

**3.5. Connections:**

Turn the base off when connecting peripherals. The power supply must be connected last, only after all the other connections are made.



**VERSATILE BASE**



**DIAL RADIO BASE**

- **ETHERNET CONNECTION (versatile base only)**  
Turn off the versatile base and connect the Ethernet cable to the port marked **PLUG>IT**. Plug the other end of the cable into the hub/router or ISP.
- **DIAL LINE CONNECTION**  
Plug the one end of a telephone cable (supplied with the terminal) into the port marked , and connect the other end of the cable to a wall telephone jack.
- **PHONE CONNECTION (dial radio base only)**  
Plug one end of a telephone cable into the dial radio base port labeled **EXT LINE** and plug the other end of the cable in the phone.
- **PERIPHERAL/HOST CONNECTION**  
Unplug the base. Connect the serial cable to the port marked **RS232-1** or **RS232-2 (COM1/3 or COM2)** on radio base). Plug the other end of the serial cable to the device (PC, check reader etc.). For detailed instructions, ask the equipment supplier.
- **POWER CONNECTION**  
Plug the power adapter radial jack into the base port marked . The green light on the front right hand side of the base indicates the power is on.  
Attach the cable securing plate and fix it with a screw.



**3.6. Changing the printer paper:**

When the colored stripe on the paper appears, replace the paper:

1. Remove the i7780 from the base and wait till it turns off, do not touch the printer parts, they can be very hot. Be aware of the sharp paper cutter.
2. Push the button on the paper compartment cover toward the back and lift the cover.
3. Remove the empty paper roll and insert the new roll. Ensure that the paper is protruding from

UNDERNEATH the roll:



4. Close the cover, press it until it snaps. Press the “Paper feed” key to verify that paper feeds properly.

**4. Normal Operation:**

Depending of the application installed in the terminals, the icons indicating battery charge level, Bluetooth signal strength and terminal docking status can be displayed. To extend the battery life, the i7780 hand held goes into a stand-by mode when it is not on its base. To quickly power on the hand held:

- Press the green <ENTER> key, or
- Place the hand held briefly on the base.

**5. Cleaning procedure:**

- The i7780 must be off for all cleaning operations.
- Do not clean the i7780 with water but with a dry or only slightly damp cloth.
- Do not use solvent, detergent or abrasive products.
- If the terminal has battery recharging or communication problems, clean the golden contact under the terminal with a damp cloth.
- Do not scratch or scrape the surface of the contacts.

**6. Technical specifications:**

The i7780 system uses Bluetooth technology:  
 Type.....20 dBm hopping frequency  
 Bandwidth .....ISM 2.45 GHz  
 Emitting power.....≤ 100mW (20dBm)  
 Range.....≈ 30 meters or 100 feet

**The power supply:**

- INPUT .....AC 120V 60Hz
- OUTPUT .DC 18V 0.9A 16.2VA



**Thermal Paper Specification:**

- Single ply thermal sensitive – POS or facsimile grade.
- Basis Weight: (lb/rm 17 ins. X 22 ins. - 500) --- 14.5 ± 5% (GSM) --- 55 ± 5%
- Caliper ..... 2.4 ± 0.2 Mils or 60 ± 5 Microns
- Brightness..... Min. 85%
- Smoothness (Bekk Minimum) .....300 s
- Roll Width ..... 2.28 ± 0.040 in (58 mm ± 1.0 mm)
- Roll Diameter ..... 1.97 in (50 mm) maximum
- Roll Core ID ..... 0.500 in (13 mm) nominal
- Roll Core OD..... 0.625 in (16 mm) nominal

Recommended brands:

KANZAN ..... KF50                      JUJO ..... AF50KS-E  
 KOEHLER.....KT55HS01                 MITSUBISHI.....P6402  
 Thermal paper should NOT be exposed to vinyl, plastics, adhesives, shrink-wraps, wet-toner copies or certain carbon papers, office light UV light, high humidity and temperature (above 65%, 25°C or 77°F) for long periods of time.

