Intellect Sapphire 9870 DataTAC

User Manual

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Version 1.0

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About this Publication

Audience

This User Manual is designed to be used by Owners of Intellect's Sapphire 9870 DataTAC Mobile Multi-Payment Terminal. It is expected that the user will have a basic knowledge of card payments and EFT transactions.

Scope

This document only covers the Sapphire 9870 using the DataTAC transmission protocol and supplied with Intellect's Card Payment Application. It does not cover any additional third party software or use of any of the accessories for the terminal.

Disclaimer

This document is considered to be correct at the time of publishing. Subsequent changes to the specification of the terminal or to the mode of operation are at the discretion of Intellect International N.V.

Further Information

Additional Information about the Intellect Sapphire 9870, or any other product within the Intellect range, can be obtained from:

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Features

Power and Flexibility

- Able to accept the most common electronic payment cards.
  - Credit
  - Debit
  - Online and offline transaction processing
  - Capable of supporting many types of purse card schemes
- Processing power
- Securely and concurrently support multiple electronic funds transfer applications
- Support for four divergent purse card or loyalty schemes
- Intellect's PAX multi-tasking, real time operating system

High Security

- Internationally recognized high levels of security
- EMV '96 Level 1 approved

Portability and Ease of Use

- Simple recharging with an on board battery management system
- Ability to communicate via WAN radio frequency
- Specifically designed as a portable outdoor product
- Large backlit graphics display
- Backlit keyboard
- Printer with snap shut mechanism
- Hybrid smart card/magnetic stripe reader for fast card reading
- Up to 4 SAMs
- Intellect Standard Security
- Enhanced processing power
- Real time operating system

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Technical Specifications

Processor	32-bit Processor
Security	Standard Intellect Secure Module
Memory	1MB to 4MB Flash
	1MB to 2MB of Battery Backed RAM
Display	8x20 Character
	64x128 Pixel Graphic
	Backlit LCD
Keyboard	20 Tactile Keys
	Backlit
Card Reader	Hybrid Magnetic and Smart Card Reader Module
	Reads and Writes Track 1+2+3 ISO7816
	EMV Certified
	ID=1, T=0 and T=1 5V Cards, synch and asynch
	Optional Locking Mechanism
Extension Sockets (SAM)	Upto 4xID-000 size T=0 and T=1 5V card, asynch
Communications	RS-232 Serial Port Synch/Asynch
	RFWAN (DataTAC)
	Dial-up Modem (V.22bis)
Electronic	Beeper
	Real-Time Clock with Battery Backup
Printer	Thermal Receipt Printer
	192 Dots per line
	Cutting and Ejection Mechanism
Power	Intelligent Rechargeable Battery Pack
	AC/DC Adapter
	DC/DC Adapter for Car Cigarette Lighter Socket
Dimensions	Length: 11.7 inches
	Width: 3 to 4 inches
	Depth: 1.5 to 3 inches
Weight	Approx. 2lb
Storage Temperature	4°F to 158°F
Operating Temperature	32°F to 104°F
Operating System	PAX multi-tasking, real-time OS

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Notes on Handling

Important Cautions

AC/DC Adapter, Battery Charger

- Do not handle the Adapter or Charger with Wet Hands
- Even when in Idle Mode, a small amount of power is always consumed whenever the unit is connected to an external power supply.
- When disconnecting from an external power supply, always pull the plug, not the connecting cable.

To Prevent Malfunctions of the Unit

- There are no user-serviceable parts inside. If anything goes wrong, remove the external power supply and consult your supplier or maintenance contractor.
- Do not insert any foreign objects into the unit.
- Do not use accessories other than those certified by the supplier as they may damage the unit.

Safety Precautions

Avoid Excess Moisture, Water and Dust

- Do not subject the unit to excesses of moisture or dust.

Avoid High Temperatures

- Do not expose the unit to direct sunlight for prolonged periods or place it next to a heating device.

When Not In Use for Prolonged Periods

- When you are not using the unit for prolonged periods, do not leave it attached to an external power source.

Care of the Sapphire

- When cleaning the unit, use a soft cloth and follow the relevant instructions on the use of chemically-coated cloths. Do not use benzene, thinner or other organic solvents and disinfectants. These may cause deformation or discoloring.

If Water Gets Inside the Unit

- Disconnect from any external power sources and contact your supplier or maintenance contractor. Using the unit in this state may cause electrical shock.

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RF Operation

- Always ensure that the antenna is upright when using the terminal. Do not touch the antenna when the terminal is in use.

Important Notes

Warning

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

For body worn operation, the Sapphire 9870 DataTAC has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the terminal a minimum of 1 inch from the body.

Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Industry Canada Certification

This device complies with Industry Canada RSS 119, under certification number TBD.

