

## Fully-featured, Rugged and Secure Mobile Solutions

# Mobile

# Range

# Ingenico 8550

### Improve Productivity, Reduce Costs

The rugged i8550 Series will drastically reduce your TCO as it will eliminate the need for a dual solution, i.e. a payment terminal and a PDA-type typical industrial grade mobile computing solution, as it integrates everything you need into a single superior mobility architecture. It offers tangible ROI and unparalleled value.

### Security from a global leader in secure transactions

The i8550 Series is designed for all types of EMV-standard payments and for emerging secure transactions such as mobile on-line lottery and law enforcement applications. Thanks to the 32-bit High Secure Core (HSC) with cryptographic engine (RSA, DES, tripleDES), its secure UNICAPT 32 software and its overall tamper-proof and secure design meeting Visa PED and ZKA requirements, all transactions can be processed securely in real time, thus increasing revenues, security and productivity, while at the same time reducing costs.

### Ergonomically designed from the ground up for ease of use and truly mobile usage in tough environments

- The i8550 Series user interface includes a 240 x 240 pixel color display, a touch screen with stylus, a quick, backlit mobile phone-style keyboard with 5-way navigation key and clear tactile feedback. Included is a speech interface module using the built-in loudspeaker or headset. The superior user interface allows for maximum productivity, flexibility and convenience and is adapted to the visually impaired.
- To truly enable mobile data capture, data security, data management and data transmission the i8550 Series includes a wide choice of data capture options: 1D symbologies, 2D symbologies, OMR (Optical Mark Reading – e.g. for lottery bet slips), OCR (Optical Character Recognition – e.g. for bills), images, signatures, fingerprints, RFID, and a choice of real-time wireless data communications options: GSM/GPRS, CDMA and Wi-Fi. It has an optional user-accessible MMC/SD card slot which allows for mass storage of critical data.
- The rugged i8550 Series withstands multiple 1.2 meter (4 ft.) drops onto concrete, thus ensuring the longevity of the terminal while minimizing downtime. The internal antenna eliminates a common point of failure.
- The i8550 Series can automatically sense not only when the paper runs out, but even when the paper is low; this prevents receipts from being partially printed, which is especially crucial for instance in lottery applications. The fact that the printer is built-in further eliminates the need for a cumbersome external printer.
- The high capacity Lithium-Ion battery (12.25 Watt hours), enables full shift life for maximum user productivity, and it is easily removable, allowing quick replacement in the field.
- A hand strap adds handling security, and four shoulder strap attachments offer total freedom of carrying orientation, further enhancing user productivity and comfort.

Even with all these features, yet the durable i8550 Series weighs less than 725 gm (25 oz.) and is highly compact: it is only 21 cm (8.3 in.) long and the thickness at grip is only 38 mm (1.5 in.); making this the lightest high-productivity robust and secure mobile solution.



### Future-proof your investment with a total solution

With the i8550 Series there are several ways to future proof your investment. Ingenico's UNICAPT 32 is the world's leading platform for approved 32-bit EMV payment applications, saving time and money when you roll out in additional countries. The i8550 Series' highly scalable and flexible architecture allows you to choose the data capture options for your estate of terminals – from 1D to RFID and choice of data transmission – from wired to wireless. You can choose applications residing locally that are developed with IngEstate and remotely managed and downloaded using IngEstate. Alternatively, you can choose or upgrade to OpenEstate distributed open standards technology framework, allowing the i8550 Series into virtually any proprietary, business or Internet network with a fairly small amount of integration. With OpenEstate, the business logic component runs at the remote application server, processing terminal requests and communicating with the service provider's infrastructure. Applications on the host site are updated in moments and updates are distributed over the estate as soon as they are requested. This eliminates updates on a periodic basis every few weeks or when manual intervention is instigated. The i8550 Series offers a large accessory portfolio including a rugged vehicle cradle. The feature-rich i8550 Series delivers the highest level of flexibility and investment protection.

To learn more about our markets, applications, solutions, specification highlights, and where we are located, refer to the following pages or visit us on the web at [www.ingenico.com](http://www.ingenico.com).



