



6100 Hand-Held Computer
USER'S GUIDE

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Section 1

General Information

About this User's Guide

Section 1

Contains general information about the components of your 6100 Hand-Held Computer . This includes telling you how the user guide is organized, a summary of the sections, and the specifications for your computer.

Section 2

Tells you how to prepare for using your computer.

Section 3

Contains routine maintenance information for your computer. Routine maintenance includes recharging the main battery pack, and cleaning the computer.

Section 4

Steps you through some procedures to use when troubleshooting your computer. This section does not contain all troubleshooting that can be done by an authorized Customer Support Specialist, but does contain information to aid you in determining the level of assistance you may need.

Appendix A

Contains the pin-outs for the external connectors of your hand-held computer. This section is not usually needed for day-to-day tasks but more to provide technical assistance for interfacing with other manufacturer's products.

Appendix B

Contains the Utilities Program screens. This is system-level information and is intended to be used by your system administration people when defining and setting parameters to support your application.

Appendix C

Contains the supported radio configurations for this hand-held computer.

Hand-Held Computer Description

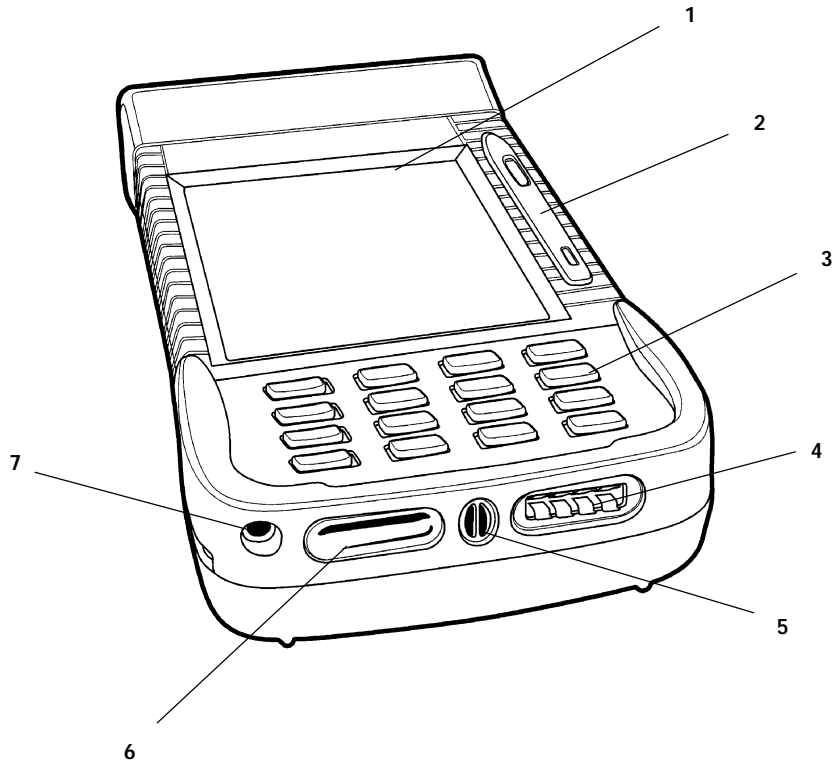
Hand-held computers are used in the mobile systems marketplace to perform a wide variety of tasks. This hand-held computer provides features and benefits that include:

- Fast data processing
- Large data and program storage
- Touch screen display
- Signature capture

Additionally, your hand-held computer has the ability to use:

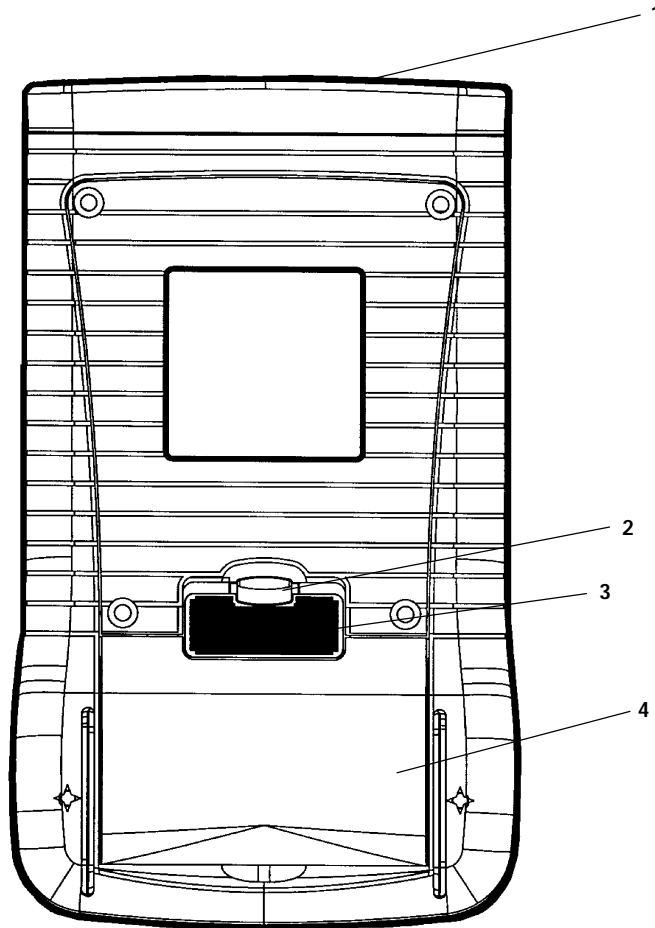
- PC (Personal Computer) cards
- Internal modem with PC card size and format

The following descriptions will familiarize you with the name, function, and locations of the main hand-held computer components. Figure 1-1 and Figure 1-2, on pages 1-4 and 1-5, show you the location for your hand-held computer key components.



- 1. Touch screen
- 2. Stylus
- 3. Keyboard
- 4. Docking connector
- 5. Speaker slot
- 6. Infrared lens
- 7. DC power jack

Figure 1-1
Front View



1. PC card access door
2. Release button
3. Slide latch
4. Battery pack

Figure 1-2
Back View

Hand-Held Computer Keyboard

The hand-held computer provides a 16-key keyboard. Figure 1-3 on page 1-6 details the keyboard layout.

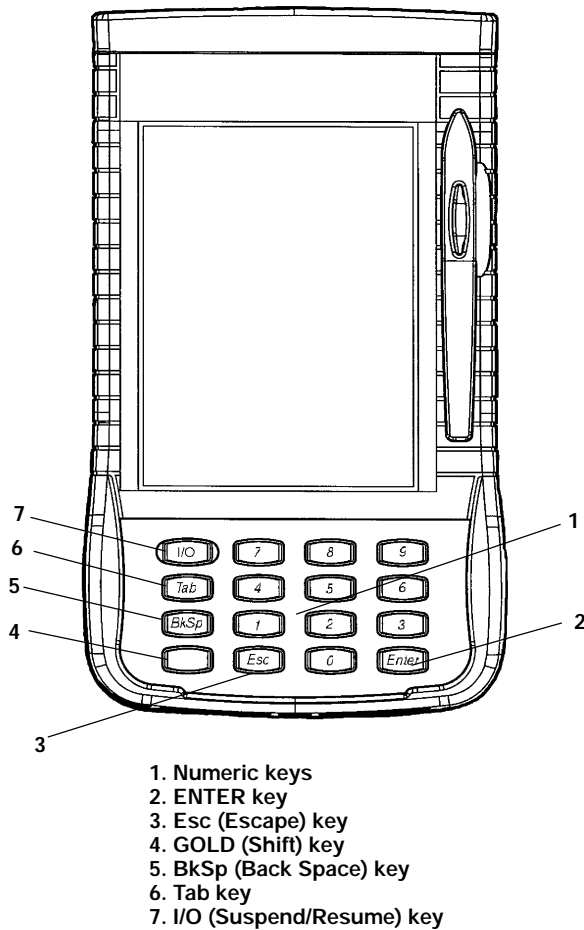


Figure 1-3
16-Key Keyboard

Display

This hand-held computer offers an easy to read Liquid Crystal Display (LCD) with touch screen. The display shows status messages, keyed-in entries, customer or product lists, calculations, and prompts for responses. To write or enter data on the touch screen use only the stylus provided with your computer or use your finger. The *PEN*KEY[®] Model 6100 Programmer's Reference Guide* NPN: 977-054-001 contains details for adjusting the contrast settings.

Backlight

Your hand-held computer display comes equipped with a backlight. Backlighting the display helps when using your hand-held computer in dark rooms or during early or late hours on the job.

Backlighting provides a great benefit in dark conditions. Backlighting does, however, reduce battery life, therefore, turn off the backlight when done using. You can control the amount of time the backlighting remains on through the CONFIG.SYS parameter settings, or your particular application.

Battery

NOTE:

It is important to charge your hand-held computer for at least 14 hours before you use it the first time. This ensures that both the backup battery and the main battery pack are fully charged.

This hand-held computer uses a 910 mA hour lithium ion rechargeable main battery pack. Your hand-held computer can check battery capacity by various methods. One, the battery pack has four LEDs that will display remaining capacity when two of the contacts are touched at the same time. More on this in Section 2 on page 2-9. A second meth-

od which your hand-held computer can be configured includes a program called DOSGAS. DOSGAS gives you the capacity of your battery from 0-100% with an icon on your display that looks like a battery (see Figure 1-4 on page 1-9).

If your hand-held computer goes into a shutdown mode because of low battery condition, data is protected by the backup battery. Your hand-held computer contains two 100 mA hour vanadium lithium backup batteries. The backup battery charges itself from the main pack or a charging source so it is constantly ready to take over data protection.