IC Class A Compliance

This device complies with the Class A limits for radio noise emissions as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

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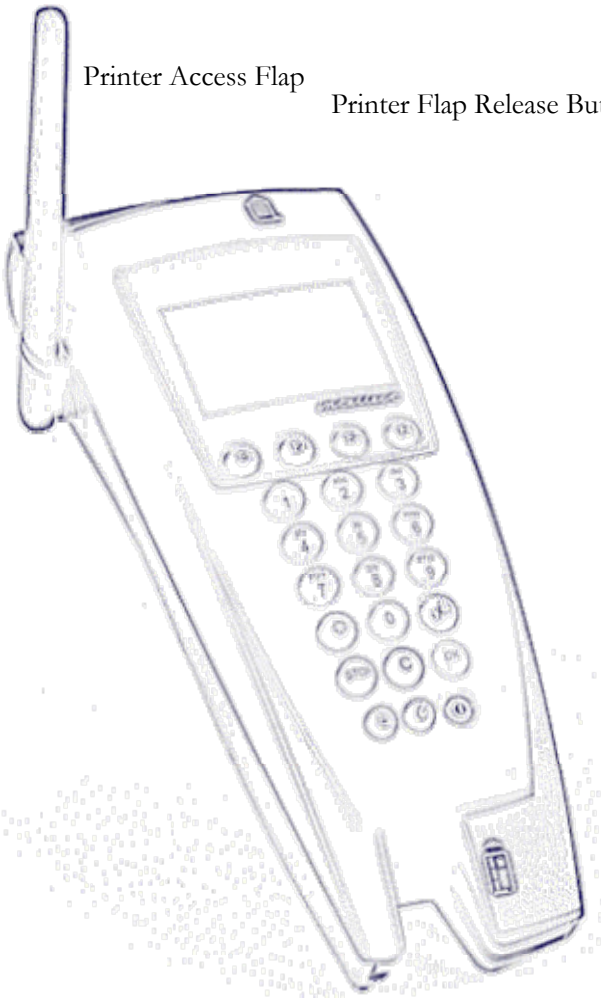
Names of Parts and Controls

Refer to the corresponding pages indicated in ( ) for details

Front of the Unit



Aerial (5-3) - Transmits Transaction Data via the DataTAC protocol. Can be folded down when not in use.

Function Keys (4-2) - Used to select menus

REPRINT Key (5-3) - Accesses the reprint menu

STOP Key (4-3) - Cancels the current operation

CORRECT Key (4-3) - Deletes the last input character and accesses the parent menu

FORM FEED Key (5-3) - Triggers automatic feed of the printer

Hybrid Card Reader (4-3) - Used to swipe magnetic cards and read chip cards

INFO Key (5-3) – Access to Coverage Information

POWER Key (4-1) – Used to Power the unit on or off

ACCEPT Key (4-2) – Used to confirm options or access the Bankcard main menu

MORE/ALPHA Key (4-3) – Accesses additional navigation or toggles between Alpha and Numeric keys

Alpha-Numeric Keypad (4-3) – Used to enter Alpha-Numeric data

Backlit Screen (2-1) – 64x120 dot LCD screen

Integrated Printer (3-2) – Thermal printer for production of receipts and reports

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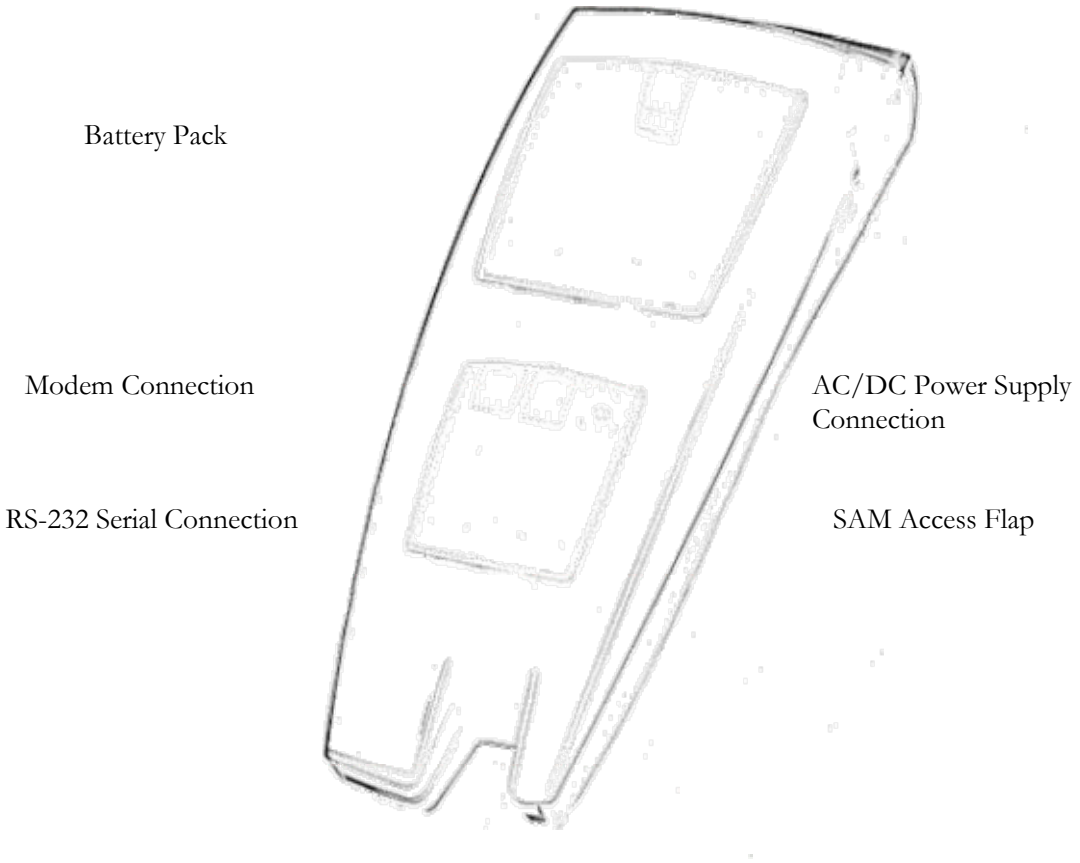
Rear of the Unit



