The Global Provider of Secured Transactions Systems

User's Manual

February 2004

ELITE 790 CDMA

Table of Contents

I- Terminal Description

1- Introduction

The ELITE 790 is a mobile payment terminal using the 1XRTT standard for radio communications and a dial modem for PSTN communications. This terminal was created to process credit or debit payments using magnetic stripe or smart cards.

The ELITE 790 has an integrated thermal printer which operates at 6 LPS.

The ELITE 790 terminal benefits from a modular hardware design, which allows multiple different applications to run on the terminal securely without affecting each other.

Your retailer or installer will be able to give you the necessary information on all available applications.

2- The Terminal

The terminal case contains the following elements:

- The portable terminal and base.
- A cable that connects the terminal to a telephone line.
- A power pack that connects the terminal to a 115 or 230 volt supply (depending on the country)

3- The Terminal Connections

There are two connectors on the back of the terminal. See section 7 for a picture.
The blue jack is for a portable hands free kit. The black connector is suitable for a peripheral device like a barcode scanner, for which a specific software application is required.

4- The Base Connections

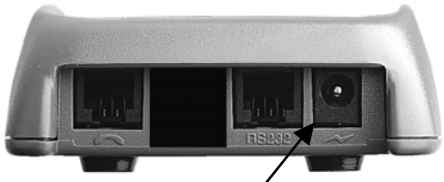
Telephone Connection

The telephone cable supplied with the Elite terminal must be connected to the port marked with the symbol . The other end of the cable (RJ11) must be connected to the telephone jack.

Telephone line

Electrical Connection

The jack from the power supply is plugged into the port marked with the symbol . The electrical plug is connected to a wall socket (115 or 220 volts, depending on the country).
Only use the power pack provided with the terminal.



Power Supply

Connection to an external peripheral device

The serial port can be used to connect to devices such as cheque readers or PC's.
The ELITE 790 terminal must be powered off before connecting the cable to the serial port.

Serial port

5- The Keyboard (Example only – yours may differ)

The [■] key gives the user access to the different options available at the time the key is pressed. These could include the application or the "system" menu which manages the standard functions of the Elite 790, such as: modification of the date and the time and modification of the download and line parameters.

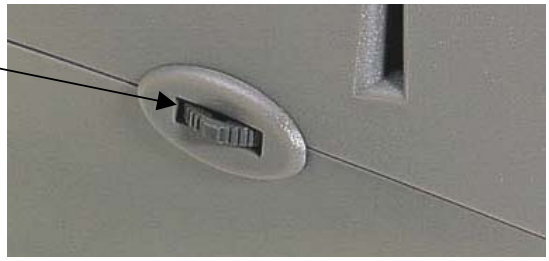
- The [▲] and [▼] keys allow navigation through scrolling application menus and the "system" menu.
- The [⇧] key advances the paper of a couple of centimetres. This function is only active when the terminal is in the idle state.
- The [GREEN] key is used to validate any information read by or entered into the terminal. It also functions as the power switch when the terminal is powered off.
- The [RED] key cancels the current operation after which, it returns the terminal to idle state.
- The [YELLOW] key acts as a correction key by deleting the last character entered,

The navigation wheel has the same function as the 3 keys under the display.

[■] Push the navigation wheel

[▲] Turn the wheel "up"

[▼] Turn the wheel "down"



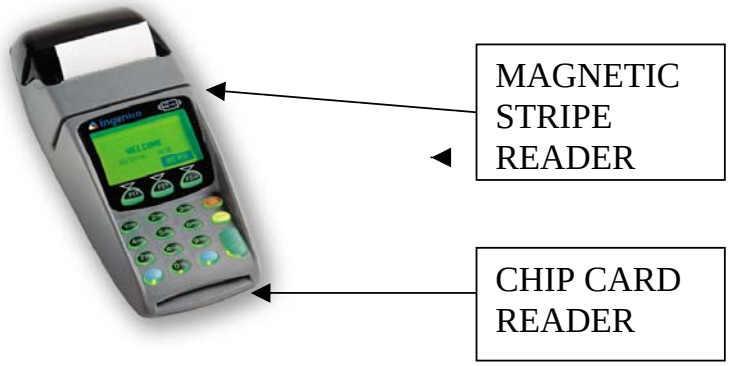
6- The Card Readers

Magnetic Stripe Card

Magnetic stripe cards can be read when swiped either from right to left, or left to right. The magnetic stripe on the card should face the printer and the card should be swiped through the reader horizontally and without hesitation.

