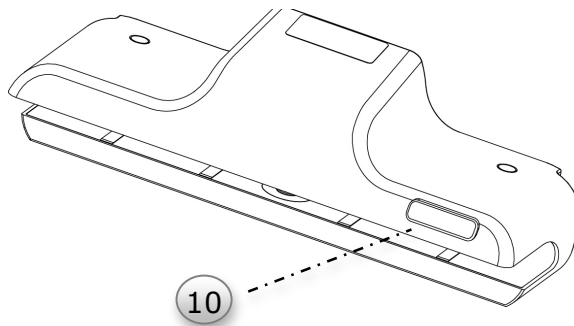
1. Scan Button
2. Scan Button
3. Home Button
4. RFID Receiver/Transmitter
5. Magnetic Stripe Reader
6. Docking Connectors
7. Barcode Scanner



8. Lightning Connector
9. USB Sync & Charging Port

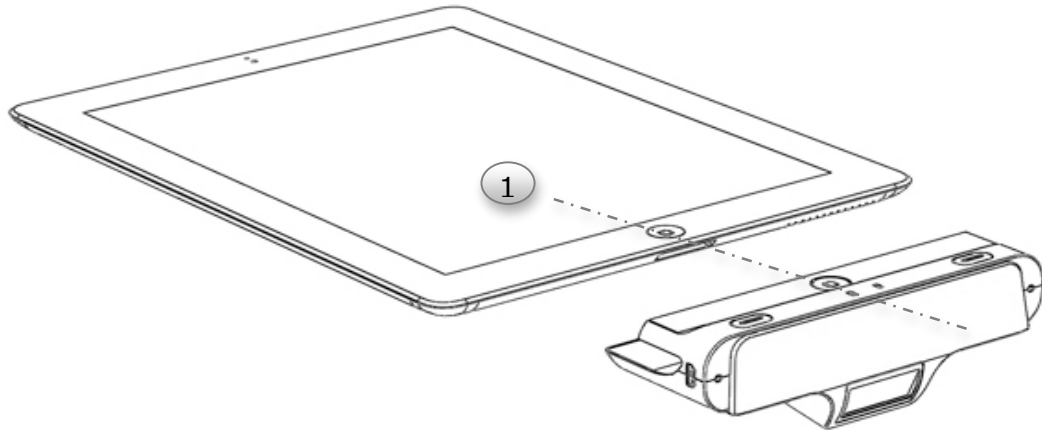


10. External RS Port

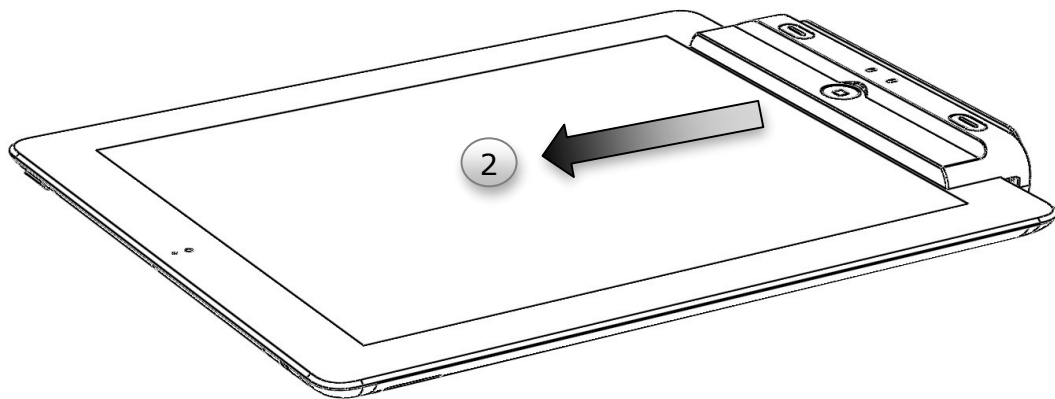


ASSEMBLING YOUR INFINEA TAB 4

1. Align both the home button on iPad and Infinea TAB 4 as show below.



2. Gently slide Infinea TAB 4 into position as show below.



POWER ON YOUR INFINEA TAB 4

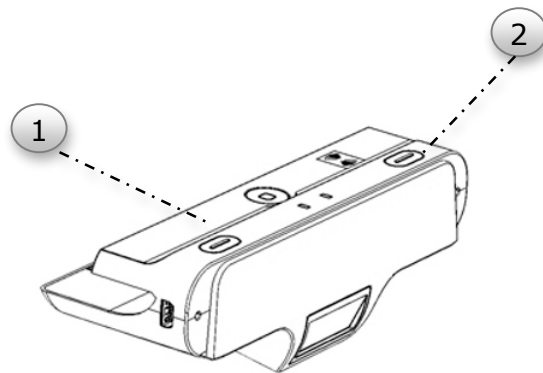
Dual Purpose Scan Button

The Infinea TAB 4 model has two dual purposes scan buttons for powering on the unit and scanning barcodes. When the Infinea TAB 4 is left idling for an extended period, the power is automatically turned off to preserve the charge in the internal battery pack.

Power On

When the Infinea TAB 4 is in the off mode, pressing the scan button momentarily turns on the unit and a single beep sounded and the Infinea TAB 4 is now ready for use.