Battery Pack (3-1) – Recess for insertion of the Rechargeable Battery pack

Modem Connection (3-3) – Port for connecting the internal modem to a telephone line

RS-232 Serial Connection (3-3) – Port for connecting the Unit as a peripheral via a serial connection

AC/DC Power Supply (3-3) – Port for connecting the unit to an external power supply.

SAM Access Flap (3-1) – Panel that offers access to the SAM holders

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Menus

All of the functions available on the Sapphire 9870 DataTAC are accessed through a series of menus. This section takes you through several of the functions available. See page 4-2 for information on how to navigate the menus.

Administration and Management Operations

These operations are selected from the administration menu. This menu is accessible via the '0' Key or by selecting 'ADMN' in the bankcard main menu ('OK' key).

The following section takes you through all of the options in this part of the main menu structure.

Backlight (BACK LGHT)

The backlight configuration parameter controls whether the backlight of the display and keyboard is on or off.

Power Management (PWR MGT)

The Sapphire 9870 DataTAC terminal is powered by a removable, rechargeable battery pack, which contains a gas gauge to track the battery state and provide an indication of remaining battery capacity. The terminal contains an integral battery charger that allows you to use it while the battery is being charged.

Note: Always remember to recharge batteries promptly after use or discharge and store batteries fully charged.

The Power Management menu provides functions to manage the power sub-system.

Power Status (PWR STAT)

If external power is detected, you can access the Charging Status information. It displays the running operation (conditioning or commissioning cycle) and the current status of the battery charging process:

- Discharge: deep discharge before recharge.
- Charging: fast charge running.
- Pending: fast charge pending (due to the battery's temperature).
- Trickle charge: post charge state / maintenance trickle charge.
- Not charging.

Note: Without external power, the terminal displays the Battery Status and its capacity. If the capacity gauge seems inaccurate, a conditioning cycle will recalibrate the gas-gauge.

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Auto Discharge (AUTO PWR)

The terminal will automatically start a conditioning cycle in some circumstances. You can prevent automatic deep-discharge by deactivating this option. If disabled, it is important to manually operate a conditioning cycle at least once each month.

Conditioning Cycle (COND BATT)

The conditioning cycle consists of a charge, a deep discharge and a complete recharge. This is periodically required to allow the gas-gauge to be re-calibrated and to minimize loss of battery capacity, which can be caused by repeated partial charge/discharge. This process lasts about 3 hours and it starts once the terminal has an external power supply, unless disabled.

Commissioning Cycle (COMM BATT)

The commissioning cycle consists of three complete charge and discharge (conditioning) cycles. It is intended to provide complete conditioning of a battery that has been in storage for a prolonged period of time. This operation should be performed on a new terminal before first use. It will take upwards of twelve hours.

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Settlement menu (STTL MENT)

The settlement menu provides access to a series of reports containing the details of each transaction. This menu can be locked for Supervisor use only by activating the security features of the terminal.

Detail Batch Report Menu (DTL BTCH)

The Detail Report menu enables you to choose how the detail batch report is formatted. The details may be printed by:

- CARD TYPE (MasterCard, Visa, Debit, etc.)
- REF NUM (Reference Number)
- OPER (Operator: Clerk/Server)
- OFF LINE (Transactions Stored Offline)

The terminal stores the current day's activity as well as the three previous day's transactions. You can print any of these batches.

Totals Report Menu (TTL RPRT)

The Totals Report menu lets you choose how the 'terminal totals' report is formatted. The totals can be printed by:

- IND CARD (Individual card)
- GRND TTL (Grand total)
- OPER (Operator: Clerk/Server)

The terminal stores the current day's activity as well as the three previous day's transactions. You can print any of these batches.

Tips Report Menu (TIPS RPRT)

This menu allows you to print the Total Tips for each individual clerk/server or for all clerks/servers. The terminal stores the current day's activity as well as the three previous day's transactions. You can print any of these batches.

Host Totals Menu (HOST TTL)

The Host Totals menu allows you to compare the batch totals in the terminal with those at the host. You can choose to verify that the host has a record of the entire batch (all) or a particular transaction (single).

Clear Batch (CLR BTCH)

The Clear Batch function allows you to delete the terminal's batch and begin a new one. The totals at the host will not be deleted. Therefore, all the transactions performed will be settled. In order to clear the host's batch, you need to perform a void transaction for each transaction completed

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Offline Settlement (OFF LINE)

The Offline Settlement menu allows you to send offline transactions to the host for capture. There are two sub-menus 'SINGLE' and 'ALL'. Both contain two options: 'UP LOAD' and 'DELETE'. The first will upload the transaction(s) to the host while the later will delete it.

