Infinite Peripherals

INFINEA TAB M

iPad® mini 1D/2D SCANNER

Made for **iPad**

CONTACT INFORMATION

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LEGAL NOTICE

"Made for iPad," means 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 with iPad may affect wireless performance.

COMPATABILITY

Made for

iPad mini

CONTENTS

OVERVIEW

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

Features

Battery: Rechargeable Li-ion Battery – 1,100 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:

            2D High Speed Imager

            2D - MTBF: 50K hours (Imager & Focus LED)

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

Indicators: Visual: 2 LEDs for device status, 4 LEDs for contactless indication

I/O Connectors:

            8-pin lightning connector
            10-pin female Mini-B USB connector for charging and synchronization
            External RS (232) port

TECHNICAL DATA –INFINEA TAB M

Electrical	
Power supply	Internal voltage 3.3V & 5V
Compatibility	iPad mini
Communications	USB Interface – between Infinea TAB mini and iPad mini USB Synchronization between Apple iPad mini ® & PC
Power Consumption	Deep sleep ~20uA
Magnetic Stripe Reader	3-track bidirectional reading capabilities Type: ISO 7816-1/2/3 compatible & RAW mode
Encryption Methods	3DES-112 with DUKPT Key Management AES-256 with Fixed Key Management Optional: AES-128 with Fixed Key Management
Barcode Scanner	2D High Speed Imager
Barcode Type	**2D Supported Symbologies**: Aztec Code, Aztec Runes, Chinese Sensible code, Codablock F, Composite codes, Data Matrix (ECC200/EC0-140), Maxi Code (mode 2~5), MicroPDF41, QR & Micro-QR Code, PDF417
	1D 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 2of5, Interleaved 2of5, ISBN-ISSN-ISMN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey
RFID Reader (Optional)	MIFARE MINI MIFARE CLASSIC-1K, MIFARE CLASSIC-4K MIFARE ULTRALIGHT, ULTRALIGHT-C ISO 14443, ISO 15693 MIFARE PLUS 2K/4K DESFire cardm FeLiCa
Bluetooth Communication	Bluetooth 2.0 Class 2 Distance – Up to 10m Serial Port Profile (SPP)
LEDs	Green LED for battery Blue LED for device status Four LEDs for Contactless indication
Buttons	Scan and status buttons
Battery	Rechargeable Li-ion Battery 3.7V/1100mAh, charging from USB port or charging station
Cables	Standard USB A to mini B Cable (0.9m)
Audio Indicator	Audio magnetic buzzer
Mechanical	
Dimensions	103mm (L) x 88mm (W) x 23.5mm (H)
Weight	140 grams (without iPad mini)
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)

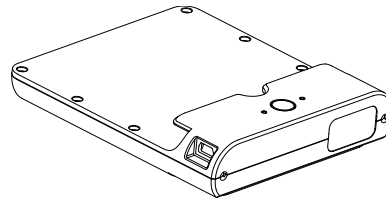* Specifications subject to change without notice.

BOX CONTENTS

Your Infinea TAB M comes with the following items listed below:

USB charge / Sync Cable

Infinea TAB M

*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 Infinea TAB M SDK's please visit our developer portal:

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

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GETTING STARTED

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

Quick Start Guide

| Step	What to do	Purpose	Where to find more Information
1	Fully charge your Infinea TAB M as recommended	The battery pack should be fully charged before use to ensure long battery life	Charging Battery, Page 9
2	Install Software	All device features require software to be installed onto your iPad Mini	Software is not provided with Infinea TAB M. Please contact your reseller or Infinite Peripherals for Third-Party software solutions options. Developers should refer to the section in this manual on "Developing Applications" Page 16
3	Attach device to iPad Mini	Connecting your Infinea TAB m and iPad Mini	Page 8