Pressing the scan button a second time will activate the scanner as during normal barcode scanning.



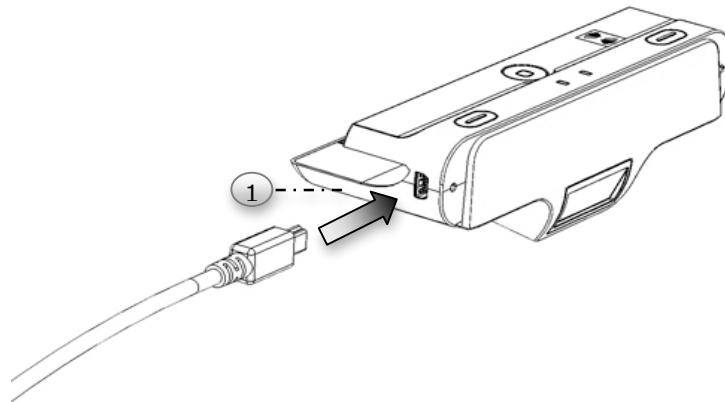
CHARGING YOUR INFINEA TAB 4

Charging the Infinea TAB 4 through USB port:

The Infinea TAB 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 Infinea TAB 4 and/or battery pack, please use approved AC adaptors and USB to Mini USB cables only.

1. Connect mini USB charger cable as shown below.


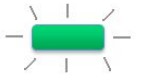
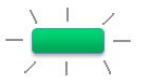


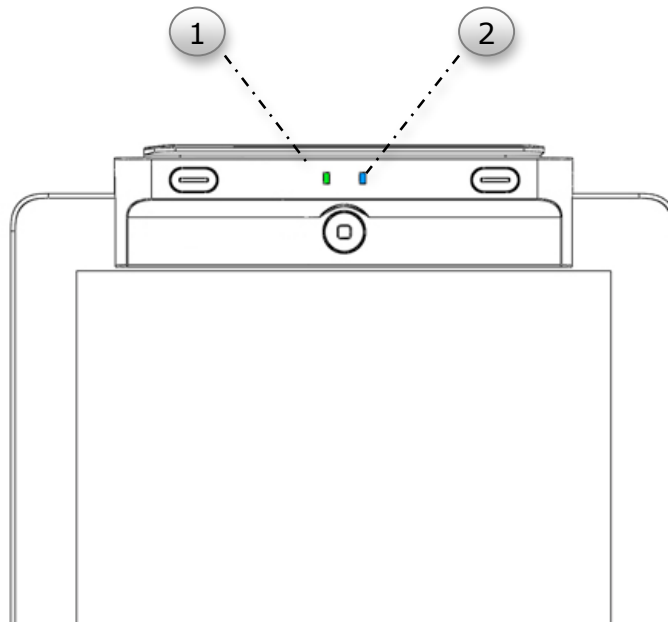
Warning:

- When charging the iPad and Infinea TAB 4 at the same time, only use the approved/recommended 5 volt @ 2.1 amp dc adaptors. Failure to do so may cause charging problems and potential damage to the Infinea TAB and /or iPad.
- When connecting the mini USB charging cable, take care as to not force the plug into the connector as doing so may cause damage to the connector.