- 'SINGLE' options ask for a reference number and process a single transaction
- 'ALL' options process all the offline transaction in the same time

The terminal then sends the transaction to the host for capture. A receipt is printed with the approval number.

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Configuration Menu (CON FIG)

Merchant Configuration Menu (MRCH)

User Interface Configuration Menu (USER INT)

Using this menu, you can configure:

- Screen (user interface) timeout for prompt and messages (MRCH TOUT).
- PIN entry timeout (IDLE TOUT).
- Idle timeout before the terminal powers off (PIN TOUT).

Receipt Configuration Menu (DISCLAIM)

You can modify the lines on the receipt and reports. The items that can be modified are disclaimer, header, trailer, and location lines. Each has five lines that can be defined. Each line will appear as it does on the receipt. If nothing has been defined, the display and receipt are left blank.

Preference Configuration Menu (HEADER)

You can choose to enable certain parameters that control the flow of a transaction. The parameters are:

- Operator Required (OPER RQRD)- If enabled, the clerk/server ID prompt will appear on certain screens, receipts and reports.
- Operator Name (OPER NAME)- You can select whether the name 'Clerk' or 'Server' will appear on certain screens, receipts and reports.
- Invoice/Ticket Required (INV RQRD)- If enabled, the invoice/ ticket prompt will appear on screens, receipts and reports on certain transactions.
- Invoice/Ticket Name (INV NAME)- You can select whether the name 'Ticket' or 'Invoice' will appear on certain screens, receipts and reports.
- Tip Required (TIP RQRD)- If enabled, the tip function will be performed on purchase transactions. The terminal will prompt for tips by percentage of purchase or dollar amount.
- Quick Sale (QUIK SALE)- Activates 'Card Swipe' as the first prompt during credit sale transactions.
- Cash Back Maximum Limit (CASH BACK)- You can set the maximum amount the customer can select for cash back.
- PAN Check/Fraud Prevention (PAN CHK)- You can choose to activate this means of fraud protection. If enabled, you will be prompted to enter the last four digits of the account number or have the account number displayed on the screen to insure that the number embossed on the card matches that and the magnetic stripe.
- Offline (OFF LINE)- If enabled, a transaction can be approved by the terminal and stored for future submission to the host in the event of communication problems.

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- Key Injection Allowed (KEY INJ)- If enabled the master key and working key can be entered at the terminal. If disabled, the only way to inject the terminal with the keys is to download it via PC.
- Print FDC ID (PRIN FDC)- If enabled, the FDC ID will be printed on certain receipts and reports.
- Print Batch Number (PRIN BATC)- If enabled, the batch number will appear on certain receipts and reports.

Host Configuration Menu (HOST CFG)

You can modify certain parameters that control the processing of transactions. These parameters are usually set by your Acquiring Bank and include:

- Merchant Identification Number (MRCH ID)- provided by the financial institution.
- Bank Identification Number (BANK ID)- provided by the financial institution.
- Operating Environment (OPER ENV)- defines to the host whether the unit is operated within a store (on your premises) or roaming (off your premises).
- Market Type (MARKET)- defines to the host on whether the terminal will be used in a restaurant or retail environment.

Set Scheduled Event (SET SCHE)

You can define when the batch of the terminal is closed and sent to the history file. This time should coincide with when your host's settlement time occurs.

Communication Configuration Menu (COMM)

The Communication Configuration menu allows you to modify:

- The Timeout for sending authorization messages to the host. (The number of seconds the terminal will try to send to the network before determining that the terminal is out of range).
- The Application Header.

System Configuration (SYS)

The System Configuration menu displays the version details for the applications and operating system.

Print Configuration (PRNT)

The Print Configuration menu summarizes the state of each parameter and the versions of the application and operating system.

Operator Configuration Menu (OPER)

This menu allows you to manage the clerk/server list on your terminal. You can enter a number and a name for each clerk/server. A list of the clerk/servers can also be printed.

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Note: "Operator Required" must be enabled to access this function (Preference Configuration Menu).

Key Injection Menu (KEY INJ)

This menu allows you to enter or download the master and working keys used in a debit transaction.

Note: This option is only available if the Key Injection Allowed flag is set to 'YES'(Preference Configuration Menu).

Parameter Download (PARM LOAD)

This option will allow you perform a remote parameter download from a PC to the terminal. However, remote downloads are **not** yet available with this version.

Card Type Configuration Menu (CONF CARD)

This menu allows you to select the card types that you can accept. The choices are Visa, MasterCard, American Express, Diners, Discover, and JCB.

Terminal Serial Number Menu (TERM SRL#)

This menu allows you to store the terminal serial number in the application

Merchant Password (PASS MERC)

This option allows you to set the password that gains access to the Administration menus. If you do not enter a password, all of the functions on the terminal are available to every user.

Clerk/Server Password (PASS SERV)

This option allows you to enter individual passwords for each of the clerks/servers that you entered into the terminal. Initially, the clerk password is the same as the clerk id.

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Application Function Menu (APP FUNC)

The Application Function menu allows you to define which transactions and functions can be performed from this terminal and which functions are password protected. You can perform the following activities:

- Activate or deactivate any operation. If an operation is deactivated, it cannot be performed even though it is still displayed on the menu selection. Operations include all transactions, reports and administrative functions.
- Set password protection for each operation. If the password protection flag is set for an operation the password prompt will appear during the operation. Operations include all transactions, reports and administrative functions. No cash back password protection is available.
- Print the current status of the above flags.