**7. If you experience problems:**

**24-Hour North American Customer Support:**

Tel: 888.900.8221                                 Fax: 905.795.9343  
**customersfirst.us@ingenico.com**

**Customer Service Centers:**

**In Canada:**                                         **In the USA:**  
**6520 Gottardo Court**                            **6195 Shiloh Road, Suite D**  
**Mississauga, Ontario, L5T 2A2**               **Alpharetta, GA 30005**

**US Federal Communications Commission (FCC) Warnings:**  
 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.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

**Canadian Department of Communications (DOC) Warnings:**  
 This digital apparatus does not exceed the Class B limits for radio noise emissions from the digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

**RF Exposure Warning:**  
 To comply with RF exposure requirements the base unit must be installed and operated with a separation distance of 20 cm or more between the device and all person's body (excluding extremities of hands, wrist and feet). The terminal unit has been tested and meets RF exposure requirements for hand held operation pursuant to FCC OET Bulletin 65 Supplement C ed. 01-01, IEEE 1528/D1.2 (2003) and Industry Canada RSS-102 (1999). The base and terminal units must not be co-located or operated in conjunction with any other antenna or transmitter. For body worn operation, this device has been tested and meets the FCC RF exposure requirements when used with the Ingenico accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure requirements.

**ACTA Revision Part 68**  
 This equipment complies with Part 68 of the FCC rules and the requirements adopted by the Administrative Council for Terminal Attachments (ACTA). On the bottom of this equipment is a label that contains, among other information, a product identifier in the format US: INBMM01BVBASE, INBMM01BIBASE, INBMM01Bi7780, INBMM01Bi7770 or IN2DT00B17770. If requested, this number must be provided to the telephone company. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. The Ringer Equivalence Number (REN) is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved. If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment (IBASE, i7780, INGENICO 7780, i7770, or INGENICO 7770) does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

**Industry Canada Warning:**  
 NOTICE: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

NOTICE: The Ringer Equivalence Number (REN) for this terminal equipment is <0.1>. The REN assigned to each terminal equipment provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed five (5).  
 NOTICE: To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.



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## 1. Ingenico 7780 description:

The i7780 is a portable (Bluetooth technology) point of sale electronic payment terminal designed to process debit, credit and smart card purchases. It is highly secured, EMV level 1 and 2 certified.

The i7780 communicates with the acquirer through its base via RS-232 port, the telephone or Ethernet network. The i7780 and the base communicate through the Bluetooth link, or via direct contact. A network can be set up, with one base managing up to 7 terminals at the same time. Various peripherals can be connected to the base through its RS-232 ports.



### 1.1. Display:

A 4 line x 16 character LCD graphic display, with a back light.

### 1.2. Keypad:

18 keys, with a back light. The special function keys are:

- Programmable function keys <F1>, <F2> and <F3> for navigation and access to various i7780 functions and the system and application menus.
- Paper Feed key is used for a printer paper feed (20mm).
- The green <ENTER> key confirms the data entered or displayed. It also powers on the i7780.
- The red <CAN> key cancels the current function and returns the terminal to the idle state. It also powers off the i7780 if it is not docked on the base.
- The yellow <CORR> key corrects invalid data entry.
- The blue <ADMIN> key is used to access the terminal administration function menu.

### 1.3. Magnetic Stripe Card Reader:

The i7780 features a bi-directional reader capable of reading 3 tracks simultaneously (or track 1 and 2 on some models). The reader is located on the right-hand side. The card can be swiped from the bottom to the top, or from the top to the bottom. The magnetic stripe on the card has to face down and point toward the keypad.

The card has to be swiped at uniform speed and pressure, ensuring that the card remains in contact with the bottom of the track throughout the entire swipe action.

### 1.4. Smart Card Reader:

Insert the smart card horizontally into the slot on the front of the i7780, the microchip facing up, and leave it in the reader throughout the transaction.

The i7780 has EMV level 1&2 approvals and complies with the ISO 7816, Sync and Async T=1 & T=0.

### 1.5. Printer:

The i7780 integrates a quiet, high speed, "easy-load" style thermal printer with graphics capability.

### 1.6. Battery:

Rechargeable and easily replaceable Li-Ion or Ni-MH battery pack.

### 1.7. SAM Connectors:


Three SAM card connectors are located on the bottom of the i7780. The SAM (Secure Access Module) supports smart card chips necessary for applications such as loyalty.

### 1.8. The Base

The i7780 communicates with its base via Bluetooth radio link, or through the contacts (connect mode) which is useful when loading large amounts of data, or when a Bluetooth link is unavailable.

The i7780 works with either dial radio base or versatile base. The versatile base has a Plug-It slot to add a Plug-It module with additional communication port.

The base station recharges the battery pack and includes the following communication ports:

- **RS232-1, RS232-2 (COM1/3, COM2 on dial radio base)**  
Two RS-232 serial communication links for customer applications download and for the communication with external peripherals (speed 300 to 115200 bps). The RS232-1 (or COM1/3) provides power for external devices.
- **DIAL LINE port**   
A V34 / 33600 bps (asynch. and synchr.) modem that supports fast connect and busy line detection.
- **TELEPHONE port EXT LINE (dial radio base only):**  
The telephone port allows sharing of the telephone line with other devices such as a fax machine or telephone.
- **ETHERNET port PLUG-IT (on versatile base only):**  
The Ethernet port allows the i7780 to connect to a local network.