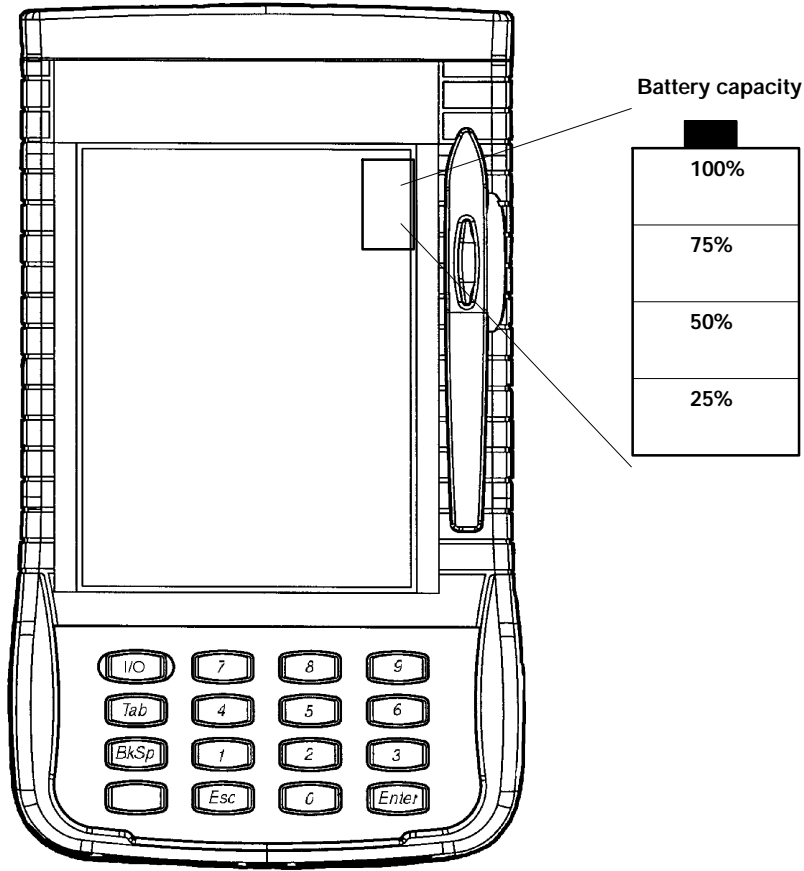


Figure 1-4
Battery Capacity Displayed

This user's guide will occasionally use the term "cycles" when presenting rechargeable battery instructions. Cycles, are the number of times the rechargeable battery pack can be charged and discharged during the life of battery. The Lithium Ion rechargeable battery design should give you approximately 500 cycles of use. There are no guarantees on this number because it depends greatly on how the battery pack is used and cared for.

Memory

Three types of memory are available with this hand-held computer:

- Main Memory DRAM
- Flash ROM
- PC Cards

Main Memory

Standard main memory DRAM configuration is 2 megabytes (MB), this can be extended to 4, 8, or 16 MBs. Main memory was ordered at the time your unit was purchased. You are able to upgrade to a larger memory size by having a new memory board installed at your Customer Support Center.

The main memory is protected by the backup battery during low main battery conditions or when the main battery pack is removed.

Flash ROM

Flash ROM stores the BIOS and DOS firmware for your hand-held computer. Applications stored in flash ROM are copied into DRAM for execution.

PC Cards

Different brands of PC cards can be used in your hand-held computer. Memory cards are available in a variety of sizes

and types. Check with your Sales Representative or System Engineer for specific options.

Your hand-held computer is equipped with two PC card slots. These slots can be used with PC memory cards for storage of data, much like a floppy disk drive on a PC. PC card slots can also be used for modems, radios, and other options as they become available.

You can use one Type II card in each drive at the same time. If using a Type III card, it only works in drive A (lower). However, you can not use a Type III and a Type II card at the same time. Type III cards include some types of disk drives and radios.

[Gold] (Shift) Key

Hold down and press desired gold (shifted) key functions. Continue to hold down the **[GOLD]** key for each shifted key stroke you wish to make.

[1/0] Suspend and Resume Key

In order to conserve power your hand-held computer may automatically suspend when there has been no activity for a set period of time. This time is determined by the parameters you set using your application software, AUTOEXEC.BAT, or CONFIG.SYS parameters.

To force a suspend, press the key defined as the suspend key. To resume operation, press the **[1/0]** key. Additionally, pressing the release button on the battery pack door forces a suspend. This protects against losing data when removing the battery pack.

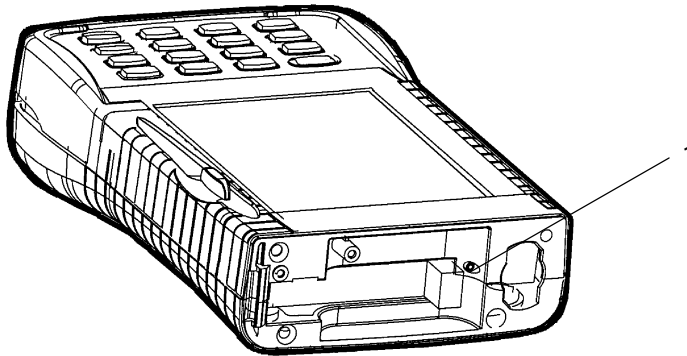
Serial Ports

- RS-232 or RS-485 through 8-pin docking connector on your hand-held computer
- RS-232 through serial endcap
- IrDA through the 9-pin dock connector when docked.

Reset Switch

In the rare event that your hand-held computer fails to respond to your input, it may be necessary to “reset.” Avoid over using the reset switch as this increases the chances that data will be lost. Only use the reset switch as a last resort after trying all other solutions.

The reset switch in the hand-held computer is located behind the PC card endcap. Figure 1-5 shows the location of the reset switch. To reset your hand-held computer, use the tip of the stylus that is provided with your hand-held computer.



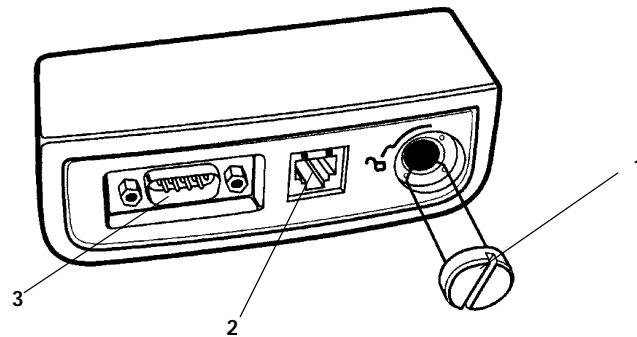
1. Reset switch

Figure 1-5
Reset Switch

Options and Accessories

Tethered Scanner Endcap


The tethered scanner endcap provides the standard 9-pin D-sub connector and phone jack.




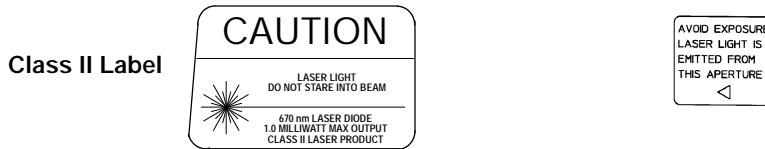
1. Shoulder bolt
2. Phone jack
3. 9-pin D-sub connector

Figure 1-6
Tethered Scanner and Phone Jack Endcap

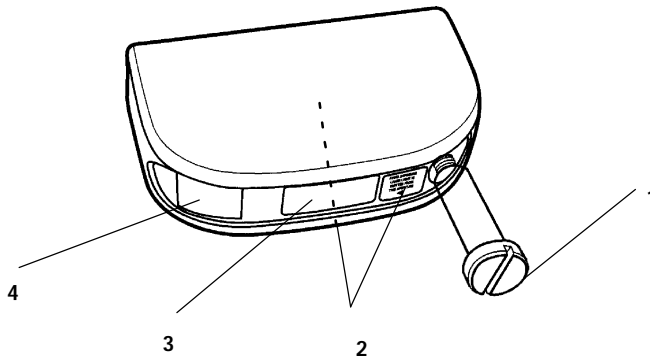
Integrated Scanner Endcap

 **WARNING:** Don't point the scanner at someone's eyes or look directly into it when scanning.

 **AVERTISSEMENT:** Ne regardez pas la fenêtre du scanner lorsque vous effectuez une scannérisation. Ne pointez jamais le rayon laser vers les yeux de quelqu'un.



The integrated scanner endcap provides a laser scanner and phone jack.



- 1. Shoulder bolt
- 2. Laser scanner warning labels (one on front and one on bottom of scanner endcap)
- 3. Laser scanner
- 4. Phone jack

Figure 1-7
Integrated Scanner and Phone Jack Endcap

Radio Module and Headset

Your hand-held computer can be ordered with a radio module. Using a radio module allows you to operate in a mobile environment and have real-time interaction with a host computer. The radio module attaches to the back of your hand-held computer as a pod. Under most conditions the radio module is ordered at the time of purchase.

Headsets for circuit-switched cellular radios can be ordered as an accessory at any time. Figure 1-8 shows a hand-held computer with a radio module.