Date and Time (DATE TIME)

The date and time configuration allows you to change the real time clock of the terminal setting. You are prompted for the new date (in MM/DD/YYYY format) and the new time (in HH:MM:SS format). The time should be in 24-hour format (e.g. 2:00 PM is 14:00).

Demo Mode (DEMO MODE)

The terminal can be placed in demo mode for training and demonstration purposes. While in demo mode, the transactions are not being authorized and are not sent to the bank. The entire communication to the host is simulated. The receipt also indicates that the transaction was done in demo mode.

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Components

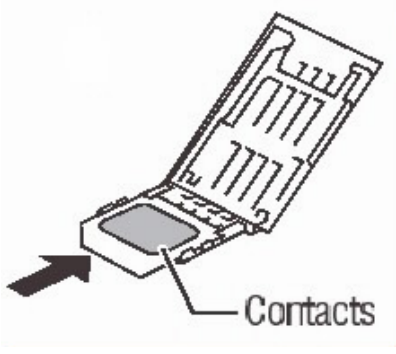
Inserting the Batteries

The Rechargeable Battery pack supplies power for the Sapphire 9870 DataTAC. It is installed by following this procedure:

Step	Action
1	Locate the two lugs on the Battery Pack in the holes on the Battery Pack Recess on the bottom of the terminal (shown on page 1-6).
2	Click the Battery Pack into place.

Inserting a SAM

The SAMs are used to store cryptographic and card scheme information and are inserted using the following procedure:

Step	Action	Diagram
1	Open the SAM Access Panel by undoing the two screws (shown on page 1-6).	
2	Open one of the empty SAM slots by sliding the holder until it clicks and then lifting.	
3	Slide the SAM into the holder with the contacts facing outwards.	

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4	Close the holder and slide forwards to lock in place.	
5	Replace the SAM Access Flap and screw into place.	

Loading the Printer

To load the printer with a roll of thermal paper, follow this procedure:

Step	Action
1	Open the Printer Access Flap (shown on page 1-6) by pressing the Printer Flap Release Button (shown on page 1-6).
2	Insert the roll of paper so that the open end is at the top of the unit.
3	Holding the open end of the roll, close the Printer Flap leaving a little paper hanging out.

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Connections

Connecting to a Telephone Line

Using the supplied cable, the Sapphire 9870 DataTAC can be connected to a telephone line to transmit data via its built-in modem.

The cable is connected to the Modem Connection Port (shown on page 1-6) and then to a telephone socket using local adapters if appropriate.

Connecting to a Computer

Using a standard RJ-45–to-Serial cable, the Sapphire 9870 DataTAC can be connected to a Computer or Computerised POS unit.

The cable is connected to the RS-232 Serial Connection Port (shown on page 1-6) and then to the Serial Port of the other device.

Connecting to an External Power Source

AC/DC Power Adapter

The supplied Power Adapter is connected to the Sapphire 9870 DataTAC via the AC/DC Power Supply Connection Port (shown on page 1-6).

Connect the cable to the Sapphire 9870 DataTAC and then connect to the mains supply.

Car Cigarette Lighter Connector

The optional Car Cigarette Lighter Connector is connected to the Sapphire 9870 DataTAC via the AC/DC Power Supply Connection Port (shown on page 1-6).

Connect the cable to the Sapphire 9870 DataTAC and then connect to the Car Cigarette Lighter Socket.

Charging the Unit

To charge the unit, ensure that it is switched off. Connect the AC/DC adapter or Car Charger and then connect to your power source (mains or car cigarette lighter socket).

Note: A new battery pack must be charged with the terminal switched off for approximately one hour before first use. This ensures that it is fully charged – indicated by a green light on the charger.

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4 Basic Operations

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Turning the Unit On/Off

The Sapphire 9870 DataTAC is powered on and off using the Power Button (shown on page 1-5).

Turning On

To turn the unit on, ensure that it is either connected to the mains or has a charged battery attached and press the power button. You will see a response on the screen.

Your Acquiring Bank's logo may appear on the screen for a few seconds, before you are taken to the idle screen.

Turning Off

To turn the unit off, press the power button and the unit shuts down.

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Navigating the Menus

Accessing a Menu

The menus are accessed on the Sapphire 9870 DataTAC by using the numeric keypad whilst the idle screen is displayed.

The key to access each menu is shown in Table 4.1. Once you have accessed a menu, the options appear above each of the function buttons (see page 1-5).

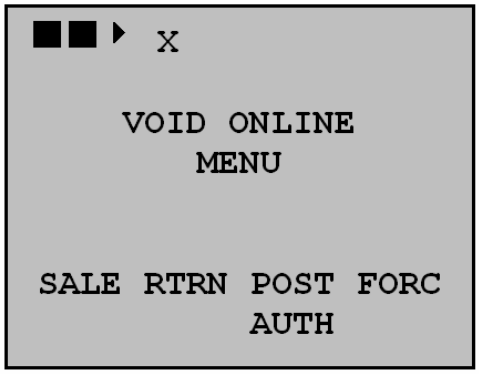

Figure 4.1: An Example of a Menu with 4 Options

Note: To access a different menu, you must press the STOP key and return to the idle screen first.