Chip Card

Insert the card horizontally into the terminal, the chip facing up, as indicated and leave the card in position until the transaction is complete.



7- Wireless functionality

The ELITE 790 terminal is designed as a mobile device. A fully charged battery will perform between 75 and 100 transactions before the terminal has to be returned to the base for charging.

The symbol  on the upper right hand side of the display indicates a correct connection between the terminal and the base when charging.

When the battery has very little charge left the Elite 790 displays« **-BAT-** » and the terminal beeps. The Elite 790 should be returned to the base as soon as possible. As a further indication of low charge should a few more transactions be necessary the printing will be slower.

Warning

Do not use a "fast charge" base to charge the battery if the terminal is returned to the base after each transaction. The batteries may be damaged and their lifetime reduced. A battery should only be charged with a fast charge base at the end of a day or shift or if the –BAT- warning shows on the display.

If the terminal is placed on the charger after each transaction, a "slow charge" base must be used to protect the battery.

When off the base, the ELITE 790 terminal switches off after a programmable timeout if there is no inactivity.

When the terminal is switched on, the following messages could appear on the terminal display:

INACTIVE CDMA	A problem has been encountered with the CDMA modem. Removing the battery pack, waiting 30 seconds and re-installing the battery should fix the problem. If it does not, call your service provider
NETWORK SEARCH	This message appears while the terminal is searching for the CDMA network. Once the terminal has found the network, this message is replaced by the operator name.

Warning

Before using the terminal for the first time, the batteries must be fully charged. This is indicated by a green light on the base which goes out when this process is complete.

II- ELITE 790 TECHNICAL OVERVIEW

1- Terminal features

The ELITE 790 has the following features:

- 2Mbytes battery backed RAM with advanced memory protection
- 1024 bytes EEPROM
- INTEL™ compatible 80251 CPU
- Battery backed calendar
- Buzzer
- 18 key keyboard
- Navigation wheel (optional)
- Track 1/2 or 2/3 Card Reader
- ISO 7816 Smart Card Reader
- Four slots SIM
- 1 RS232 port for an ECR connection or external device connection
- Built-in Modem CCITT V22, V22 bis
- Automatic tone dialling facility
- 1XRTT modem for radio communication
- Up to four SIM smart card connectors (Optional)
- Serial peripheral connector

2- Display

- The Display is a 64x128 graphic backlit LCD display.

3- Printer

The printer has the following features:

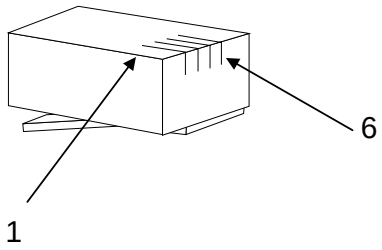
- a paper chamber for housing the paper roll,
- a cutter above the printing mechanism, allowing the user to cut receipts manually,
- a button which activates Line Feed and self-test,
- 6 lines per second printing speed.

4- RS232 Interface (base)

Standard interface :

- rate: 300 to 19200 bauds
- format: 7 to 8 bits
- parity: odd, even, none
- interface: V28

RS232 Connection :



1 ⇨ N.U
2 ⇨ TxCOM1
3 ⇨ RxCOM1
4 ⇨ CTS
5 ⇨ RTS
6 ⇨ Ground

5- Dial Modem

The dial modem is used when the RF network is not available. The speed of the modem can be set to 1200 or 2400 bits per second.

6- SIM Slots

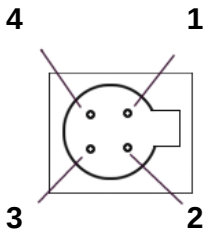
When implemented, access to the optional SIM slots is through the battery door located on the underside of the terminal.

SIM Insertion

- Slide the metal SIM holder cover to open,
- Open the SIM holder cover,
- Insert or remove the SIM card,
- Shut the cover,
- Slide the cover to lock.

7- Serial Connector

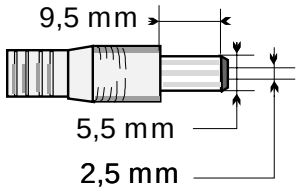
Connector, 4 pins Binder series 719, ref. 09-9767-00-04.
Pin 1 = Tx, 2 = RX, 3 = Vcc (5V / 150mA), 4 = Gnd



8- Hands free kit Connector

This is a 4-contacts jack designed to support a hands free kit (microphone + earpiece). The recommended type is the NOKIA™ 3210 or equivalent.