Secure transaction and payment solutions

## 18550 Series Industries and Applications

### Travel and Transportation Industry

*Trucking, Airline, Ocean, Rail*

#### Applications

Postal services, courier services, pick-up and delivery, fleet management, vehicle tracking and maintenance, mobile rental car check-in, airline passenger check-in and ticket sales, baggage and cargo tracking, on-board food service and duty-free sales, payment and secure transactions.

#### Users

Mail carriers, route drivers, rental car agents, shipping and receiving personnel, baggage and cargo personnel, flight and train attendants.

### Retail Industry

*Open air, Kiosks, Stores, Restaurants, Hotels, Sports*

#### Applications

Lottery sales, point of sale, customer self-service, line-busting and inventory management, mobile store manager, hospitality applications: restaurants, hotels, sports venues, payment and secure transactions.

#### Users

Lottery agents, supermarket personnel, convenience store personnel, farmers' markets and outdoor market personnel, waiters, hotel staff, stadium staff.

### Wholesale Distribution Industry

*Warehouse, Route Accounting, Technical Service*

#### Applications

Automatic ordering, inventory reconciliation, delivery tracking, full service vending, competitive surveys, shelf space analysis, route optimization, field automation, inventory management, logistics optimization, automated meter reading, payment and secure transactions.

#### Users

Pre-sales, delivery, vending, merchandise, conventional route sales, field service technicians, utility personnel.

### Government Industry

*Defense, Customs and Immigration, Public Safety*

#### Applications

Inventory management, asset tracking and management, customs and immigration services, citations and parking tickets, real-time visibility to centralized databases, payment and secure transactions.

#### Users

Military, customs and immigration officers, police officers, parking attendants, supervisors.

### Healthcare Industry

*Hospitals, Medical Offices, Nursing Homes*

#### Applications

Patient check-in/check-out, staff authentication, medication administration, specimen collection, remote patient monitoring, mobile physician/rounds, asset management, blood transfusion verification, payment and secure transactions.

#### Users

Nurses, doctors, patients, support staff.



#### Postal Services

*Proof of delivery, payment, OCR bill reading*



#### Courier Services

*Payment, signature capture*



#### Mobile Rental Car Check-in

*Check-in, check-out, payment at customer location*



#### On-board Sales

*Airline-industry certified*



#### Lottery Sales

*Optical mark reading, speech*



#### Line Busting/Check-out and Inventory Management

*One device for both applications*



#### Delivery Tracking

*GPS support for route optimization*



#### Customs and Immigration Services

*Integrated fingerprint sensor*



#### Police Citations Issuance

*Automatic license plate reading and real-time payment*



#### Parking Attendants

*Automatic license plate reading*



**Bar code scanning/Imaging Module**  
1D, 2D, OMR and OCR



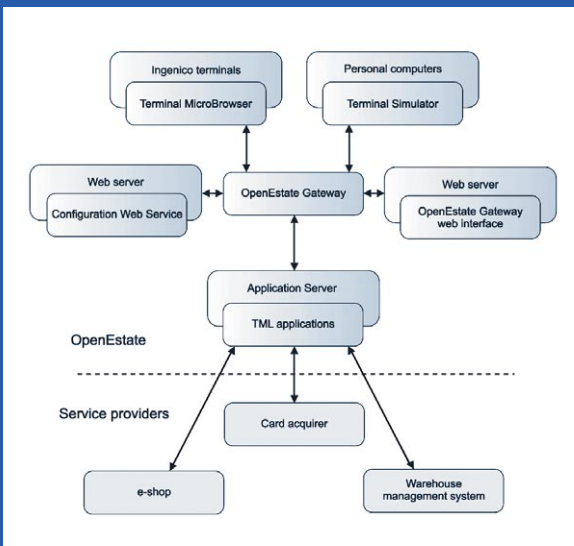
**Contactless/RFID Module**



**Fingerprint Sensor Module**



**Vehicle Cradle with Optional Third Party GPS Receiver**



**OpenEstate**

## i8550 Series Total Solution Elements

### Configure the perfect solution for your application

The i8550 Series is a total system solution with a highly modular architecture that exactly matches your application.