ABOUT YOUR INFINEA TAB M

1. Scan Button
2. Charging Connectors
3. Barcode Scanner
4. Status LED/Battery Charging LED
5. 8-pin Lightning connector
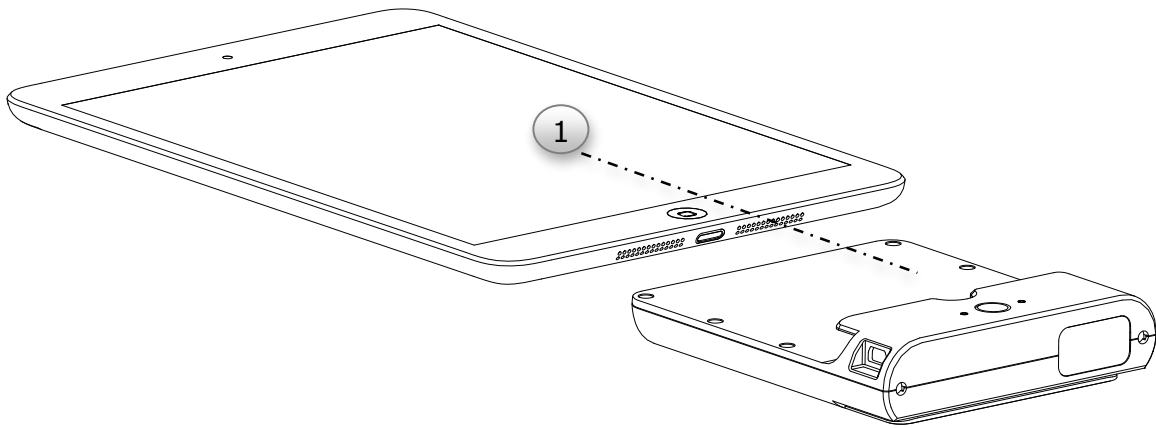6. USB Sync & Charging Port
7. External RS Port
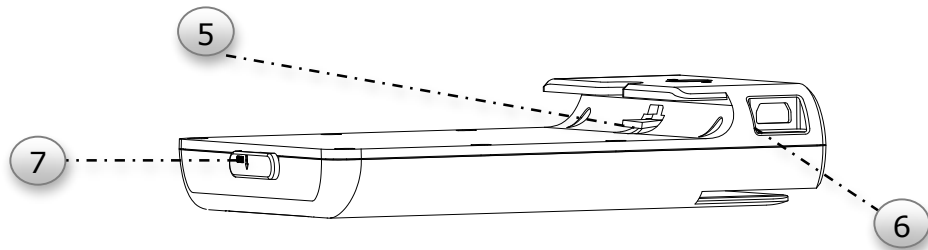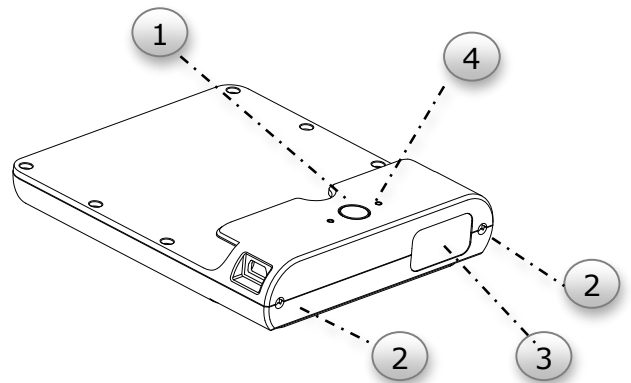
8. RFID Receiver/Transmitter
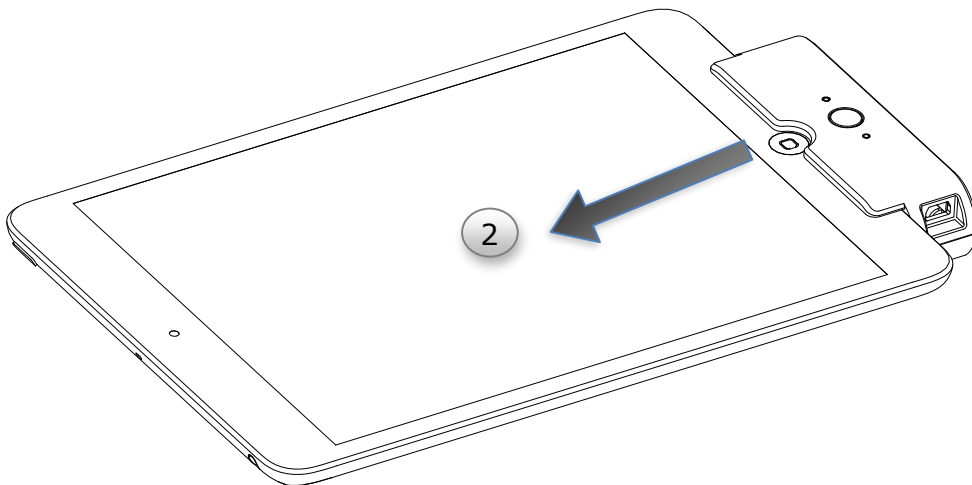9. Magnetic Stripe Reader
10. Four LEDs (NFC OPTION ONLY)
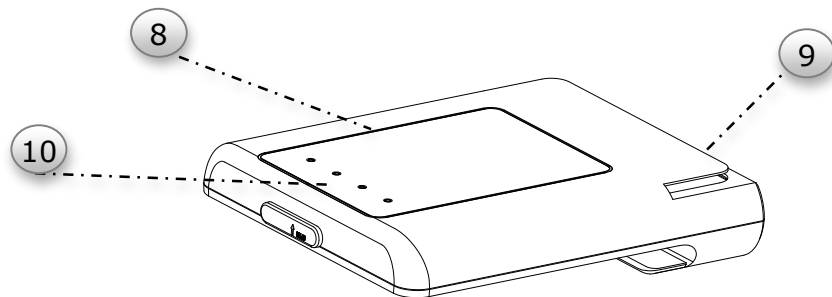
ASSEMBLING YOUR INFINEA TAB M