9- Power Supply



- Power Input Voltage 100 / 240Vac
- Power Input Frequency 50 / 60Hz
- Power Output 11V -1.5A

10- Operating Range

Terminal

- Operating Temperature +5°C to +40°C
- Humidity 20% to 90% Non-condensing

Warning
Do not the fast charger outside the temperature range (+5°C to +40°C). This could reduce the battery life.

Weight and dimensions

Terminal

- Weight : 600g
- dimensions: 215 x 90 x 65 (L x W x H in mm)

Base

- Weight : 160g
- dimensions:186 x 93 x 36 (L x W x H in mm)

III- INSTALLATION PROCEDURES

The ability to enter the system menu is dependent on the way the application is written. Check with your program provider on how to enter the system menu.
Once you are in “System Menu” scroll using the up/down keys to select the feature you want to access.

1- Entering Date and Time

In its idle state, the terminal indicates the date and time.

N°	DISPLAY	ACTION
1	**SYSTEM MENU** DATE-TIME	Press the GREEN key or the navigation wheel.
2	DATE : 01/08/01	Enter the current date dd/mm/yy (character « / » is automatically inserted). Press the GREEN key.
3	TIME : 18 :32	Enter the current time using the 24h clock. (character « : » is automatically inserted). Press the GREEN key.

NOTE:
Do not change the date when there are transactions stored on the terminal.

2- Telephone Network Parameters

If the value already present in the terminal is correct, it does not need to be re-entered.

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N°	DISPLAY	ACTION
1	**SYSTEM MENU** TELECOM	Press the GREEN key.
2	SWBOARD = (up to 4 char)	If the Elite 790 is connected to a PBX or key system it may be necessary to enter a code to access an outside line. Enter that number here. If a pause is required use the ■ key. If you want to delete your entry use the RED key. If this feature is not required press the GREEN key.
3	PAD DOWNLD .X25 = 08 36 06 24 24 (up to 12 char)	The current value is displayed. Enter another host number if necessary. Press the GREEN key.
4	ONLY V22 ? 1= YES / 0=NO : 0	The current value is displayed. If you need to restrict the speed of the modem to 1200 baud (Bell 212A) only set the value to 1. If you want the modem to start at 2400 baud (V22bis) and negotiate with the host select 0. Press the GREEN key.
5	DIAL DURATION : 20 - 199s : 40	The current value of the carrier detection timeout is displayed. If necessary, enter a new value. Press the GREEN key.
6	BELL 212A ? 1= YES / 0=NO : 0	The current value is displayed. 1 = detects 2225 Hz Answer tone for North America This value should always be 1 Press the GREEN key.

3- Options menu

The first option is for hospitality environments and is application dependent. Your distributor can provide you with information on its usage.

N°	DISPLAY	ACTION
1	**SYSTEM MENU** OPTIONS	Press the GREEN key.
2	ENTER TABLE # : 0	If the current value is 1, a table number will be requested for each payment transaction and this number will be printed on each transaction receipt. Press the GREEN key.
3	0 = ISO3 / 1 = ISO1 : 0	This option should always be set 1 for North American applications. Press the GREEN key.
4	TIMER EXTINCTION 10 – 99s : 50	Enter the amount of “inactive” time which must pass before the terminal is automatically powered off. Press the GREEN key.

4- Application Software Downloading Procedure

The downloading procedure allows local or remote modification of the terminal memory. This would be used in the following cases

- alteration of a part or all the terminal memory
- application version upgrading
- adding or deleting applications

N°	DISPLAY	ACTION
1	**SYSTEM MENU** DOWNLOAD	Press the GREEN key.
2	DOWNLOAD CONFIRM -> VAL	Press the GREEN key.
3	DOWNLOAD ENTER CODE :	Enter 2049 or 2052 use a local PC for downloading. Press the GREEN key.
4	DOWNLOAD PABX =	If necessary enter the number required to access an outside line. (Enter the same value as in the telecom menu).
5	DOWNLOAD Tel #=0836062424	Enter the telephone number required to access the download host and press the GREEN key.
6	DOWNLOAD DIALLING	The terminal attempts to establish a connection to the host.

5- Configuration Receipt

This receipt prints the hardware and the software status of the terminal.

N°	DISPLAY	ACTION
2	**SYSTEM MENU** CONFIGURATION	Press the GREEN key. (wait few seconds)
3	***The terminal prints a configuration ticket***	

IV- Practical Information

1- Charging the battery pack

A base station provided with the terminal recharges a spare battery pack or the battery pack attached to the terminal.
The green indicator at front at the base indicates that a current is flowing into the battery pack.