STATUS AND OPERATIONAL MODES

The Infinea TAB 4 uses LEDs to indicate various conditions of operation. This may be charging, active or online, battery low conditions. The following explains these conditions and LED indication.

	LED	STATUS	
1		Slow flashing indicates that the device is off.	Fast flashing indicates that the device is on.
2		Flashing/Blinking indicating charging.	
3		Solid (non-flashing) indicates battery fully charged.	



ENCRYPTION CAPABLE MSR

The Infinea TAB 4 is equipped with an encryption capable magnetic stripe reader. The MSR will function as an unencrypted MSR until an encryption key is injected into the MSR head.

A key must be injected by a designated Infinite Peripherals key injection facility. Please speak to your account manager for more information.

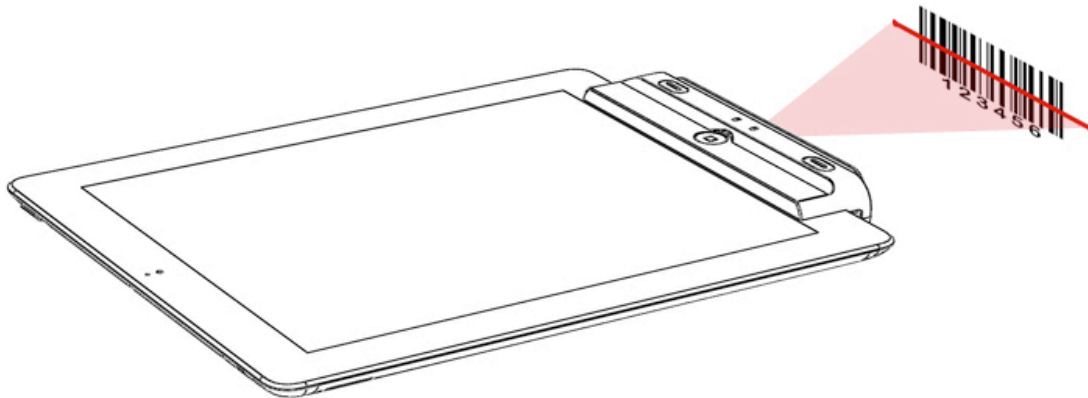
FEATURE - 1D BARCODE SCANNING

Using the 1D Barcode Scanner

The Infinea TAB 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 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.



Tips:

Slowly pull back the unit increasing the distance between the barcode and scan head until the scan line crosses both ends of the barcode and the barcode has been read by the scanner.

FEATURE - 2D BARCODE SCANNING

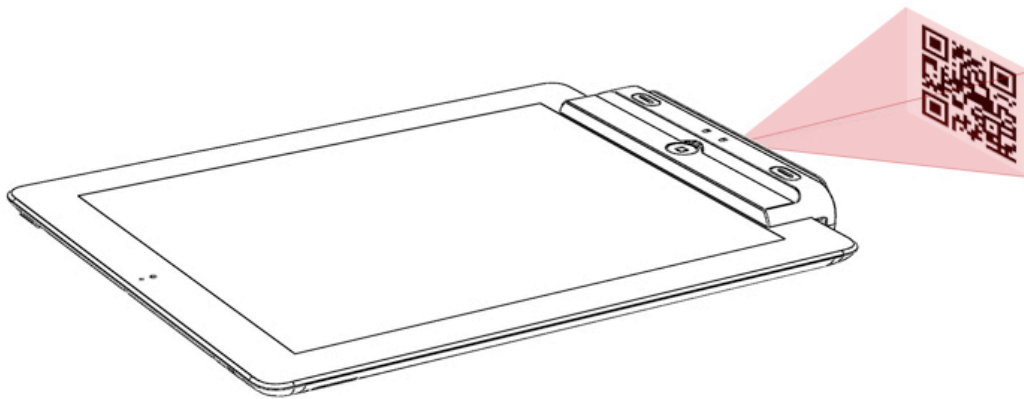
Using the 2D barcode Scanner

The Infinea TAB 4 2D model 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 first activate the scanner. Then position the scan head so that the light green rectangle is aimed at the barcode and the barcode is within the width of the red illumination box.

Slowly pull back the device, which increases the distance between the barcode and scanner until the barcode has been read by the scanner.