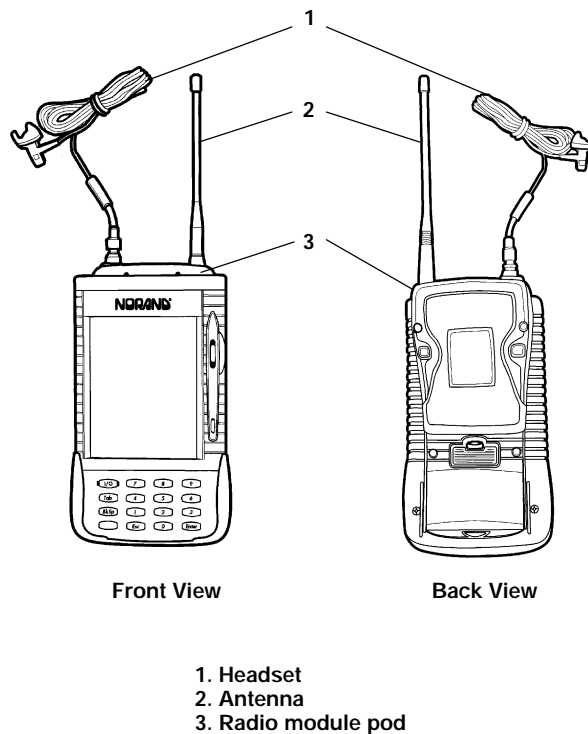
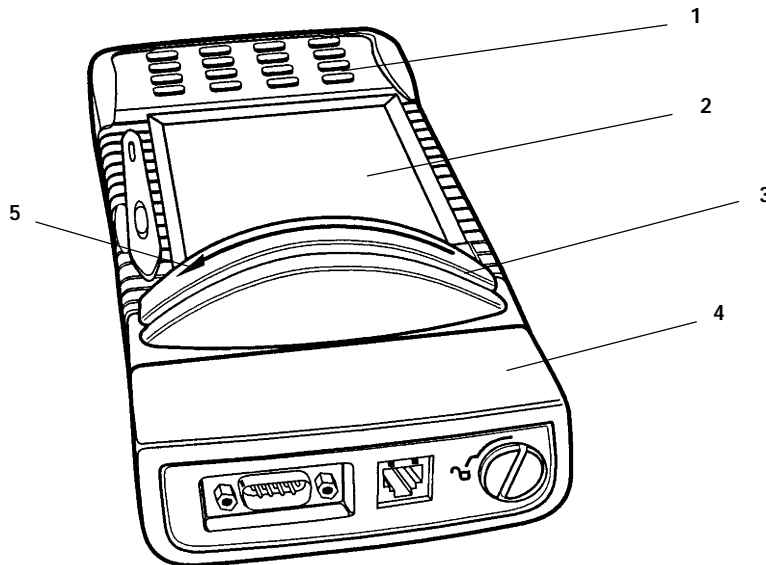


Figure 1-8
Computer with Radio Module and Headset

Magnetic Stripe Reader

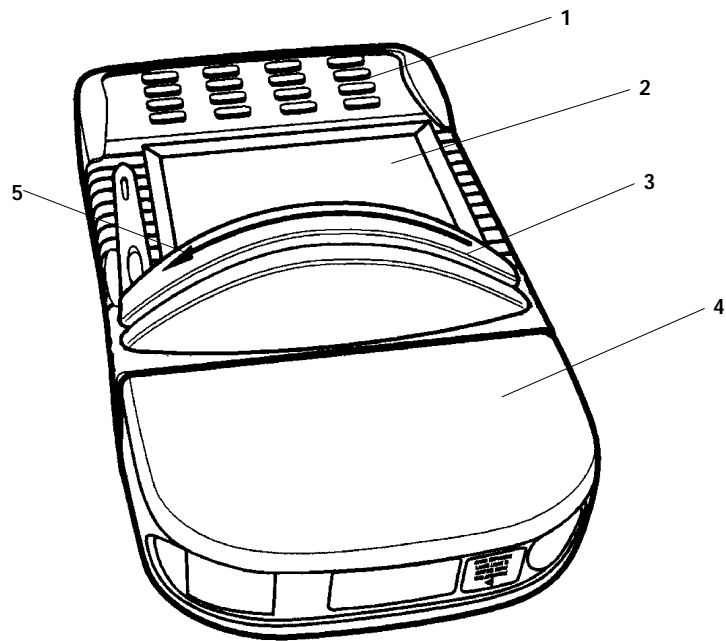
The Magnetic Stripe Reader (MSR) is an optional endcap attachment for your hand-held computer. Your MSR reads credit, charge, and debit (for example, ATM) cards.

The MSR attaches between the endcap and the computer. The MSR can be attached and used with either the tethered scanner or integrated scanner endcaps (see Figure 1-9 and Figure 1-10).



1. Keyboard
2. Display
3. Magnetic stripe reader
4. Tethered scanner endcap
5. Direction arrow for sweeping the card through the reader

Figure 1-9
Magnetic Stripe Reader with Tethered Scanner Endcap

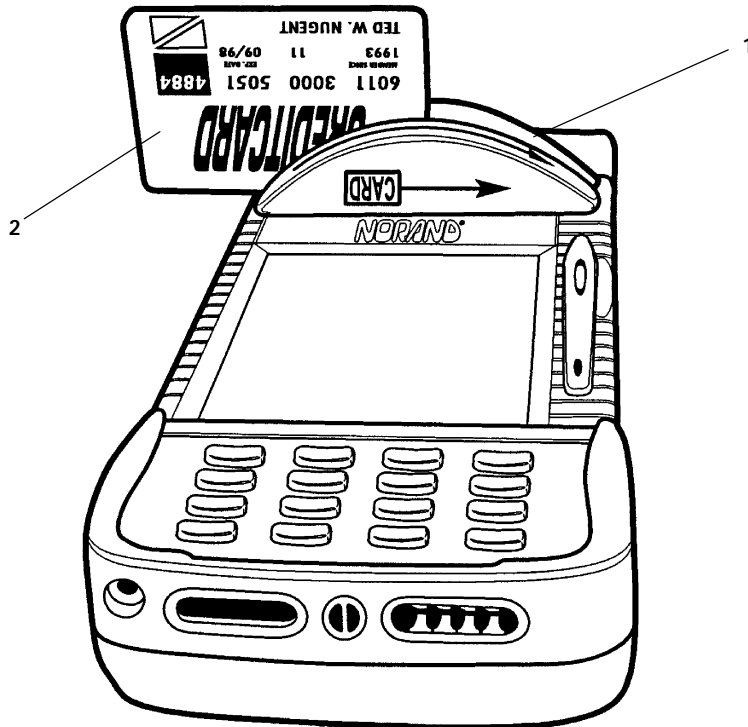


1. Keyboard
2. Display
3. Magnetic stripe reader
4. Integrated scanner endcap
5. Direction arrow for sweeping the card through the reader

Figure 1-10
Magnetic Stripe Reader with Integrated Scanner Endcap

Using the Magnetic Stripe Reader (MSR)

- To use the card reader simply sweep the card through in the direction of the arrow. The card reader only reads in one direction. Follow the illustration below and the card icon on the reader to remind you which way to position the card for sweeping it through.



1. Installed magnetic stripe reader
2. Card

Figure 1-11
Using the Magnetic Stripe Reader

Hand-Held Computer Specifications

Size:	7 inches (17.78 cm) long; 4.2 inches (10.67 cm) wide; 1.5 inches (3.81 cm) tall
Temperature:	
Operating:	4 to +122_F (-20 to +50_C)
Storage:	-22 to +158_F (-30 to +70_C)
Weight:	20 ounces (567 g); 31.5 ounces (893 g) fully configured with radio, cards, and battery
Humidity:	5 to 95% noncondensing
Static Protection:	20 kV (air discharge) 8 kV (direct injected)
Power source:	
Main battery:	7.2 V, 910 mA hour lithium ion battery pack (standard)
Backup battery:	Two 3.4 V, 100 mA hour vanadium lithium battery (standard)
Charging rate:	
0 to +60_C: (+32 to 140 °F)	Fast charge (fully charge ¶ 2.5 hours; 95% fully charged ¶ 1.5 hours)
Communication:	
Interface:	RS-232, RS-485, and Infrared
Protocol:	Proprietary Communications Protocol (PCP), Xmodem, Ymodem, IrDA
System Components:	
FLASH:	1 Megabyte (MB) FLASH array (standard) 2, 4, and 8 MB (<i>optional</i>)
DRAM:	2 Megabytes (standard) 4, 8, and 16 Megabytes (<i>optional</i>)
Card Options:	Two PC card slots; two Type II cards, or one Type III card
Processor:	AMD Élan chip 386 architecture, 33 Mhz.

Display:

Type: Quarter size VGA LCD, CGA Controller, with Backlight

Size: 240 (wide) by 320 (long) pixel, portrait orientation

Section 2

Operation

Introduction

This section tells you how to:

- Install the main battery pack
- “Power-up” your hand-held computer
- Install endcaps
- Install PC cards
- Connect to peripheral devices

Getting Started

Unpack your 6100 Hand-Held Computer and inspect it for signs of physical damage from shipment or storage.

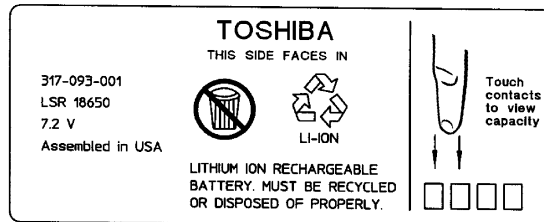
When you start using your hand-held computer or any time that all power has been completely removed, you are “cold-booting” your hand-held computer. The method you use depends on your application.

For example you may download (transfer from the host computer to your hand-held computer) the application and data into your hand-held computer. Or, you may use PC cards to load the application and data into your hand-held computer.

Depending on the method you are using, the result will be the same but the steps you go through may vary from the way this user's guide presents the material.

Rechargeable Battery Labelling

Lithium ION rechargeable batteries must be recycled. the following label appears on the actual battery pack.



WARNING: *The lithium ion battery can explode if replaced incorrectly. Replace the battery with a similar kind.*



AVERTISSEMENT: *La batterie au lithium peut exploser si elle est remplacée de manière incorrecte. Elle ne doit être remplacée que par une batterie identique ou similaire.*



WARNING: *The lithium battery can explode if placed incorrectly in the charger.*



AVERTISSEMENT: *Les batteries au lithium peuvent exploser ou prendre feu si elles sont trop chargées à cause d'une mauvaise installation de la station d'accueil.*

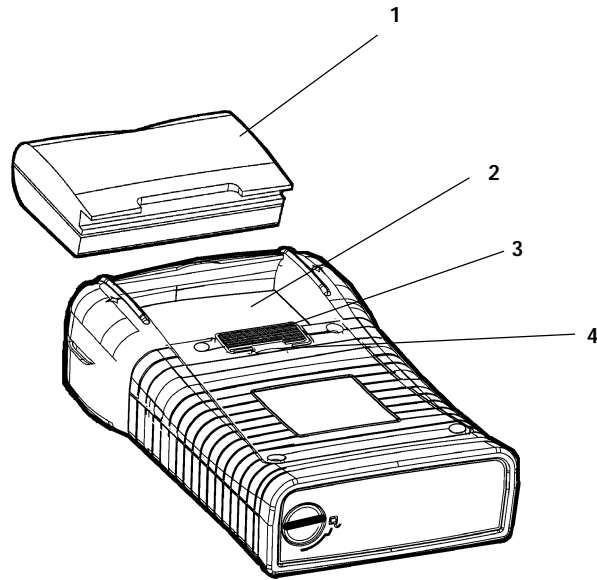
Installing the Main Battery

1. With the gold battery pack contacts facing into the battery compartment place the curved portion of the pack in the bottom of the compartment.
2. Press down on the battery pack until it snaps into place.