Warning
Before using the terminal for the first time, the batteries must be fully charged. This is indicated by a green light on the base which goes out when this process is complete.

Fast charging base

Warning
Do not use a "fast charge" base if the terminal is returned to the base after each transaction. The batteries may be damaged and their lifetime reduced. A fast charge base should only be charged when the battery is nearly or completely discharged.
If the terminal is placed on the charger after each transaction, a "slow charge" base must be used to protect the battery.

- Do not forget to put the terminal down on its powered base at the end of the day in order to allow for charging and data-collection.
- When charging an empty battery pack, it could take one or two minutes for the green light to come on.

Vehicle base (Optional)
This base station is used when the terminal is put back on its base between each transaction. It is a slow charge base so as not to damage the battery.

2- Cleaning Procedures

The plastic used in the construction of this terminal may be damaged if cleaned with strong solvents.
The following is a list of recommendations for cleaning the terminal and its base.

- Clean the outside of the terminal with a soft cloth moistened with a mild detergent solution.
- Never spray cleaning solution directly onto the terminal as liquid may enter the unit.
- Do not use Isopropyl Alcohol based cleaning products, use water-based.
- If in doubt about a cleaning product, contact your terminal supplier.

3- Changing the paper roll

- Do not pull the paper, press the key [⇧] for a paper feed**.**
- Only use paper provided by your distributor. Using other types of paper could damage the printer.
- Do not wait until the paper roll is completely finished before changing it. When the red stripe on the paper appears, remove the paper roll and replace it. You can use the paper feed key [⇧] to move the paper. This key is only active when the machine is in an idle state.
- To loading of a new paper roll, open the cover, lift the lever to the right of the printer, Slide paper through the printer until it comes out the other side. Lower the lever. Press the paper feed key [⇧] to check the paper has fed through properly.

V- Recommendations

1- Battery handling

Nickel Metallic Hydride (Ni-MH) batteries:

- keep out of reach of children
- Do not heat or throw in a fire,
- Do not short-circuit the batteries,
- Do not close the security valves (situated under the positive poles),
- Do not use in a airtight box,
- Use the charger only in the specified temperature range,
- Do not manipulate or try to use the battery if it is damaged and/ or leaks any liquid.

General:

- Replace the battery with the equivalent type provided by the manufacturer.
- Dispose of used batteries according to manufacturer's instructions.

2- RF Safety

In-car safety

The use of the terminal in a vehicle may cause malfunctions of electronic systems (e.g. ABS anti-lock systems, fuel injection systems) particularly in insufficiently shielded systems.

General

Your terminal uses the 1XRTT standard for RF technology. The Elite 790 sends out and receives radio frequency energy. When you use your Elite 790 terminal, the network manages both the radio-frequency and the power level of your terminal.

Exposure to RF Energy

There is some public concern about the possible health effects of using RF equipment. The Elite 790 has successfully passed both FCC and Industry Canada tests for SAR (Soft Tissue Absorption rate).

3- General safety

Electronic Device

Most electronic equipment, for example in hospitals and motor vehicles, are shielded from RF energy. However, RF energy may affect some damaged or improperly shielded electronic equipment.

Vehicle Electronic Equipment

Check with your vehicle manufacturer's representative to determine if on board electronic equipment is adequately shielded from RF energy.

Medical Electronic Equipment

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.
Turn your Terminal OFF in health care facilities when any signs in the area instruct you to do so. Hospitals or health care facilities may be using RF monitoring equipment.

Aircraft

Warning
Turn your Terminal OFF before boarding any aircraft. Use it when the airplane is on the ground only with the crew's permission. Do not use it in the air.

Blasting areas

To avoid interfering with blasting operations, turn your unit OFF when in a "blasting area" or in areas posted: "turn off two-way radio". Construction crews often use remote control RF devices to set explosives.

Potentially Explosive Atmospheres

Turn your terminal OFF when in any area with a potentially explosive atmosphere. It is rare, but your terminal could generate sparks. Sparks in such areas could cause an explosion or fire resulting in injury or death.
Areas with a potentially explosive atmosphere are often, but not always marked. They include fuelling areas such as petrol stations, below decks on boats, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles, such as grain, dust, or metal powders.
Do not transport or store flammable gas, liquid, or explosives in the same compartment as your terminal.
Before using your terminal in a vehicle powered by liquefied petroleum gas (such as propane or butane) ensure that the vehicle complies with the relevant fire and safety regulations of the country in which the vehicle is to be used.

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