Tips:

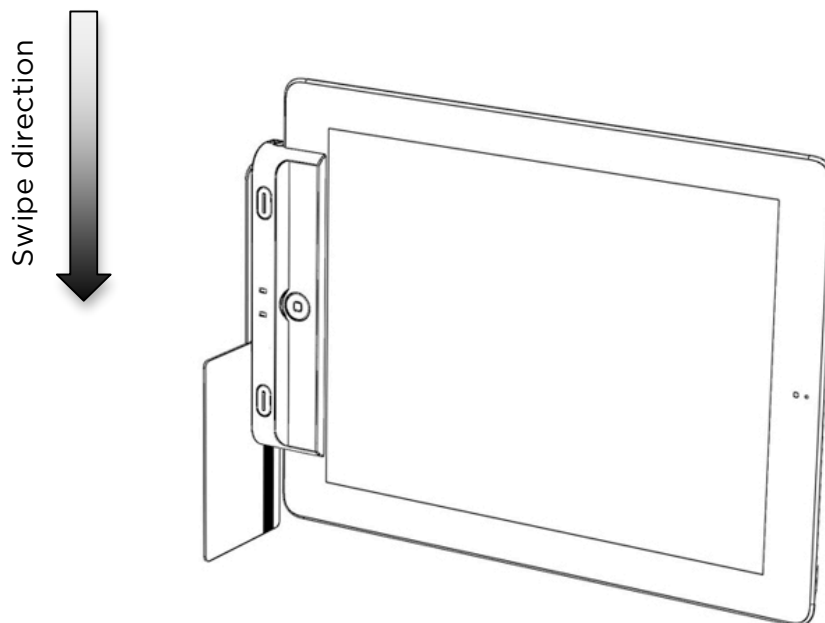
Depending on the size of the barcode being scanned, you may need to slowly pull back the unit increasing the distance between the barcode and scan head until the barcode is within the imager's illumination box is shown in the figure above.

FEATURE - MAGNETIC STRIPE READER

Reading Magnetic Cards

The Infinea TAB 4 has a built-in magnetic stripe 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 outwards. When placing the card into the reader, the magnetic strip must be facing towards the iPad as shown in the figure below.



Tips:

When swiping the card through the reader, keep the edge of the card flat on the inner base of the reader to ensure that the magnetic stripe passes over the read head evenly.

Swipe the card with an even sliding motion in the direction shown in the figure above.

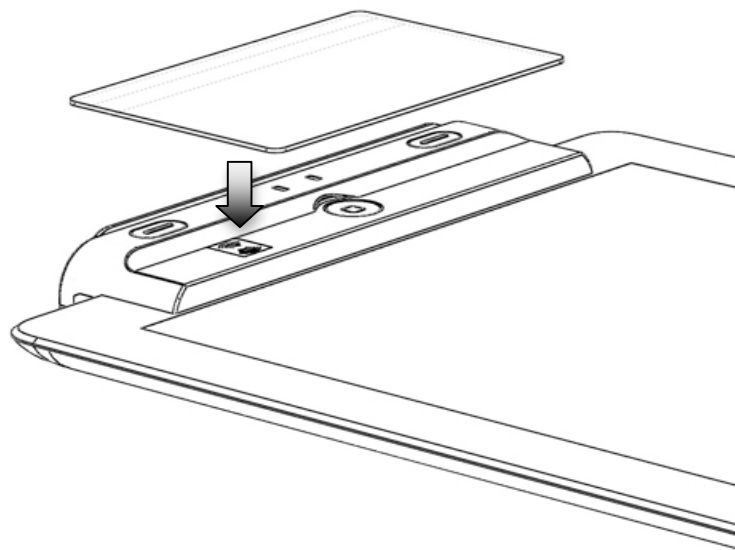
FEATURE - RFID CARDS

Reading RFID Cards

The Infinea TAB 4 has a built-in RFID tag/card reader. The RFID reader incorporates several RFID format depending on the model of your Infinea TAB 4.

To Read/Write to RFID tag/cards will require special software not included with the Infinea TAB 4.

The RFID receiver/transmitter is located adjacent to the left scan button. Place the RFID tag/card over the receiver/transmitter as shown in the figure below. Keep the face of the tag/card flat with the receiver/transmitter as close as possible.