## 2. i7780 Packaging Content:

1. The i7780 hand held terminal.
2. The battery pack.
3. Thermal printer paper, one roll.
4. The base (optional versatile, dial radio or charging).
5. The plug-it module (optional, with the versatile base).
6. The power supply (optional, with the base only).
7. The phone cable (optional, with the dial radio or versatile base only).

8. The cable securing plate and a screw (optional, with the base only).

9. The holster (optional).

10. This installation guide.

## 3. Installation procedure:

Place the base on a clear, flat surface near an electrical and telephone sockets. The ideal location is in the center of the zone to be covered with a large open area around. **Do site survey as described in the document P/N 0032-07110-0109 (or its latest revision) to determine the number of bases and their location to ensure optimal radio coverage.**

The antenna is inside the base, running along its left side.

The i7780 hand held and the base must be protected from high temperature, vibrations, dust, dampness and electromagnetic radiation (computer screen, microwave oven, anti-theft barrier etc.). Equipment such as cordless and cellular phones can emit harmonics that could disturb the terminal at 2.45 GHz.

Do not place the base near a great vertical metal plane (doors of refrigerator, large home appliances, vending machines).

Ensure the base or the terminal is more than 3 m (around 10 feet) from any microwave oven in use.

Do not place base or hand held terminal on a metal surface.

Do not put your hand under the printer during communication, as the range is greatly reduced.

If there are several radio bases installed, position them at least 2 meters (around 6.5 feet) from each other.

Do not install base within 2m (6.5 feet) of wireless router.

Ensure that the terminal is seated securely on the base.

**Operating temperature** .....+5°C to +40°C

**Humidity** ..... 20% to 90% without condensation

**Storage temperature** .....-10°C to +60°C

### 3.1. Battery Set up and Charging:

The i7780 is supplied with a removable, rechargeable NiMH or Li-Ion battery. Only use the battery pack supplied with your terminal.

To charge the battery, place i7780 on the base (the base must be powered up). **Do not place battery on the base by itself, the battery must be charged while installed in i7780.**

Ensure that the hand-held is seated securely on the base.

Use the power adapter supplied with the i7780. Many adapters can appear similar and will plug into the i7780 base but will not work properly causing erratic behavior, poor charging or even damage to the unit.

Always charge battery at room temperature.

Charge the battery for 3 hours before it is used the first time. Full charging time after that is 2 hours. The battery will reach its full capacity after 3 to 4 charge/discharge cycles.

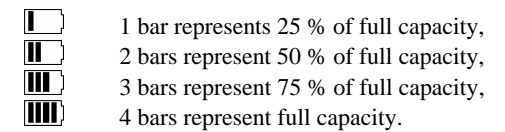
Note that the battery will recharge only if necessary.

Furthermore, the battery has internal temperature control so it never exceeds 50°C.

The i7780 with a fully charged battery can execute up to 200

transactions (depending on the ticket size and transaction duration).

The battery status is updated on i7780 display:



### 3.2. Installing the Battery:

Turn off the i7780 terminal or take it off its base and wait until it turns itself off before handling the battery pack.

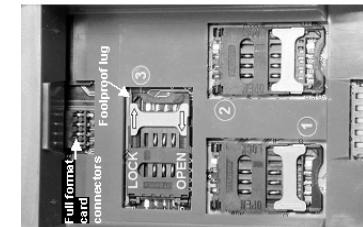
Hold the battery with the connectors facing downwards, do not touch the contacts on the battery or i7780.



Insert two plastic teeth in the gaps on the i7780 case, place the battery in the cavity and press the handle until a click is heard.

### 3.3. SAM Installation:

Wait till the i7780 turns off and remove its battery (do not touch the contacts on the battery or the i7780). Unlock the SAM connector by sliding the metallic latch in the direction of the OPEN arrow. Lift the SAM cover upward and insert the chip as shown on the picture below. Swing the cover down and slide the latch into locked position (the LOCK arrow). Put the battery back in the i7780.



### 3.4. Changing The Plug-It Module:

1. Turn off the versatile base.
2. Remove the cable from Plug-It module.
3. Remove the screw using Philips screwdriver.
4. Take the Plug-It module out.
5. Put in the new Plug-It module and secure it with a screw.