#### Choose your data capture

The terminals have a modular front-end design that allows for a range of data capture options. Choose the automatic data capture option that's perfect for your application:

- **Option 1:** Smart and magnetic card only – This is for applications where payment is required in tough environments.
- **Option 2:** Bar code scanning/imaging module plus smart and magnetic card reading – Choose from three levels of scanning/imaging to exactly match your application and price requirements.
- **Option 3:** Fingerprint sensor module plus smart and magnetic card reading – The ideal solution for government and immigration applications. Thermal swipe 500 dpi sensor for data verification with 1:1 internal matching capabilities and 1:N identification via remote connection to an AFIS (Automatic Fingerprint Identification System).
- **Option 4:** Contactless/RFID module plus smart and magnetic card reading – for remote ticketing, transport, debit and credit operations, personal ID, in tough environments: 13,56 MHz, ISO 14443 A/B, Mifare, Calypso, ISO 15693.

#### Choose your user interface

Each application environment is different. That's why we offer one of the best and most flexible user interfaces around. The i8550 Series boasts a 240 x 240 pixel color screen and additionally:

- Choose our touch screen/stylus user interface or choose a tougher and more traditional hard plastic display lens protecting the display, and no touch screen.
- Choose for a silent user-interface or choose a loudspeaker and multi-lingual speech engine with user-selectable English, Spanish, French and German.

#### Choose your wireless and cradle

Select almost any type of wireless and the right kind of charger or cradle:

- Choose "Batch" (no wireless), GSM/GPRS, CDMA or Wi-Fi.
- Choose a desktop cradle, vehicle cradle or charger/communications cable. The vehicle cradle charges the terminal, locks it securely in place, and stabilizes it to withstand shock and vibration-filled environments (designed to meet SAE JI455 standard), with full access to keyboard. It enables easy insertion and removal with a large release lever and allows for data transfer from a peripheral such as a GPS receiver – which allows you to integrate GPS functionality into your application – or other peripherals.

#### Choose your application delivery and management architecture

Complete your total solution with an advanced, secure and flexible application delivery architecture. Choose from the two options that Ingenico offers:

- **Option 1:** IngEstate – For advanced periodic remote download and management of locally residing UNICAPT 32 applications.
- **Option 2:** OpenEstate – A new architecture from Ingenico for the deployment of secure electronic transactions. Using an XML-compliant markup language (Terminal Markup Language – TML) designed specifically for payment terminals, OpenEstate uses standard web-based technology throughout. This provides several significant benefits over existing embedded technologies :

- 1) **Rapid Application Development Environment** – As the application's presentation layer can be rapidly marked up using TML, application development time is reduced significantly and it becomes economic to build prototypes for field trials. This is particularly important with media-rich interfaces such as those possible on the i8550 Series.
- 2) **Tight Integration with Back-Office Systems** – As OpenEstate can be fully integrated with existing systems using application server technology it is now possible to implement a wide variety of business applications directly on the payment terminal – allowing it to become a truly multi-function device capable of, for example, gathering inventory information or querying corporate databases. The terminal can now become a window on your existing data.
- 3) **Use Existing Resources and Expertise** – Instead of requiring a specialized skill set to develop terminal applications, using OpenEstate allows any web developer to write terminal applications in a matter of days. This allows organizations to resource projects rapidly, often with the involvement of in-house expertise.