1. Align the home button on iPad mini and the half circle on the Infinea TAB M as shown below.

2. Gently slide the Infinea TAB M into position as shown below.
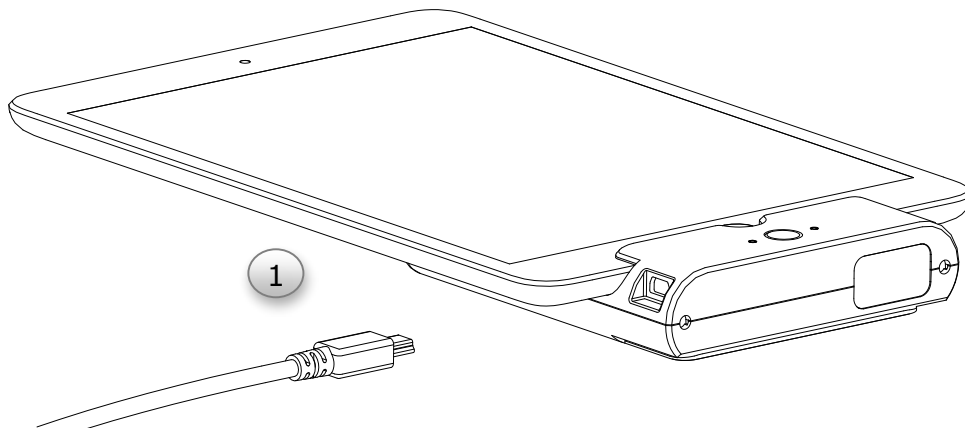
CHARGING YOUR INFINEA TAB M

Charging the Infinea TAB M through the USB port:

The Infinea TAB M uses a Lithium Ion rechargeable battery. Before first use, the battery should be charged for at least (4) hours.

To prevent electrical damage to the Infinea TAB M and/or battery, please use approved AC adaptors and USB to Mini USB cables only.

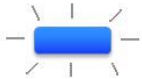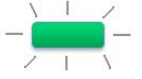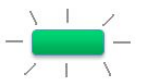1. Connect mini USB charger cable as shown below.


Warning:

- When charging the iPad mini and Infinea TAB M 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 m and /or iPad mini.