" NOTE:

Your computer is shipped with uncharged batteries for safety reasons. Charge your computer for 14 hours before using it the first time. This will ensure that both the main and backup batteries are fully charged. If the display remain blank after charging for five minutes, remove it from the charging device. Press the reset switch and your computer will power up. The display will then become active. Continue to charge until the batteries are fully charged.

NOTE: After the initial charging of 14 hours, the normal charge time for the main battery pack is 2-1/2 hours.



1. Rechargeable battery pack (contacts on underside)
2. Battery compartment
3. Slide latch
4. Release button

Figure 2-1
Replacing Main Battery Pack

Charging the Batteries

Charging your battery pack can be done either in your hand-held computer or in a charger. The following devices provide charge to the batteries while they are connected to your hand-held computer:

In Your Hand-Held Computer

- Multidock
- Single dock
- Wall adapter
- Cigarette lighter adapter
- Vehicle dock

Figure 2-2 shows the main components for the cigarette lighter adapter. The multidock, single dock, and vehicle dock installation and instructions are contained in a separate publication *6100 Series Docks Installation Instructions* PN: 962-020-003.

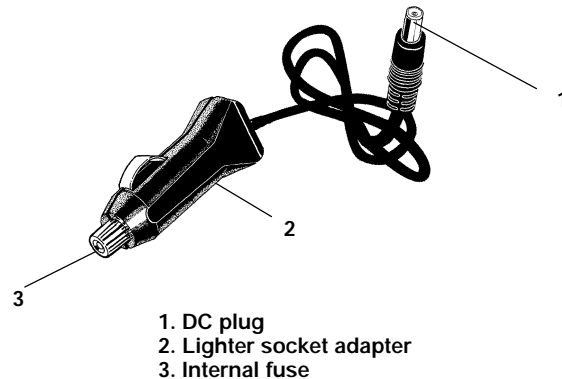
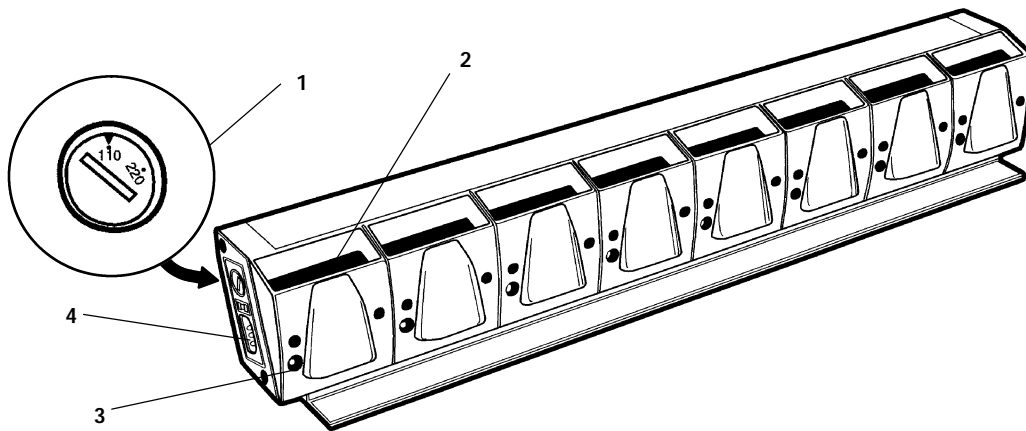


Figure 2-2
Cigarette Lighter Adapter

In External Source

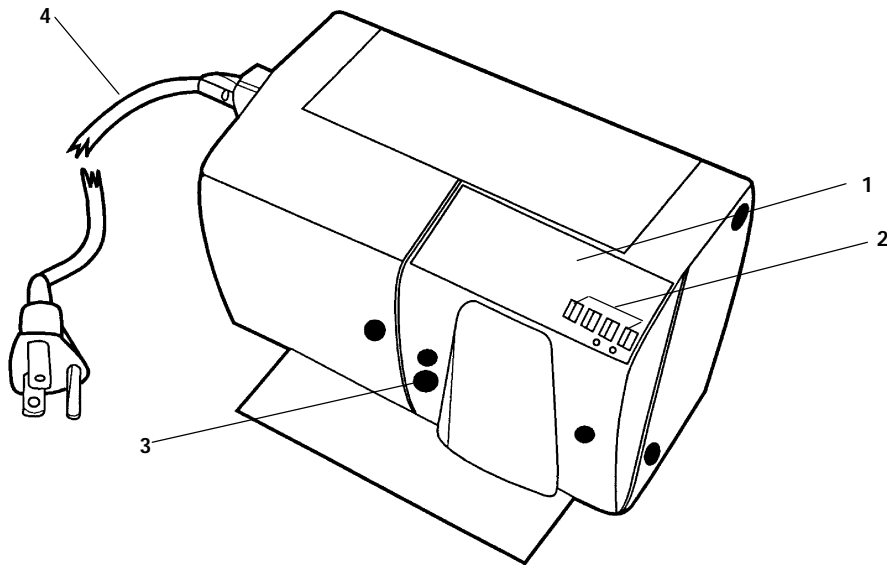
When you first plug in your charger and it powers up, the LEDs will blink a series of self tests. You should observe one red blink, one green blink, and then ten orange blinks.

When your battery pack is placed in a multipack or single pack charger, the dock will indicate the charge state (red = charging; green = fully charged; blinking red = bad battery or bad connection). Figure 2-3 shows a multipack charger and Figure 2-4 shows a single pack charger.



1. Voltage selector 110 or 220
2. Battery pack (eight) compartments
3. Charge indicator LED: (red = charging; green = fully charged; blinking red = bad connection, lift and reseal)
4. Power cord connector

Figure 2-3
Multipack Charger



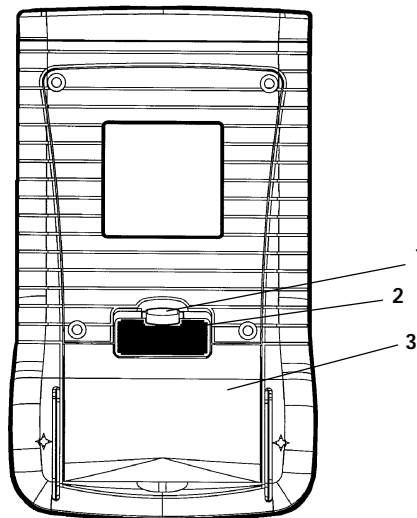
1. Battery pack compartment
2. Battery pack contacts
3. Charging indicator LED: (red = charging; green = fully charged; blinking red = bad connection, lift and reseal)
4. Power cord

Figure 2-4
Single Pack Charger

Removing the Main Battery

The following steps on pages 2-8, 2-9, and 2-4 detail how to remove the main battery, checking how much power the battery contains, and replacing the battery pack.

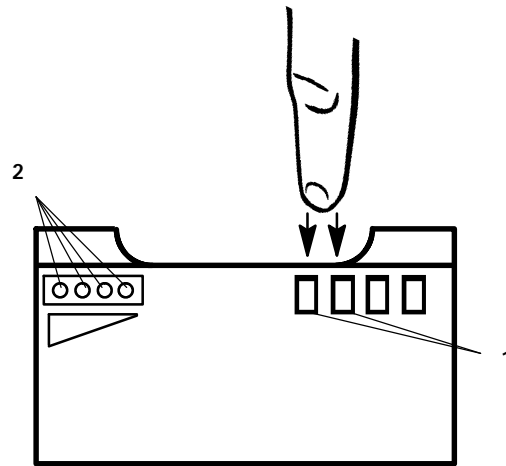
1. Press and hold down on the release button (see Figure 2-5, Figure 2-6 and pages 2-8, and 2-9, for battery compartment details). This causes your computer to go into a suspend mode and makes sure you do not lose your data. Wait until you hear the quick beeps before doing Step 2.
2. Slide the Slide Latch towards the release button and remove the battery.



1. Release (suspend) button
2. Slide latch
3. Battery pack

Figure 2-5
Removing the Main Battery Pack

Measuring Battery Pack Capacity



1. Touch finger across first two contacts
2. Capacity is displayed from right to left. The higher the battery capacity the more LEDs light:

● = LED on
○ = LED off



one LED = less than 25% capacity;



two LEDs = 25-50% capacity;



three LEDs = 50-75% capacity;



four LEDs = more than 75%

Figure 2-6
Main Battery Pack Underside View Showing Contacts

Backup Battery

This hand-held computer comes with two 100 mA hour vanadium lithium backup batteries. These batteries provide protection of your data when the main battery is removed from the hand-held computer or when the main battery goes into a low battery condition. The backup battery will not, nor is it intended to, run your application with the main battery pack run down or removed from your hand-held computer.

A fully charged backup battery will provide protection for maintaining data approximately 100 hours with the main battery removed or completely run down.

The backup battery is not user replaceable. To have your backup battery replaced, send it in to the Customer Service Center nearest you. Whenever you send in your hand-held computer for service, include a description of what you would like to have done.

Backup Battery Life

A frequently run down main battery will not keep the backup battery fully charged. The backup battery is rechargeable and will recharge every time it needs it from either an external charging source or the main battery pack. If completely run down it will take approximately 10 hours to completely recharge the backup battery.

The backup battery should last approximately 2000 discharge and recharge cycles. The backup battery should provide service for about 5 years before it needs to be replaced. Whenever your hand-held computer alerts you that the backup needs to be replaced, send it in to the Customer Service Center for replacement.