# i8550 Series Specification Highlights

<b>Physical Characteristics</b>	
<b>Dimensions Overall</b>	21 cm L x 10 cm W x 5.8 cm H / 8.3 in. L x 3.9 in. W x 2.3 in. H (configuration-dependent)
<b>Dimensions at Grip Area</b>	7.5 cm W x 3.8 cm H / 3 in. W x 1.5 in. H
<b>Weight</b>	725 g / 25 oz. (configuration-dependent)
<b>System Architecture and Security Characteristics</b>	
<b>CPU</b>	Integrated 32-bit High Security Core (HSC). EMV Level 1 approved. Visa PED (PIN Entry Device), ZKA compliant, PCI PED (July 2006).
<b>Operating System</b>	UNICAPT 32. Embedded EMV Level 2 kernel, XHTML browser and TCP/IP stack. Windows-like widget graphical user interface library.
<b>Application Development</b>	Use Ingedev SDK to create applications that run on the i8550 and on all other Ingenico i-Series terminals. Several applications can run independently on the same device. Portability of previously written applications for Ingenico terminals.
<b>Application Delivery and Management Options</b>	IngEstate for advanced periodic remote download and management of locally residing applications. OpenEstate distributed open standards technology framework allowing the i8550 Series into virtually any proprietary, business or Internet network with a fairly small amount of integration effort. With OpenEstate the business logic component runs at the remote application server processing terminal requests and communicating with the service provider's infrastructure. Applications on the host site are updated momentarily and updates are distributed over the estate as soon as they are requested.
<b>Memory (RAM/FLASH)</b>	2/8 MB
<b>User-accessible</b>	2 SAM (Type ID000, ISO 7816 1/2/3, T=1, T=0) + 1 GSM SIM slots
<b>Slot Options</b>	1 SAM + 1 GSM SIM + 1 MMC/SD slots 2 SAM + 1 GSM SIM + 1 Full-size Merchant / Sesame Vitale Card (ISO 7816-1-2-3) slots 3 SAM + 1 Full-size Merchant / Sesame Vitale Card slots
<b>Power</b>	Removable, rechargeable 7.2 Volt Lithium-Ion battery 1700 mAh, 12.25 Watt-hour.
<b>Data Input Characteristics</b>	
<b>Keyboard</b>	17 secure and backlit keys suitable for PIN entry including two function keys and one 4-direction navigation key with central push for enter.
<b>Touch Screen Options</b>	No touch screen. Instead a hard, protective display lens and no stylus holder and stylus. Resistive touch screen with signature capture; includes Stylus, with eyelet for tether (tether not supplied).
<b>Smart Card Reader</b>	EMV 4.0 Level 1 Compliant. ISO 7816 1-2-3. Async / Sync. T=0 & T=1.
<b>Magnetic Card Reader</b>	ISO 1/2 or 2/3. Bi-directional and long card swipe ensuring efficient magnetic card reading.
<b>Data Capture Module Options</b>	None Intermec EV15 CMOS Scan Engine Module: Monodirectional (linear) 1D + PDF417 bar code scanner. Hand Held Products IT4010/5010 CMOS Image Engine Module: Omnidirectional 1D + PDF417 bar code scanner/imager; Picture taking capability; OMR (Optical Mark Reading) capable with 3 <sup>rd</sup> party software (for reading lottery bet slips). Hand Held Products IT4080/5080 CMOS Image Engine Module: Omnidirectional 1D + PDF417 + 2D bar code scanner/imager; Picture taking capability; OMR (Optical Mark Reading) capable with 3 <sup>rd</sup> party software (for reading lottery bet slips) ; also reads OCR codes and Postal codes. Thermal Swipe Biometric Fingerprint Sensor Module: 500 dpi; EFTS, CBEFF compliant; Data verification (1:1 internal matching capabilities); 1:N identification via remote connection to an AFIS (Automatic Fingerprint Identification System); Possibility for officials to sign collected data (via smart card and/or biometric feature and/or PIN): electronic signature with X509 certificate. Contactless/RFID Engine Module: for remote ticketing, debit and credit operations, RFID labels; 13.56 MHz Technology, Read/Write, Authentication/SAM; ISO 14443-B, and B Calypso (drivers for CD97, GTML, CTS, SR176); ISO 14443-A (drivers for Mifare DES-Fire & Mifare Light); ISO 15693 (I-CODE, TAG-IT, LR 512); Drives 2 SAM sockets; drivers for ISO 7816 and HSP (345.6 K Baud) SAMs; Detection Range: 4cm for ISO/IEC 14443; 5 cm for ISO/IEC 15693; Specific API of CALYPSO / EMV1545 available for rapid development in the mass transit field.
<b>1D Symbolologies Read</b>	Code 39, Code 128, Codabar, UPC, EAN, Interleaved 2 of 5, Reduced Space Symbolology, Code 93, Codablock F, BC412* (*Available to licensed users).