Hot Key	Menu
1	Sale Menu
2	Void Online Menu
3	Return Menu
4	Authorization Only option
5	Post Authorization Option
6	No Menu
7	Adjustment Option
8	Force Option
9	Override Menu
0	Administration Menu
*	Reprint Receipt Menu

Table 4.1: Hot Keys for Menus on the Sapphire 9870 DataTAC

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Accessing an Option Within a Menu

To access an option, press the function button below it. If there are more than four options within a menu, an arrow appears in the top right-hand corner of the screen. Press the ALPHA/MORE button to access the additional options (see page 1-5).

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Taking a Payment

The Sapphire 9870 DataTAC can take a number of different types of payments for different card types. Whenever the terminal is sitting at the idle screen it is ready to take a payment.

The Idle Screen

The idle screen consists of the date and time, the power bar (indicating the amount of charge left of the battery pack), and the idle message (default is "SWIPE CARD").

If the terminal has gone into standby, pressing the Power button (shown on page 1-5) will start it up again at the idle screen.

You can start a payment by selecting the Function Key specified on the idle screen or by using the Card Reader (swipe or chip reader).

Cancellation

A payment can be cancelled at any point by pressing the Stop button, or by waiting for the keyboard input timeout.

Pressing the Stop button returns the terminal to the idle screen, ready for the next transaction.

Transaction Types

There are a number of different types of transaction that can be made with the Sapphire 9870 DataTAC terminal. These are shown in Table 4.1.

Transaction Type	Features
Quick Sale	An Online Credit Payment that does not require Cardholder Authentication
Online Debit	An Online Debit Payment that requires Cardholder Authentication
Online Credit	An Online Credit Payment that requires Cardholder Authentication
Offline	An Offline Credit Payment that requires Cardholder Authentication
Void	An On/Offline Credit Transaction to Void a previous Transaction
Credit Refund	An On/Offline Credit Transaction to return funds to a Cardholder
Debit Refund	An On/Offline Debit Transaction to return funds to a Cardholder

Table 4-2: Transaction Types Available on the Sapphire 9870 DataTAC

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Taking a Quick Sale

You can make a "Quick Sale" when the Quick Sale parameter is set to "yes" and the "Tip" parameter in the configuration menu is set to "disabled". It is used to authorize a purchase using a credit card for payment without the assistance of the customer.

A Quick Sale is made using the following procedure:

Step	Action
1	Initiate the Quick Sale by swiping a Credit Card without pressing any other buttons.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Invoice/Ticket number, if required (optional)
5	Enter the amount of the purchase
6	Swipe the credit card being used for the purchase. [You can enter the credit card number manually by using the alphanumeric keys. If you enter the credit card number manually, then you will also be prompted to enter the expiration date of the credit card.]
7	Enter the last four digits of the PAN or validate the account number on the screen, if required (optional)
8	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the sale.

Note: You can cancel the operation by pressing the Cancel key. This takes you back to the idle screen.

Taking an Online Payment

Debit

The debit sale operation is utilized to authorize a purchase using a debit card for payment.

An Online Debit Sale is made using the following procedure:

Step	Action
1	Initiate the Online Debit Sale by pressing the '1' key and selecting DBT ATM from the menu or by pressing the F2 function key.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Invoice/Ticket number, if required (optional)
5	Enter the amount of the purchase followed by OK

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6	Press OK and pass the terminal to the cardholder. The cardholder confirms the transaction amount, enters any tip and cashback that they wish to add, then swipes their card and enters their PIN. They then pass the terminal back to you.
7	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the sale.

Note: You can cancel the operation by pressing the Cancel key. This takes you back to the idle screen.

Credit

The credit sale operation is utilized to authorize a purchase using a credit card for payment. This operation requires the Quick Sale parameter to be set to 'No' or the tip enable flag set to enable.

An Online Credit Sale is made using the following procedure:

Step	Action
1	Initiate the Online Credit Sale by pressing the '1' key and selecting CRDT from the menu or by pressing the F2 function key.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Invoice/Ticket number, if required (optional)
5	Enter the amount of the purchase followed by OK
6	Press OK and pass the terminal to the cardholder. The cardholder confirms the transaction amount, enters any tip and cashback that they wish to add, then swipes their card. They then pass the terminal back to you.
7	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the sale.

Note: You can cancel the operation by pressing the Cancel key. This takes you back to the idle screen.

Note: If there is no coverage and the Offline parameter is set to 'YES", the terminal will prompt the merchant if the transaction should continue offline. If the merchant chooses to continue the transaction will be stored in the terminal's batch as with any Offline Sale.

Taking an Offline Sale

Making Offline Sales allows you to take Credit Card payments when out of range of the Radio network. If you have Quick Sales allowed, an offline sale proceeds in the same way – otherwise it works as a regular credit sale.

The transactions are stored in a batch file on the terminal and then transmitted to your Acquiring Bank once communication is restored.

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Voiding a Transaction

The void sale operation is used to cancel a purchase transaction that has been previously authorized. Only purchases made with a credit card can be voided.