Installing Tethered or Integrated Scanner Endcap

1. Line the endcap up with the end of the computer (see Figure 2-7 on page 2-12).
2. Ensure that the rectangular bar on the endcap module fits into the hinge on your computer. This must be a tight fit to ensure that the endcap will securely seat and mate with connectors on your computer.
3. Hold the endcap against the computer and tighten the shoulder bolt. Again ensure that the endcap is securely seated.

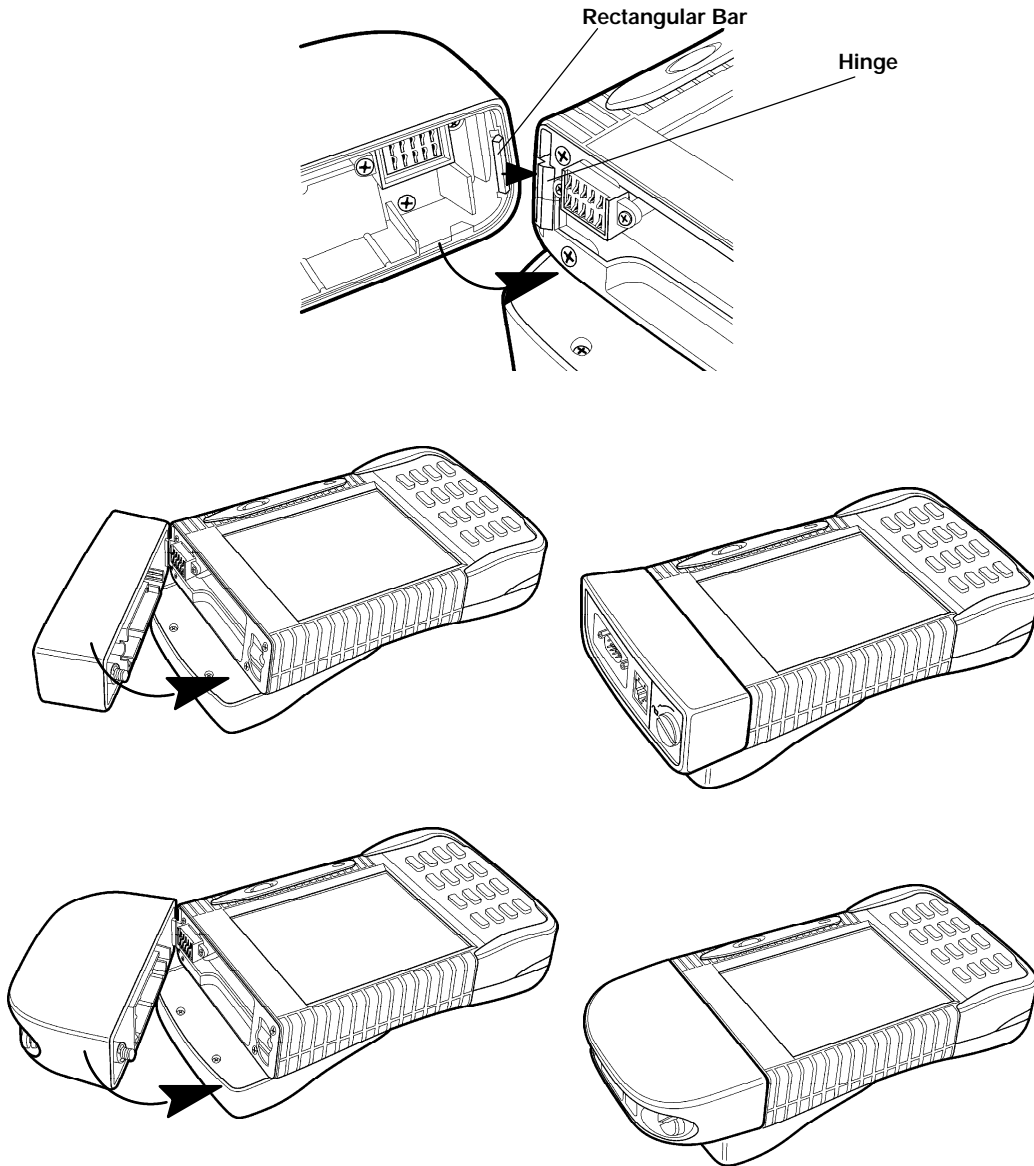


Figure 2-7
Installing Endcap

Using PC Cards to Load Your Programs

Drives

- Drive A (slot towards back of unit)
- Drive B (slot closest to touch screen and display)
- Drive C, RAM drive (if formatted)
- Drive D, ROM drive files in FLASH

Booting

In order to boot your hand-held computer by using a bootable SRAM card, you need to have CONFIG.SYS and AUTOEXEC.BAT on the SRAM card with any other desired programs. This can be done using a computer with a PC card drive.

The hand-held computer uses DOS 5.0. Typically, your PC card should contain, at a minimum, these statements in the CONFIG.SYS file.

In the CONFIG.SYS:

```
shell=d:\command.com d:\ /p
device=d:\Elanapm.e
device=d:\nordospm.exe
```

For complete details on creating a “boot” card, refer to the instructions in the *Model 6100 Hand-Held Computer Programmer's Reference Guide* PN: 977-054-001.

Override Default Boot Menu

1. Put the “boot” card in drive A or B (see Figure 2-9 on page 2-17), for card slot identification).
2. Press the reset switch (Figure 1-5 on page 1-12 for Reset switch location).
3. After the initial double beep, hold down the [I/O] key until “Start From” menu comes up on the display.
4. Choose the appropriate drive you wish to boot from.

Flashing

To update the flash:

1. Obtain a master mode boot card with the desired flash.
2. Insert this card in drive B, the slot closest to the display.
3. Reset your hand-held computer.
4. When prompted, place your hand-held computer on external power.
5. When prompted, press **[3]** to start the flash update.
6. When prompted, remove card before rebooting.

IrDA

You can use an IrDA dongle (for example, Jeteye company) on a PC running a terminal program to control your hand-held computer. Use the following two DOS commands on your hand-held computer:

```
MODE COM3:9600,N,8,1,P  
CTTY COM3
```


This redirects the keyboard input from COM3 and video output to COM3.

- Running a terminal program on the PC, such as Windows terminal will allow you to enter DOS commands on the PC for your hand-held computer to execute.
- The IrDA dongle may have to be hard-wired for a specific baud rate.

In order to use MODE, it is necessary to load the ROM DOS 5 Mode program. This can be done by placing a copy onto a boot card or by copying MODE on the C: drive. Make certain that MODE is in a directory accessible by the path statement.

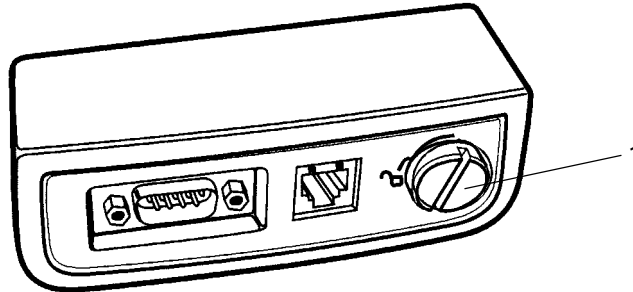
Printing to an IrDA printer is done by loading “DEVICE=PRDRV.SYS” in CONFIG.SYS and “PRIRLAP -6100 -R10” in AUTOEXEC.BAT.

- The mouse driver must be loaded after PRIRLAP.
- Output sent to LPT2 will then be directed to the IrDA printer.

Installing PC Cards

1. Use the edge of a coin, or screwdriver, to open the end cap door.
2. Open the PC card end cap by unscrewing the shoulder bolt counterclockwise. The symbol on the end cap resembles a padlock in the unlocked position (see Figure 2-8).
3. Remove the endcap (see Figure 2-9 on page 2-17).
4. Slide the card, connector end first, into the slot. If it resists going in, flip the card over and try again.

5. Reinstall the endcap by slipping the end opposite the lock knob over the stay inside the compartment and then screwing the shoulder bolt clockwise to lock it.



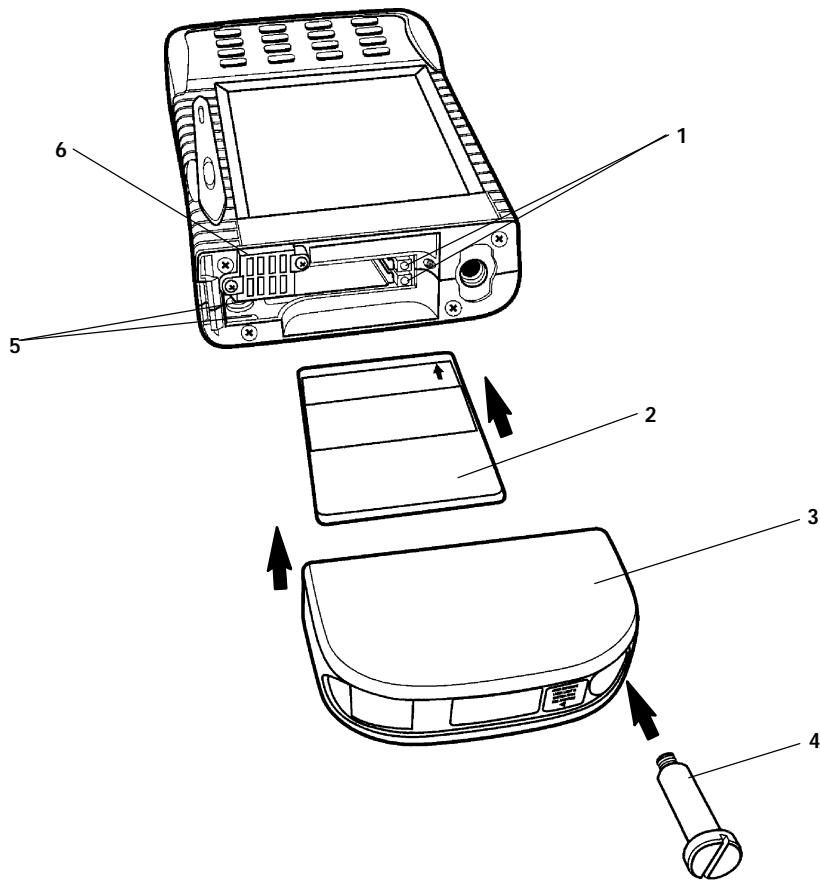
1. End cap shoulder bolt (counterclockwise to unlock, clockwise to lock)

Figure 2-8
Removing PC Card End Cap

Removing PC Cards

The PC card compartment contains ejector buttons for removing the cards from the slots (refer to Figure 2-9 on page 2-17 for location).