<b>2D Symbolologies Read</b>	PDF417, MicroPDF417, MaxiCode, Data Matrix, QR Code, Aztec, Aztec Mesas, Code 49, EAN-UCC Composite, Snowflake*, Dataglyphs* (*Available to licensed users).
<b>OCR Codes Read</b>	OCR-A, OCR-B, U.S. Currency Serial Number (Money), MICR E-13B and SEMI Font. Additionally supports license plate reading through 3 <sup>rd</sup> party software.
<b>Postal Codes Read</b>	Postnet, Planet Code, British Post, Canadian Post, Japanese Post, KIX (Netherlands) Post.
<b>Data Output Characteristics</b>	
<b>Display</b>	77 mm / 3 in. diagonal; 240 x 240 pixel color CSTN display.
<b>Audio Options</b>	Buzzer + Headset Jack (supporting one or two earpiece headsets with integrated switch and volume control functionality). Buzzer + Headset Jack + Built-in Loudspeaker (only available in combination with the TTS option).
<b>Multilingual Text-to-Speech (TTS) Module Options</b>	None EPSON multi-lingual unconstrained TTS module with five languages in single module: US English, Castilian Spanish, Latin American Spanish, French, and German. Functions with built-in loudspeaker and through headset.
<b>Wireless Data Module Options</b>	None GSM/GPRS Class 10; 900-1800 MHz in Europe, Asia and Australia; 850/1900 MHz in US, Latin America, and Canada. CDMA Wi-Fi IEEE 802.11b Wi-Fi
<b>Antenna</b>	Internal (comes with the wireless options).
<b>Printer</b>	Easy loading, quiet printer with graphics capability, paper low and paper out detection (special paper markings on paper required for paper low detection). Fast 12 lines/s print speed (200 dpi/8 dpmm). Paper width 58 mm, roll diameter 30 mm, allows for up to 122 tickets of 8 cm length.
<b>User Environment Characteristics</b>	
<b>Operating Temperature</b>	-10° C to 50° C / 14° F to 122° F; can operate down to -20° C / -4° F with potential degradation in performance depending on the application.
<b>Storage Temperature</b>	-20° C to 70° C / -4° F to 158° F
<b>Humidity</b>	5% to 95% non condensing
<b>Drop Spec</b>	Withstands multiple drops to concrete: 1.2 m / 4 ft
<b>Environmental sealing</b>	IP32, due to the openings for the smart card reader slot and printer paper exit. However, certain areas such as the keyboard, touch screen and scan window have gaskets to protect against accidental spillage and other ingress of objects and moisture.
<b>ESD</b>	+/- 15kV air discharge +/- 8kV direct discharge
<b>Peripherals and Accessories</b>	
<b>Desktop Cradle</b>	Single-slot charging/communications cradle with auxiliary battery well. Data transfer via 2 x RS-232, 1 x USB, and V34 PSTN modem (phone).
<b>Vehicle Cradle</b>	Mobile charging/communications cradle. Charges terminal, locks it securely in place, and stabilizes it to withstand shock-filled environments with (designed to meet SAE J1455 standards sections 4.9 & 4.10), full access to keyboard. Enabling easy insertion and removal with a large release lever. Data transfer via RS-232 from for example peripheral GPS receiver, or other peripherals. Powered by 12-24 DC Volts direct connection cable and supports 12-24 DC Volts out to peripheral devices (for use with optional converter). Rugged design protects the terminal from high-vibration environments. Compatible with PIN shroud and shoulder strap.
<b>Charger and Communications Cable</b>	Cable that plugs into the terminal that charges and communicates with the terminal directly, without a cradle. Data transfer via 1 x RS-232, 1 x USB.
<b>Charger Cable</b>	Cable that plugs into the terminal that charges the terminal directly, without a cradle.
<b>Cigarette Lighter Adapter</b>	Plugs into a vehicle cigarette lighter/power port and is used together with a charger cable or charger and communications cable.
<b>Other Options</b>	Additional Li-Ion Battery Pack; Add-on PIN Shroud (ZKA, Interpay, BSK compliant), Printer Lens (customizable with logo), Shoulder Strap (customizable with logo), Holster, Protective Enclosure.
<b>Regulatory</b>	
<b>Electrical Safety, CE</b>	EN60950-1:2001 (Int.), IEC 950, EN301489-7 (EU), UL1950, CSA
<b>EMI/RFI</b>	FCC Part 15, Class C, ICES-003, Class B; EN55022, Class B, EN55024, Class B
<b>Radio, CE, FCC</b>	R&TTE/EN301419-1, US/Canada
<b>Security</b>	EMV 4.0 Level 1, VISA PED, PCI PED (July 2006), ZKA (July 2006), Interpay, BSK
<b>Aircraft Usage</b>	EUROCAE ED14E (EU), RTCA / DO-160D (US)