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

|	LED	STATUS	
1		Slow flashing, indicates no connection with iOS Application.	Fast flashing, indicates connection with iOS Application.
2		Flashing indicates battery is charging.	
		Solid (non-flashing) indicates battery fully charged.	
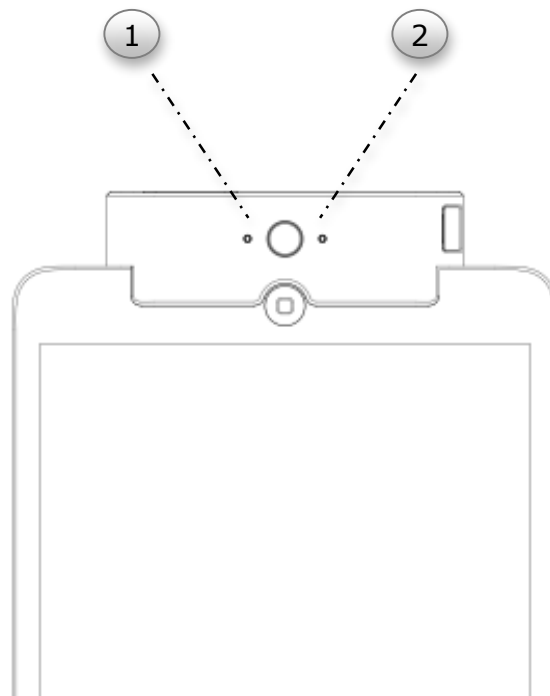
FEATURES-BARCODE SCANNING

Using the 2D barcode scanner:

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

Scanning Barcodes:

To scan a barcode first activate the scanner by pressing the scan button. Then position the scan head near the center of the barcode. The illumination box should extend outside the 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 scanner has read the barcode.
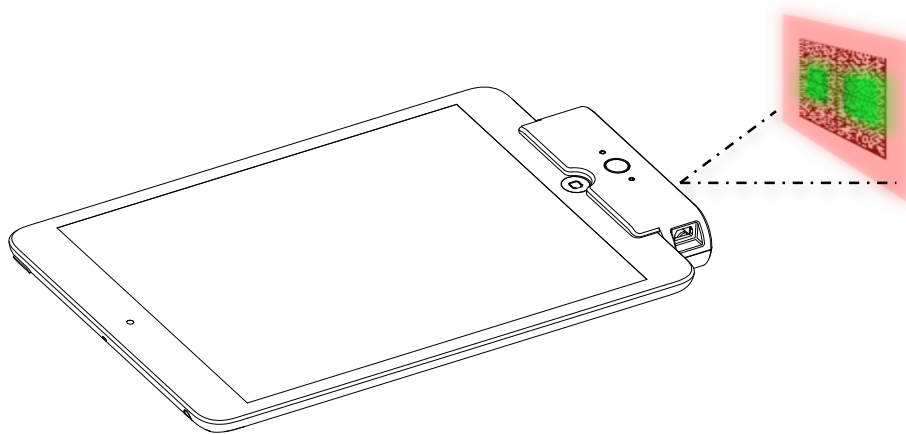
Tips:

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 as shown in the figure above.
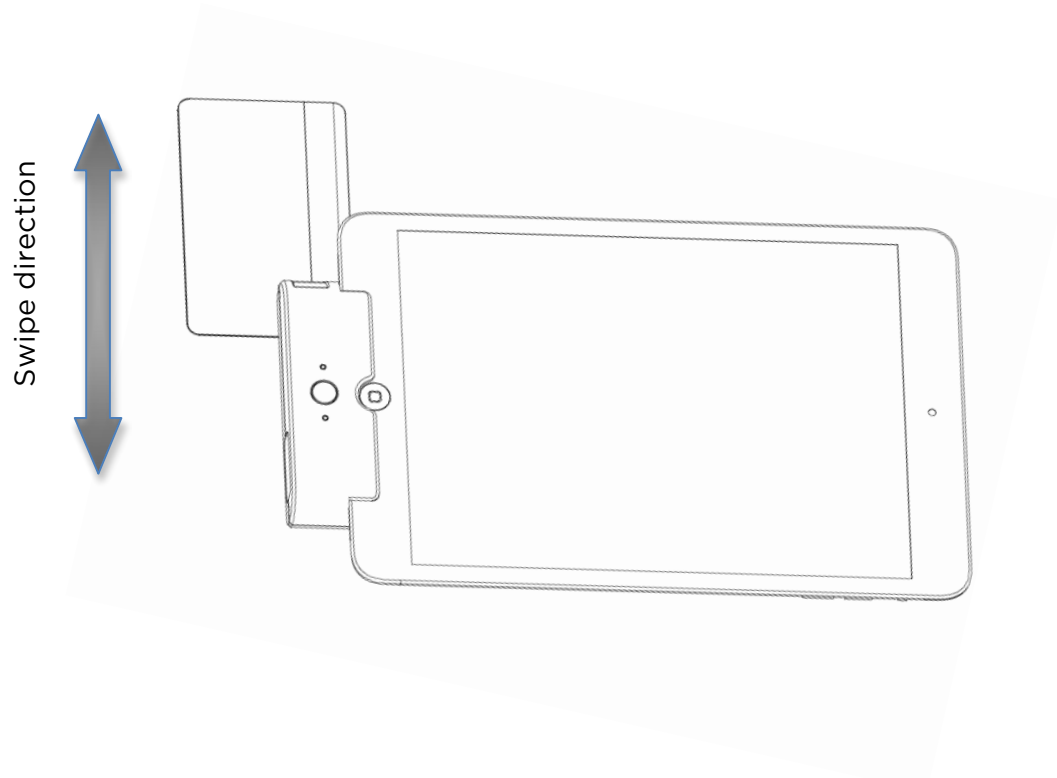
FEATURES-MAGNETIC CARD READER