Press in on the ejector button to release and eject the card. The button will eject the card far enough so you can pull it the rest of the way with your fingers.



1. Ejector buttons (upper drive B, lower drive A)
2. PC card
3. One option of modular endcap
4. Shoulder bolt for attaching endcap to computer
5. PC card slots (upper drive B, lower drive A)
6. Options connector

Figure 2-9
Installing and Ejecting PC Cards

Downloading Programs into Your Hand-Held Computer

Using Utilities to download programs into your hand-held computer may require placing your computer into a dock. You can also download using an optional internal modem or radio module.

1. Remove all bootable PC cards.
2. Press the reset switch (refer to Figure 1-5 on page 1-12), you will then hear two beeps.
3. Press and hold down the **[I/O]** key.
4. Press **[4]** to boot ROM drive.

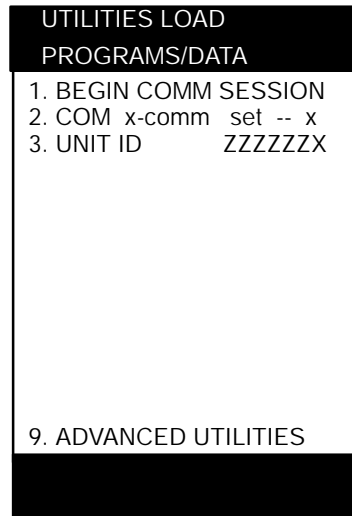
```
ROM DOS 5
Start From:
1) Memory Card 1 =A:
2) Memory Card 2 =B:
3) RAM Drive    =C:
4) ROM Drive    =D:
```

" NOTE:

If option 4 (start from ROM drive) is selected, your hand-held computer will check and run AUTOEXEC.BAT on other drives after D:CONFIG.SYS is processed. This is to support booting ATA PC cards.

5. After your hand-held computer finishes booting, and the copyright notice is displayed, press **[ENTER]** to continue.

6. This next screen will follow:



7. Connect to download device, i.e.: modem, dock, IrDA, serial, Interlink, etc.
 8. If COMM SETTING is correct, go to Step 11.
 9. Press **[2]** to change comm settings. Press the number for the option you want, or use the up or down arrow keys to highlight the desired selection.
 10. Return to main menu.
 11. Press **[1]** to begin comm session.
- At this point go to Appendix B for the Utilities Programs procedures.

Section 3

Routine Care and Maintenance

Introduction

Your hand-held computer is designed to withstand normal use in harsh environments. Occasional maintenance is required to ensure trouble-free operation. The procedures in this section should help keep your hand-held computer in good working condition.

Maintenance procedures included in this section provides instructions on identifying low battery conditions, and cleaning your computer.

Low Battery Indication

If you attempt to turn your hand-held computer on and it does not respond, this usually means the battery is run down. Just to be sure, insert your hand-held computer in a dock or other charging device, turn it ON, and see if the hand-held computer responds. If it does, follow the instructions for **Charging the Batteries** beginning on page 2-5. If it does not respond when inserted in the equipment that provides charging, another problem could exist. Refer to the **Troubleshooting** section for solutions.

Cleaning Your Hand-Held Computer

Periodic cleaning helps maintain the appearance and reliability of your hand-held computer. When cleaning your hand-held computer, inspect the keyboard, covers, display, connectors, and peripheral products for obvious signs of damage or wear.

B CAUTION: Do not use any abrasive cleaning compounds, ketonic solvents (acetone or ketone) or aromatic solvents (toluene or xylene) to clean any part of your hand-held computer. These solutions will cause permanent damage to your hand-held computer.

Never pour cleaners directly on the display or the case. Instead put the cleanser on a soft cloth and gently wipe the case.

Case and Display

It is recommended that you clean the exterior of your computer using a soft cloth dampened with MICRO-CLEAN II cleanser, made by Foresight International, Inc. 4887 F Street, Omaha, NE 68127-0205.

Docking Connectors

If docking connector contacts become dirty or tarnished, clean them with a cotton swab dipped in alcohol. It may also be necessary to lightly burnish them with a pencil eraser.

Section 4

Troubleshooting

Introduction

Should you encounter difficulties in routine operation, printing, or communications, there are a few things you may be able to do to correct the problem.

- Refer to your applications (software user) manual for printing and telecommunication procedures.
- Ensure that electrical and mechanical connections are secure and undamaged.

Troubleshooting Chart

Table 4-1 lists conditions you might see and offers some basic remedies:

Table 4-1
Basic Troubleshooting

Condition	Solution
Low Battery	Recharge the main battery pack.
Bad TCOM	Review and retry communications procedures. Check cable connections.
Does Not Respond To Power	Check to ensure that the dock is plugged in and hand-held computer is making good contact.

Table 4-1 continued
Basic Troubleshooting

Condition	Solution
Hand-Held Computer Will Not Turn ON When The [1/0] Key Is Pressed	<ul style="list-style-type: none"> * Ensure that there is a main battery in. * The main battery may be low and need recharging. * The battery door may not be closed completely.
As The Battery Pack Ages It Is Losing Capacity and Fewer LEDs are lighting.	Lithium Ion batteries will lose half of their available capacity after about 1000 cycles (use and recharge = 1 cycle). Therefore, a fully charged battery pack will show fewer than four lit LEDs, this is normal. Either replace the battery pack or plan your charging needs accordingly, and note that the capacity will continue to decrease with each cycle.
Battery Does Not Light Any Of The LEDs.	Charge battery pack then recheck. Replace battery pack if needed.
The Charging Indicator Starts Blinking Red And Orange	<p>*A determination can be made regarding the problem as a result of the sequence of red and orange blinking. This is helpful to a Customer Support Center Specialist. It is best for you to tell them as much as you can and probably is to your best interest to call a specialist at the support center. First there are some things to try.</p> <p>For example: There may be a bad connection between the charger and the battery. Remove and re-insert the battery pack.</p> <ul style="list-style-type: none"> * It might be a defective battery pack. Return battery pack to Customer Support Center. * You can remove the battery pack from the charger and try charging it while in your hand-held computer.
Hand-Held Computer Will Not Turn ON When Inserted In A Printer	The printer may be running off battery power. The printer does not charge the battery in your hand-held computer when it is running off of battery power itself.

Table 4-1 continued
Basic Troubleshooting

Condition	Solution
Hand-Held Computer Will Not Power Up, Screen is Blank, RS485 Network Does Not Work	<p>Main and Backup Battery are Critically Low. Ensure that your computer has been on a charger for at least five minutes, then remove from the dock and press the reset switch. The display will then be active.</p> <p>Continue to charge your hand-held computer for 14 hours to ensure both the main and backup batteries are fully charged.</p> <p>After this initial charge, the normal time for the main battery pack to charge is about 2 1/2 hours.</p>
Hand-Held Computer Will Not Turn ON When Placed In A Dock	<ul style="list-style-type: none"> * Ensure the dock is plugged in. * Ensure that there is a main battery in your hand-held computer. * Ensure the battery door is completely closed.
Hand-Held Computer Shuts Down In The Middle Of Using	<ul style="list-style-type: none"> * You may have a very low battery, try recharging the battery. * You may have hit the battery door latch, this will cause your hand-held computer to suspend. Check the latch.
Hand-Held Computer Turns OFF When You Open the Battery Door	<p>This is the correct operation, the unit shuts down to conserve energy and save data.</p>
Hand-Held Computer Does Not Turn OFF	<ul style="list-style-type: none"> * May not turn OFF when it is connected to a charging device. * May not turn OFF when it is processing data. <p>If either of these conditions continues for a long period of time, contact support personnel as this will run down the batteries.</p>

Table 4-1 continued
Basic Troubleshooting

Condition	Solution
Hand-Held Computer Displays A Bad TCOM Message	* Ensure that full contact is made in the dock, try reseating hand-held computer in dock. * Ensure there is a good connection between the dock and the host.
Hand-Held Computer Takes A Long Time To Boot Up After A Reset	Normal time is between 30-45 seconds. If longer than this, may need to contact support personnel.

If these basic solutions do not solve your problem, there could be a number of reasons. Additional things to do are:

- Refer to the software documentation written for your application. This documentation contains troubleshooting information.
- Contact the Customer Support Specialist at your Customer Service Center. Your regional Customer Service Center is fully staffed and equipped to repair your hand-held computer. Customer Support Center addresses and telephone numbers are printed on a Product Service Information card. This document is packed with all products.

Repair Service

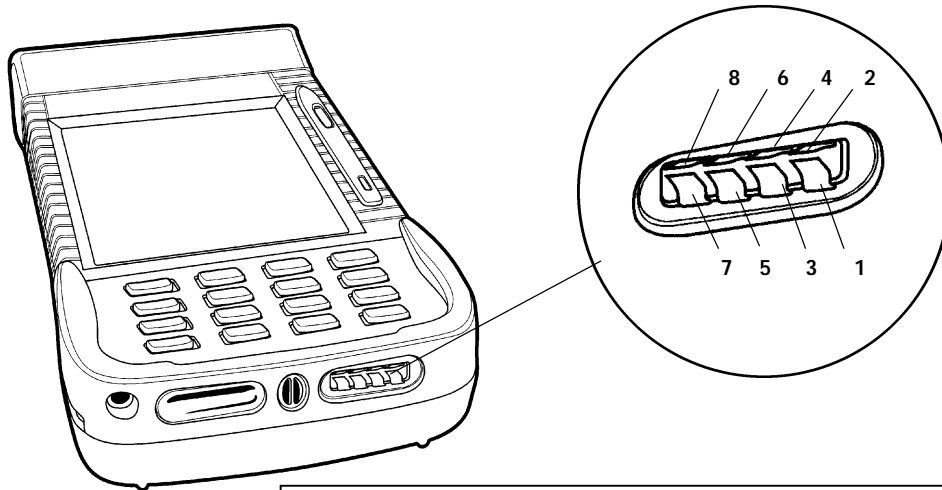
Be sure to carefully pack the unit and include a description of the problem and the measures you took to correct it.