Voiding a Transaction is carried out using the following procedure:

Step	Action
1	Initiate the Void by pressing the '2' key and selecting SALE from the menu.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Reference Number from the Cardholder's Receipt
5	Check the Details against the Receipt
6	Press OK and the Transaction is Voided
7	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the void.

Note: If the record was not found, the terminal will beep, display an error message, and return to the idle prompt.

Refunding a Transaction

The Refund/Return Operation is used to authorize a refund using a credit or debit card for payment.

The steps for credit and debit returns are different. The following sub-sections describe each one.

Debit

An Online Debit Refund is made using the following procedure:

Step	Action
1	Initiate the Online Debit Refund by pressing the '3' key and selecting DBT ATM from the menu.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Invoice/Ticket number, if required (optional)
5	Enter the amount to be refunded followed by OK
6	Press OK and pass the terminal to the cardholder. The cardholder confirms the transaction amount, then swipes their card and enters their PIN. They then pass the terminal back to you.

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7	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the sale.

Note: You can cancel the operation by pressing the Cancel key. This takes you back to the idle screen.

Credit

An Online Credit Refund is made using the following procedure:

Step	Action
1	Initiate the Online Credit Refund by pressing the '3' key and selecting CRDT from the menu.
2	Enter your Password, if required (optional)
3	Enter your Clerk/server id number, if required (optional)
4	Enter the Invoice/Ticket number, if required (optional)
5	Enter the amount to be refunded followed by OK
6	Press OK and pass the terminal to the cardholder. The cardholder confirms the transaction amount, enters any tip and cashback that they wish to add, then swipes their card. They then pass the terminal back to you.
7	After the Terminal has received a reply to the Authorization Request, follow the on screen prompts to complete the sale.

Note: You can cancel the operation by pressing the Cancel key. This takes you back to the idle screen.

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5 Advanced Operations

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Authorization Operations

Authorization Only

The Authorization Only operation is used to authorize a hold of funds on a credit card with the intent to complete the transaction later. It can be initiated by two methods: pressing the '4' key or the 'OK' key and selecting 'AUTH' from the menu.

The steps of this operation are identical to a credit card transaction (see page 4-5).

Completing an Authorization Only Transaction

To complete a sale that was previously only authorized, the Post Authorization operation is used. It can be initiated by two methods: pressing the '5' key or the 'OK' key and selecting 'POST AUTH' from the menu.

The procedure is similar to the authorization only operation, but you are asked to enter the authorization number of the transaction being completed.

The terminal then sends the transaction to the host for capture. A receipt is printed with the approval number.

Adjustment Operation

The adjustment operation is utilized to change or adjust an amount of a previously authorized transaction. It will not use the prior authorization, but will instead go out for a new authorization. It can be initiated by two methods: pressing the '7' key or selecting 'ADJUST' from the Bankcard main menu.

You need to enter the reference number, confirm the previous amount and then enter the new amount.

The terminal sends the transaction to the host for capture. A receipt is printed with the approval number.

Force Operation

The Force operation is utilized to add a transaction to the host batch. This is normally done when the authorization was obtained by other means (i.e. voice authorization, etc.). It can be initiated by two methods: pressing the '8' key or selecting 'FORC' from the Bankcard main menu.

You are prompted to enter the authorization number, swipe the credit card being used for the force (you can enter the credit card number manually) and then enter the amount.

The terminal then sends the transaction to the host for capture. A receipt is printed with the approval number.

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Override Operation

The override operation is used following a sale transaction that the host responded as being duplicated. It normally occurs when two purchases for the same amount are attempted on a single card in the same day.

The credit override menu is accessible by pressing the '9' key or selecting 'OVERRIDE' from the Bankcard main menu.

Credit Override (CRDT OVER)

You are prompted to enter the password, the Clerk/server id number and the Invoice/ticket number if required. Then you need to swipe the credit card being used for the override or enter the credit card number manually.

An optional PAN Check will be prompted if required and then you need to enter the amount of the transaction.

If the terminal cannot find another transaction with the same card number and amount it will display 'NO DUP FOUND' and the transaction can be rerun as a regular credit sale (see page 4-6).

If it is a valid duplicate sale, the terminal then sends the transaction to the host for capture. A receipt is printed with the approval number

Debit Override (DBT OVER)

This is similar to the Credit Override. The amount is asked before card swiping and the customer authenticates their card with the PIN. There is no PAN checking.

Offline Override (OFF LINE)

The Offline Override is used to override when coverage is not available. This operation requires the 'OFF LINE' parameter must be set to 'Yes'. Only purchases done with a credit card are allowed.

The operation is similar to the Debit Override. The override operation is stored in the terminal's batch and a receipt is printed. You need to send the transaction to the host when coverage is available.

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Quick Access Operations

The Quick Access Operations allow you to perform some basic operations with only one keystroke. These operations can be initiated when the terminal is in idle state. Specific "Hot" keys have been reserved to run them.

Coverage

The Coverage operation is used to check whether the terminal is able to establish contact with the radio network without actually performing a transaction. To trigger the operation, press the INFO button (see page 1-5).

The terminal powers on the radio modem and displays the modem information. This includes the radio ID, Modem identification number, SW Version and the product ID.

Then it waits up to 3 minutes to establish network contact.