Tips:

Depending on the type of RFID tags/cards being used, it may be necessary for tags/cards to make direct contact with the surface where the RFID receiver/transmitter is located for proper reading/writing.

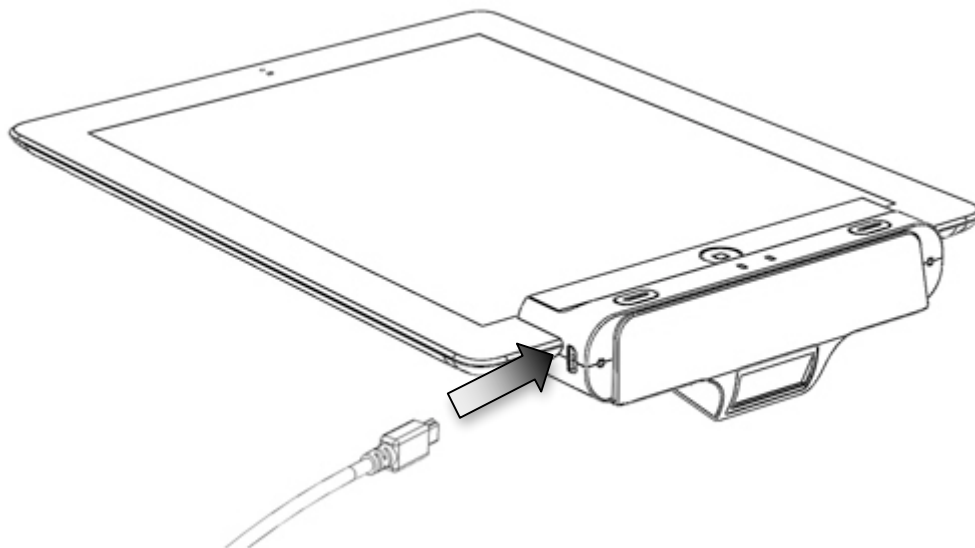
SYNCING

The Infinea TAB 4 portable barcode scanner and card reader is designed specifically for use with iPad there by allowing the iPad to sync with iTunes through the Infinea TAB 4 while connected.

To sync iPad with iTunes through the Infinea TAB 4 follow the steps below;

1. Connect the Infinea TAB 4 to a computer using a Mini USB cable as shown in the figure below.
2. Wait for the iPad sync mode beep.

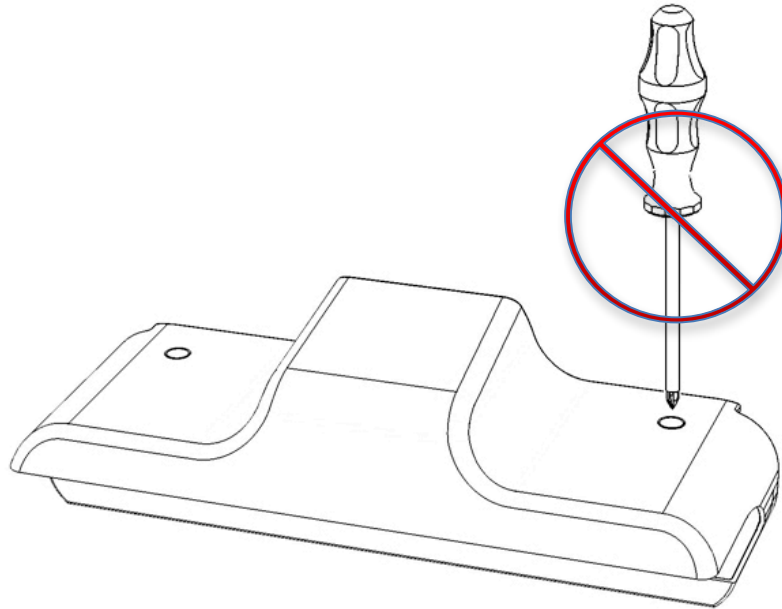
The Infinea TAB 4 should now pass through sync data. Refer to the iTunes documentation for syncing your iPad.



REPLACING BATTERY

The Infinea TAB 4 portable barcode scanner and card reader is designed with an internal Lithium Ion rechargeable battery pack.

For problems related to battery not charging or unit not turning on, please consult your Infinite Peripheral representative or certified service center.