If possible, include any printout (if applicable) or write down displayed error messages to illustrate the problem.

Appendix A

Connector Pin-Outs

8-Pin Docking Connector (standard)



<u>Pin</u>	<u>Signal</u>	<u>Function</u>
1	BCLK	Battery Clock
2	12.0 Volts	Terminal From Dock
3	GND	Ground
4	BDAT	Battery Data
5	TXD	Transmit for Serial Port
6	RXD	Receive for Serial Port
7	RTS	Ready To Send
8	CTS	Clear To Send

Appendix B

Utilities Program

The PEN*KEY[®] Utilities Program provides basic functions required to prepare your hand-held computers for use.

Entry Point

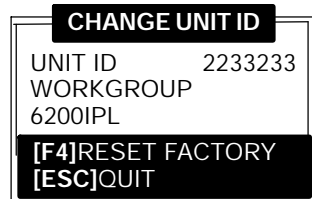


This screen appears after cold-booting the computer.

- **Screen Title:** (dark bar at the top) contains the application name, such as “PEN*KEY UTILITIES”, and the specific screen name, such as “MODEM PARAMETERS.”
- **Key Description:** (dark bar at the bottom) contains “action” keys. Movement keys, such as arrows, are not shown.

Pop-Up Menus

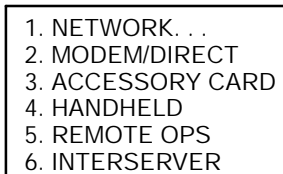
Pop-Up menus appear after a menu option. Press the number of an option you want to select; or press the **Y** or **B**



keys to scroll through the list and press the **[ENTER]** key to enter. Select one option each time.

Press the **[ESC]** key to exit a pop-up menu.

Drop-Down Lists



Drop-down lists provide suboptions under a pop-up menu. Press the number of a suboption, or press the **Y** or **B** keys to scroll through the list and press the **[ENTER]** key to enter. Select one suboption each time.

Press the **[ESC]** key to exit a drop-down list.

Alphanumeric Fields

NETWORK PARAMETERS	
SERVER NAME	
I.U.N. INCORPORATED	
SERVER IP ADDRESS	123.123.123.123
CLIENT IP ADDRESS	123.123.123.123
ROUTER	
	0. 0. 0. 0
SUBNET MASK	
	0. 0. 0. 0
[ESC]QUIT	

If your computer has a numeric keyboard, enter alphanumeric data by pressing the **A** and **"** keys to scroll back and forth through the set of alphanumeric characters. After a character is selected, press the **[ENTER]** key to enter that character. Press **[ENTER]** again to move to the next field.

If your computer has an alphanumeric keyboard, press the characters, then press the **[ENTER]** key to move to the next field.

Press **[ENTER]** to save the entries and exit the menu.
Press the **[ESC]** key to exit without saving the entries.

Title Screen

When you reboot or reset your computer, the Title Screen appears:

A rectangular box representing the Title Screen. The top section is a solid black bar with white text. The middle section is white with black text. The bottom section is a solid black bar with white text.

```
PEN*KEY UTILITIES  
PSROMOC Vx.xx  
  
COPYRIGHT 1994-1998  
INTERMEC  
TECHNOLOGIES  
CORPORATION.  
ALL RIGHTS RESERVED  
  
[ENTER]CONTINUE
```

Press the **[ENTER]** key to continue.

Language Selection

NOTE: The PEN*KEY Utilities Program checks files for available language options. If no language resource files exist, you do **not** see this menu.

If your application requires non-English languages, the Language Selection menu appears. English is the first option, followed by up to nine additional options:



Press the number of a language, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter.

Press the **[ESC]** key to exit this menu.

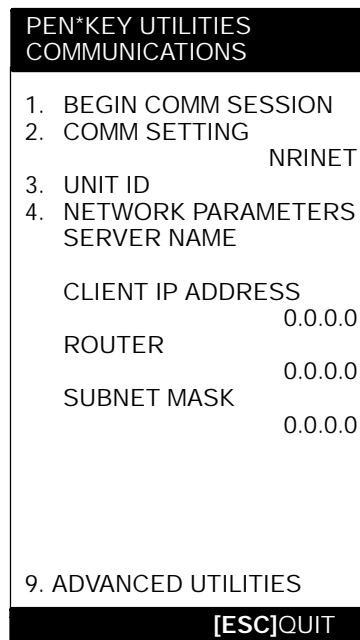
Communications Menu

" **NOTE:** The default is the NPCP RS-485 communication.

" **NOTE:** If your computer does not support any of the features listed, the following pop-up menu appears. Press the **[ENTER]** key to continue:



The Communications Menu appears after the Title Screen:



Option 1 BEGIN COMM SESSION

If you select this option, the computer repeats communications until successful or you press the **[ESC]** key.

" **NOTE:** *If you press the **[ESC]** key, this verification window appears:*



" **NOTE:** *This window may not appear immediately. For most communication settings, a session cannot be interrupted once it has started, so the **[ESC]** key is not processed until the next session is attempted.*

BEGIN COMM SESSION with NETWORK

If you select this option and Option **2. COMM SETTINGS** is set to NETWORK, this Communication Status menu appears:

PEN*KEY UTILITIES COMMUNICATIONS	
COMM SETTINGS:	
NRINET	
SERVER NAME	
CLIENT IP ADDRESS	0.0.0.0
ROUTER	0.0.0.0
SIGNING ON	
STATUS:	20

[ESC]STOP COMM

While SIGNING ON is onscreen, STATUS: may appear with the status of the attempted connection. Refer to **Session Status** on page B-12 for meaning.

Following a successful session, PEN*KEY Utilities executes the downloaded application. If the necessary program files are not found, this message window appears:

MISSING SYSTEM FILES
[ENTER]CONTINUE

If the session is unsuccessful, LAST SESSION appears with the failure status, such as "T803."

```
PEN*KEY UTILITIES
COMMUNICATIONS

COMM SETTINGS:
  NRINET
  SERVER NAME

  CLIENT IP ADDRESS      0.0.0.0
  ROUTER                  0.0.0.0
  SIGNING ON STATUS:      20

  LAST SESSION          T803
  INVALID HOST NAME
  OR IP ADDRESS

[ESC]STOP COMM
```

BEGIN COMM SESSION with MODEM/DIRECT

If you select this option and Option **2. COMM SETTINGS** is set to MODEM/DIRECT, this Communication Status menu appears:

```
PEN*KEY UTILITIES
COMMUNICATIONS

COMM SETTINGS:
  MODEM/DIRECT
  MODEM TYPE
    NM2400/NM2400A
  PROTOCOL BPS FMT
  TTY      2400 8N1
  AUTO ANSWER
                                ESC

CONFIGURING

LAST SESSION:      T289
ESC RESPONSE FROM
MODEM

[ESC]STOP COMM
```

NOTE: *The computer may stay at the "CONFIGURING" screen for about 20 seconds if a modem is not detected.*

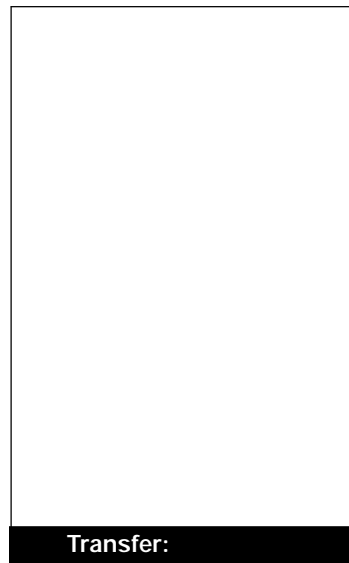
If the session is unsuccessful, LAST SESSION appears with the failure status, such as "T289."

BEGIN COMM SESSION with ACCESSORY CARD

If you select this option and Option **2. COMM SETTINGS** is set to ACCESSORY CARD, the system attempts to execute the application from a PC card. If the "MISSING SYSTEM FILES" message appears, press the **[ENTER]** key to continue.

BEGIN COMM SESSION with INTERSERVER

If you select this option and Option **2. COMM SETTINGS** is set to INTERSERVER, this Communication Status menu appears:



Press the **[ESC]** key to exit this screen.

Session Status

The first single character code ("T") is the session status, which applies to all COMM SETTINGS. There are five statuses possible:

- " **G** Good session
- " **T** Unexpected end of transmission
- " **H** Incorrect file header encountered
- " **F** File error encountered
- " **L** Telecommunications aborted before first file header received

The three digit number ("289") indicates the specific protocol error. These error codes apply when COMM SETTINGS is set to NPCP RS-485 or NPCP RS-232:

- " **0** No error
- 1** MININET.EXE not installed
- 6** User aborted communications by pressing **[ESC]**
- 11** Invalid parameter specified in control file

" **NOTE:**

The following values indicate an error returned by MININET.EXE. 100 is added to the error returned by MININET.EXE to avoid conflict with other defined errors.