Reading Magnetic Strips:

The Infinea TAB M 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 card must face the same direction as the face of the iPad mini.

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 strip passes over the read head evenly.

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

FEATURES-RFID CARD READER

Reading RFID Cards:

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

The RFID receiver/transmitter is located on the back of the device, below the LEDs. 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.

Contactless Reader
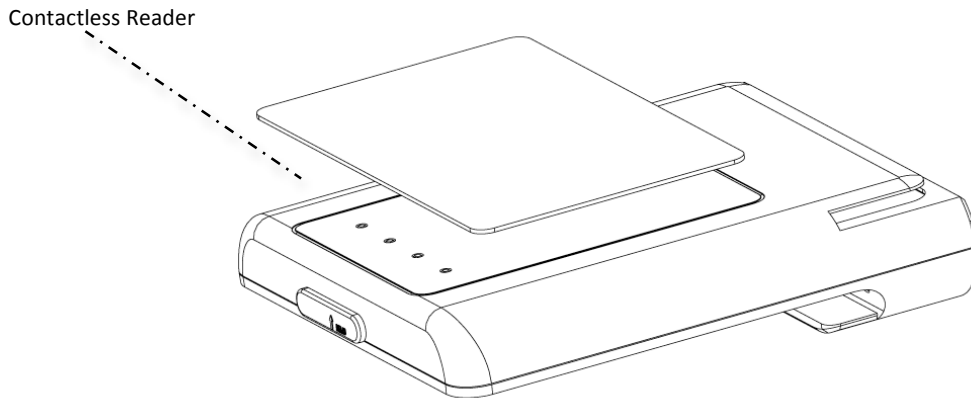
Tips:

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 iPad mini can sync with iTunes through the Infinea TAB M while connected.

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

1. Connect the Infinea TAB M to a computer using a Mini USB cable as shown in the figure below.

2. Wait for the sync mode beep and the LED flashes green.

The Infinea TAB M should now be in sync mode. Refer to the iTunes documentation for syncing your iPad mini.
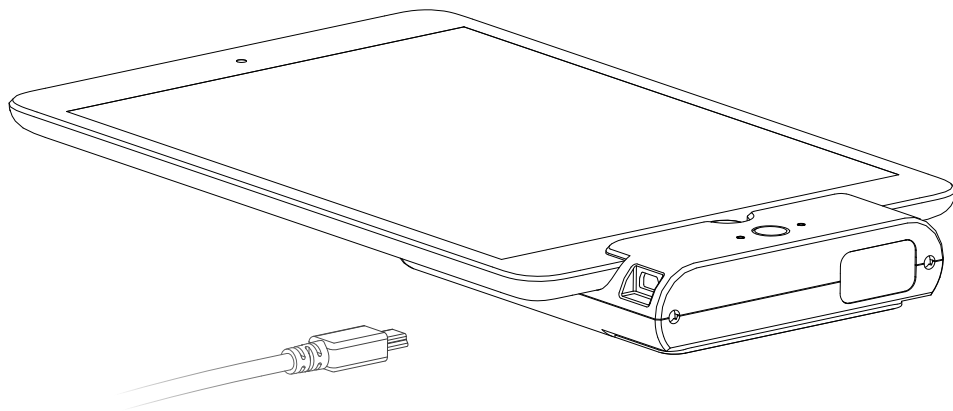
Note:

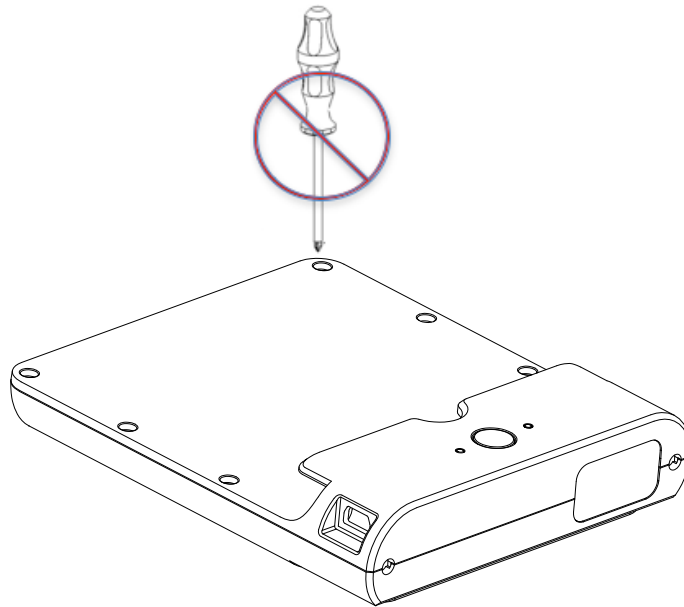There are no debugging capabilities on any Lighting connector products.

REPLACING BATTERY

The Infinea TAB M is designed with an internal Lithium Ion rechargeable battery.

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 M may impact your Infinea TAB M warranty. Please consult your Infinite Peripheral representative before attempting to open the Infinea TAB M.

- Attempting to disable SRED Infinea TAB M device will render the unit unusable. Please consult your Infinite Peripheral representative or certified service center.

DEVELOPING APPLICATIONS

Integrating the Infinea TAB M into your solution requires the use of the Infinea TAB M 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 M.

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

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

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

SRED ENCRYPTED MSR INFORMATION

Integrating the PCI PTS 3X SRED certified Infinea TAB M into your solution requires proper maintenance of the Infinea TAB M.

This includes maintaining proper battery charge to prevent the Infinea TAB M from unintentionally entering tamper detect mode. When the Infinea TAB M battery becomes depleted or if the battery is removed, the magnetic read head 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 M battery to fully discharge.

- Do not attempt to remove battery from Infinea TAB M unit.

- Always place the Infinea TAB M 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 M and iOS device:

Scan Engine	Infinea TAB M Fully Charged	Infinea TAB M Main Battery Depleted (See warning below)
With iOS Device	2,396 days	63 days
Without iOS Device	2,396 days	63 days

Warning:

- When the Infinea TAB M battery is fully discharged and enters the tamper detect mode, the unit can only be re-enabled at an IPC authorized service facility or at one of IPC's location

TROUBLESHOOTING –MSR 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	* Infinea TAB M not turned On * Swipe method incorrect * Faulty read head * Unreadable magnetic strip * Secured Head reader requires encrypted data decryption * Secured Head in tamper detected mode
2	Partial card data returned during swiping	* Swipe method incorrect * Faulty read head * Unreadable magnetic strip

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.	* Infinea TAB M battery is too low. * Infinea TAB M not turned on by software. * Faulty scan engine.
2	No barcode data returned during scanning.	* Unreadable barcode. * Infinea TAB M battery is too low. * Faulty scan engine. * Software decode incorrectly.
3	Partial barcode data returned during scanning.	* Unreadable barcode. * 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. * Infinea TAB M battery is too low.
6	Unable to scan certain barcodes symbols.	* Barcode type is not enabled. * Barcode type is not supported.

TROUBLESHOOTING –RFID CARD

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.	* Infinea TAB M battery is too low. * Infinea TAB M not turned on by software. * Faulty RFID reader.
2	No RFID data returned during reading.	* Unreadable RFID tag/card. * Infinea TAB M battery is too low. * Faulty RFID reader. * Software decode incorrectly.
3	Partial RFID data returned during reading.	* Unreadable RFID tag/card. * Faulty RFID reader. * Software decode incorrectly.
4	Unable to read certain RFID Tag/Card.	* 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.

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