Warning:

- Disassembling of the Infinea TAB 4 may impact your Infinea TAB 4 warranty. Please consult your Infinite Peripheral representative before attempting to open the Infinea TAB 4.
- Attempting to disassemble a SRED encrypted Infinea TAB 4 device will render the unit unusable. Please consult your Infinite Peripheral representative or certified service center.

DEVELOPING APPLICATIONS

Integrating the Infinea TAB 4 into your solution requires the use of the Infinea TAB 4 SDK.

The SDK incorporates an API specifically for rapid development of iOS applications designed to use the barcode scanning, card reading, Bluetooth, and RFID capability of the Infinea TAB 4.

For details on using the Infinea TAB 4 SDK, please refer to the SDK's documentation. The Infinea TAB 4 SDK can be downloaded from our Developer Portal.



For the latest Infinea TAB 4 SDK's, please visit our developer portal:

<http://www.ipcprint.com/developer/>

SRED ENCRYPTED MSR INFORMATION

Integrating the PCI PTS 3.x SRED certified Infinea TAB 4 into your solution requires proper maintenance of the Infinea TAB 4 to insure long and trouble free operation of the product.

This includes maintaining proper battery charge to prevent the Infinea TAB 4 from entering tamper detect mode. When the Infinea TAB 4 battery runs out or if the battery is removed the magnetic read head security feature becomes disabled and renders the unit unusable. This will require the unit to be sent back to Infinite Peripherals for servicing.

To prevent down time caused by the magnetic read head security feature becoming disabled follow the recommendations below:

- Do not allow the Infinea TAB 4 battery to fully discharge.
- Do not attempt to remove battery from Infinea TAB 4 unit.
- Always place the Infinea TAB 4 on charging station when not in use for extended periods.

The battery capacity and approximate time remaining before full discharge are shown in the table below. These values do not include daily usage of your Infinea TAB 4 and iOS device:

Infinea TAB 4	Fully Charged
With iOS device	2,396 days
Without iOS device	2,396 days

Warning:

- When the Infinea TAB 4 battery is fully discharged and enters the tamper detect mode, the unit can only be re-enabling at an Infinite Peripherals authorized service facility or at an Infinite Peripherals location.

TROUBLESHOOTING - CARD READING

If you are having problems with magnetic card 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">* Infinea TAB 4 not turned On.* Card inserted incorrectly.* Swipe method incorrect.* Faulty read head.* Unreadable magnetic stripe.* Secured Head reader requires encrypted data decryption.* Secured Head in tamper detected mode
2	Partial card data returned during swiping.	<ul style="list-style-type: none">* Swipe method incorrect.* Faulty read head.* Unreadable magnetic stripe.

TROUBLESHOOTING - BARCODE SCANNING

If you are 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">* Infinea TAB 4 battery is too low.* Infinea TAB 4 not turned on by software.* Faulty scan engine.
2	No barcode data returned during scanning.	<ul style="list-style-type: none">* Unreadable barcode.* Infinea TAB 4 battery is too low.* Faulty scan engine.* Software decode incorrectly.
3	Partial barcode data returned during scanning.	<ul style="list-style-type: none">* Unreadable barcode.* Infinea TAB 4 battery is too 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.* Infinea TAB 4 battery is too low.
6	Unable to scan certain barcodes symbols.	<ul style="list-style-type: none">* Barcode type is not enabled.* Barcode type is not supported.

TROUBLESHOOTING - RFID READING/WRITING

If you are having problems reading or writing RFID Tags/Cards refer to the table below for possible causes.

Item	Problem	Possible Cause
1	RFID does not turn On.	<ul style="list-style-type: none">* Infinea TAB 4 battery is too low.* Infinea TAB 4 not turned on by software.* Faulty RFID reader.
2	No RFID data returned during reading.	<ul style="list-style-type: none">* Unreadable RFID tag/card.* Infinea TAB 4 battery is too low.* Faulty RFID reader.* Software decode incorrectly.
3	Partial RFID data returned during reading.	<ul style="list-style-type: none">* Unreadable RFID tag/card.* Infinea TAB 4 battery is too low.* Faulty RFID reader.* Software decode incorrectly.
4	Unable to read certain RFID Tag/Card.	<ul style="list-style-type: none">* RFID type is not compatible.* RFID type is not supported.

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 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.