Note: It may take longer to establish network contact if the terminal is in a new location, as the radio modem may have to search for a new radio channel.

When network contact is established, an "In Range" message is displayed on the screen. This means that you are inside the radio coverage area and can perform transactions over the radio network. The Radio Signal Strength Indicator (RSSI) and Signal Quality are also measured and displayed. These are for network use only. The same information can be seen on the icons.

If the terminal does not establish network contact (time-out), the 'Out of Range' message is displayed. You can move the unit around (or take it outdoors) in order to find a spot with better coverage.

Reprint

You can access this menu by pressing the 'REPRINT' key (see page 1-5). This allows you to reprint:

- The last merchant receipt ('LAST MRCH')
- Any merchant receipt using its reference number ('PREV MRCH')
- The last customer receipt ('LAST CUST')
- Any customer receipt using its reference number ('PREV CUST')

Form feed

The 'FORM FEED' key advances the paper roll by 2 ½" (see page 1-5).

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6 Additional Information

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Troubleshooting

If you have any problems with your Sapphire 9870 DataTAC Terminal, check the following items:

- The Terminal Has Power (either a mains connection or charged battery)
- You are in an area with Radio Signal (run the Coverage check (page 5-3))
- You have Paper in the Printer.

If these checks do not resolve your problem, please refer to your supplier.

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Host Messages

This section contains the messages from the authorization host. The host sends these messages in the response message to the terminal. They are displayed in the screen at the end of the transaction.

Message	Description
AP	Approved or Completed Successfully
AP AUTH-ONLY	Approved but this EDC merchant is not set up to capture this card type (applies only to credit card transactions)
AP DUPE	Transaction entered is a duplicate
AP NOT CAPTURED	Approved but not captured (applies only to credit card transactions)
AP WITH ID	Approved with positive ID.
APPROVED	Approved debit card transaction.
CALL AE	Refer to American Express
CALL CB	Refer to Carte Blanche
CALL DC	Refer to Diners Club
CALL DISCOVER	Refer to Discover
CALL JB	Refer to JBS
CALL ND	Call your Visa/MasterCard Voice Auth Center
CALL TC	Refer to TeleCredit
CALL TK	Refer to TeleCheck
CALL WC	Refer to WorldCheck
CALL XXXXXXXX	Call indicated number
COMM NOT LOADED	Connection to network failed. Merchant should retry transaction.
DB ISSUER UNAVAIL	EFT network cannot contact issuer
DB UNAVAIL 01	Problem at NDC routing transaction
DB UNAVAIL 02	NDC Gateway is down
DB UNAVAIL 03	NDC Gateway Link ID timed out
DB UNAVAIL 04	NDC Gateway cannot contact EFT network or EFT Group ID is incorrect
DECLINE	Authorization Declined
EDC UNAVAILABLE	EDC application down try later
INV ACCT MATCH	The account number entered during a void or adjustment transaction does not match the account number stored in the NDC Host for that item.
INV AMT MATCH	The amount entered for a void or adjustment transaction does not match the amount stored in the NDC Host for that item.
INV BANK	Acquiring Bank ID entered is incorrect
INV ITEM NUM	The item number entered for void or adjustment transaction is incorrect
INVALID CARD	Debit card not on issuer list
INVALID DATA	Format of the transaction is incorrect
INVALID FIID	NDC Gateway Financial Institution ID not set up
INVALID LIC	The license or ID number entered during a check authorization transaction

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Message	Description
	is incorrect.
INVALID POS CARD	Card is not eligible for POS
INVALID PREFIX	No sharing arrangement for this card
INVALID REQUEST	Administrative message contains syntax error
INVALID STATE CD	State code entered is incorrect
INVLD ACCT	Account number does not pass issuer's edit checks
INVLD AMOUNT	Amount entered is invalid
INVLD CODE ACCT	Valid account number match with a transaction code for a different card type
INVLD EXP DATE	Expiration date entered is incorrect
INVLD MERCH ID	Invalid Merchant ID
INVLD PREFIX	NDC's user table are set up incorrectly for this account.
INVLD SERV ID	Service ID number is incorrect
INVLD TRAN CODE	Processing code is incorrect. Please refer to valid processing code
ISSUER UNAVIL	NDC cannot contact issuing bank for authorization
ITEM REVERSED	An adjustment or item review was attempted on a transaction previously voided or reversed.
ITEM VOIDED	An adjustment or item review was attempted on a transaction previously voided
MAX PIN RETRIES	Maximum PIN number entry attempts exceeded
MUST BALANCE NOW	Terminal has not been balanced within time specified in the NDC Merchant Master File for this merchant
NO DUP FOUND	Override transaction is attempted on a non-duplicated transaction
PIC UP	Authorization Declined
PIN INVALID	Incorrect PIN entered
PLEASE RETRY	NDC Gateway requests a retry
REVERSED	Requested transaction reversal was successful
SCAN UNAVAIL	SCAN application is down try later
TRAN TYPE INVLD	Transaction not supported by EFT network or card issuer
UNAUTH TRANS	A transaction code was used for which you are not set up on the merchant Master File.
UNAUTH USER	Merchant is not set up for debit on NDC Merchant Master File
VERIFY XXXXXXXX	Match on SCAN file xxxxxxx is the routing/transit number on the negative file.

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