- 101** Illegal buffer length
- 103** Invalid command
- 105** Command timed out
- 106** Message incomplete
- 108** Illegal local session number
- 109** No resource available
- 110** Session closed
- 111** Command canceled
- 113** Duplicate name in local name table
- 114** Name table is full
- 115** Name is deregistered, command complete
- 117** Local session table full
- 118** Session open rejected

- 119** Invalid name number
- 120** No answer
- 121** Name not found
- 122** Name in use on remote adapter
- 123** Name deleted
- 124** Session ended abnormally
- 125** Name conflict
- 126** Incompatible remote device
- 133** Network interface is busy
- 134** Too many commands outstanding
- 135** Invalid LAN adapter number
- 136** Command completed while cancel occurring
- 138** Command not valid to cancel
- 164-179** Unusual network condition
- 180-354** Adapter malfunction

These error codes apply when COMM SETTINGS is set to MODEM/DIRECT and PROTOCOL is set to TTY:

- 0** No error
- 6** **[ESC]** key pressed, aborting communications
- 11** Invalid parameter specified in control file
- 23** End of transmission
- 101** Line lost
- 102** Parity error
- 103** Character gap too long
- 104** Data loss
- 105** Excessive NAKs (negative acknowledgements)
- 106** Block count error
- 107** Block check error
- 108** Block framing error
- 109** Control character error
- 2xx** Modem error
 - xx** Hayes response code, or code defined by program:
 - 03** No carrier
 - 04** Command not recognized
 - 06** No dial tone
 - 07** Dialed number is busy

- 08** No answer
- 86** Error sending command to modem
- 87** Expected numeric response not numeric
- 88** Invalid response format
- 89** No significant response from modem
- 97** COM port disabled by system due to low battery or removal of PC card modem.
- 98** Unrecognized English response
- 99** Memory allocation error

" NOTE:

For response codes not listed above, if you purchased this modem from the Norand Mobile Systems Division of Intermec Technologies Corporation, contact our Customer Response Center at 1-800-221-9236.

*If this modem is **not** from the Norand Mobile Systems Division, contact your modem supplier.*

These error codes apply when COMM SETTINGS is set to NOVELL NETWARE:

- 0** No error
- 6** User aborted communications by pressing **[ESC]** key.
- 100** Connection to host failed. Verify network connection, verify that PENKEY login name exists on host.
- 101** Could not access include file. Verify existence of include file on host.
- 102** Could not allocate needed memory.

These error codes apply when COMM SETTINGS is set to NRINET:

- **0** No error
- 6** User aborted communications by pressing **[ESC]** key.
- 800** PC TCP/IP kernel is missing.
- 801** Invalid client IP address. Make sure the entry for CLIENT IP ADDRESS is correct, or make sure the DHCP server is running.
- 802** Invalid Service or Service Type, or invalid port number.
- 803** Invalid host name or IP Address. Make sure the entry for SERVER NAME is correct, and that the server is running.
- 804** Could not create socket. Check all cables and network connections.
- 806** Block sent was incomplete or block received was incomplete.
- 807** Client and server negotiation failed.
- 808** Server specified an unsupported block size.
- 809** Invalid buffer pointer.
- 810** All server connections are already in use. Try again later.
- 811** Timeout while sending data. Connection to remote machine dropped. Make sure the host is still running, and check all cables and network connections.
- 812** Timeout while receiving data. Connection to remote machine dropped. Make sure the host is still running, and check all cables and network connections.
- 935** Operation would block.
- 939** Destination address required.
- 940** Message too long.
- 948** Address already in use.
- 950** Network is down.

- 951** Network is unreachable.
- 952** Network dropped connection or reset.
- 954** Connection reset by peer.
- 955** No buffer space available.
- 960** Connection timed out.
- 961** Connection refused.
- 962** Too many levels of symbolic links.
- 963** File name is too long.
- 964** Host is down.
- 965** Host is unreachable.
- 966** Directory not empty.

These error codes apply when COMM SETTINGS is set to TFTP:

- .. **0** No error.
- 1** TCP/IP kernel is not loaded.
- 6** User aborted communications by pressing **[ESC]** key.
- 201** TFTP.EXE failed.
- 202** TFTP.EXE not found.
- 203** Unknown server.
- 204** Remote file name is invalid.
- 205** Local file name is invalid.
- 206** File not found on server.
- 207** Timeout.

Option 2 COMM SETTING

If you select this option, the Communications Settings drop-down list appears:

- | |
|---|
| <ol style="list-style-type: none"> 1. NETWORK. . . 2. MODEM/DIRECT 3. ACCESSORY CARD 4. HANDHELD 5. REMOTE OPS 6. INTERSERVER |
|---|

Press the number of a communications settings, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter.

Suboption 1 NETWORK

If you select this suboption, a drop-down list appears with various networks:

- | |
|--|
| 1. NETWORK. . . |
| <ol style="list-style-type: none"> 1. NPCP RS485 2. NPCP RS232 3. NRINET 4. TFTP 5. ESCVELL NETWORK |

Press the number of a network or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Communications Menu with the selected network assigned to Option **2. COMM SETTING**. See a sample menu on page B-6.

Press the **[ESC]** key to exit this drop-down list. The computer takes you to the Communications Menu.

Suboption 2 MODEM/DIRECT

If you select this suboption, the computer returns to the Communications Menu with the MODEM/DIRECT option assigned to Option **2. COMM SETTING:**

```
PEN*KEY UTILITIES
COMMUNICATIONS

1. BEGIN COMM SESSION
2. COMM SETTING
   MODEM/DIRECT
3. UNIT ID
4. MODEM PARAMETERS
   MODEM TYPE
     NM2400/NM2400A
   PROTOCOL BPS FMT
   TTY      2400 8N1
   AUTO ANSWER          ESC
5. PHONE NUMBER
     9...131369282

9. ADVANCED UTILITIES
```


Option 3 UNIT ID

If you select this option, the Change Unit ID pop-up menu appears:

CHANGE UNIT ID	
UNIT ID	2233233
WORKGROUP	6200IPL
[F4]RESET FACTORY	
[ESC]QUIT	

Enter up to eight characters to change the Unit ID. Use the [**←SP**] key to backspace and use the [**CLR**] to restore the previous ID. Press the [**ENTER**] key to save the new ID and return to the Communications Settings menu. Press the [**F4**] key to reset the ID to factory default. Press [**ESC**] to exit this pop-up menu.

Option 4 NETWORK PARAMETERS

Network Parameters appears as Option 4 when Option 2. **COMM SETTINGS** is set to one of these three NETWORK options: NRINET, TFTP, or ESCVELL NETWARE.

NETWORK PARAMETERS with NRINET or TFTP

If you select this option and Option **2. COMM SETTINGS** is set to NRINET or TFTP, this Network Parameters pop-up menu appears:

NETWORK PARAMETERS	
SERVER NAME	
SERVER IP ADDRESS	
	0. 0. 0. 0
CLIENT IP ADDRESS	
	0. 0. 0. 0
ROUTER	
	0. 0. 0. 0
SUBNET MASK	
	0. 0. 0. 0
[ESC]QUIT	

If you have an alphanumeric keyboard, press the characters to the host name, then press the **[ENTER]** key to save the entry and move to the next field.

If you have a numeric keyboard, use the **A** and **"** keys to scroll back and forth through the given set of alphanumeric characters. After a character is selected, press the **[ENTER]** key to enter that character. Press **[ENTER]** again to move to the next field. Press the **Y** or **B** keys to move between fields.

Press **[ENTER]** to save the entries and exit the Network Parameters menu. Press the **[ESC]** key to exit without saving the entries.

NETWORK PARAMETERS with ESCVELL NETWARE

If you select this option and Option **2. COMM SETTINGS** is set to NOVELL NETWARE, this frame type drop-down list appears:

- | |
|------------------|
| 1. 802.2 |
| 2. ETHERNET II |
| 3. 802.3 RAW |
| 4. 802.2 W/ SNAP |

Press the number of a frame type, or press the **Y** or **B** keys to scroll through the list and press the **[ENTER]** key to enter. Press the **[ESC]** key to exit this drop-down list without changing the frame type.

Option 4 MODEM PARAMETERS

Modem Parameters appears as Option 4 when Option **2. COMM SETTINGS** is set to MODEM/DIRECT.

If you select this option, the Modem Parameters pop-up menu appears.

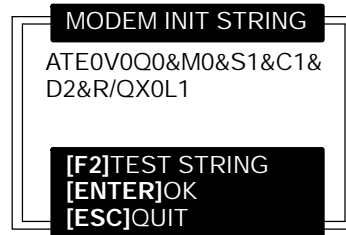
- | MODEM PARAMETERS | |
|------------------|----------------|
| 1. MODEM TYPE | |
| | NM2400/NM2400A |
| 2. PROTOCOL | TTY |
| 3. BPS RATE | 2400 |
| 4. DATA FORMAT | 8N1 |
| 5. AUTO ANSWER | ESC |
| [ESC]DONE | |

Press the number of a modem parameters option, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** button to enter.

Suboption 1 MODEM TYPE

If you select this suboption, a drop-down list appears with supported modem types. Press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** button to enter.

- " If you select drop-option **OTHER EXTERNAL** or **OTHER INTERNAL**, the Modem Init String pop-up menu appears:



- a. Enter the initialization string of the modem you are using. Refer to your modem's reference manual for information.

" **NOTE:** Use **A** and **"** keys on numeric keyboards to scroll the alphanumeric character set.

" **NOTE:** If you leave this menu blank, a string is not saved.

- b. Press the **[ENTER]** key to enter the string or press **[ESC]** to exit this pop-up menu.

" **NOTE:** *Testing the modem initialization string is optional.*

" To test the modem string, do the following:

- a. Press the **[F2]** key. The computer replies with "PLEASE WAIT" and tests the string:

```

MODEM INIT STRING
ATE0V0Q0&M0&S1&C1&
D2&R/QX0L1
PLEASE WAIT . . .
[F2]TEST STRING
[ENTER]OK
[ESC]QUIT

```

Momentarily, the computer displays the modem's response:

```

MODEM INIT STRING
ATE0V0Q0&M0&S1&C1&
D2&R/QX0L1
RESULT: 97
[F2]TEST STRING
[ENTER]OK
[ESC]QUIT

```

" **NOTE:** *Zero indicates the modem was successfully configured. Any other value indicates an error. See page B-13 for a list of modem errors. If you purchased this modem from the Norand Mobile Systems Division, contact our Customer Response Center at 1-800-221-9236.*

*If this modem is **not** from the Norand Mobile Systems Division, contact your modem supplier.*

- b. Press the **[ENTER]** key to update the modem initialization string. The computer returns to the Modem Parameters pop-up menu with OTHER EXTERNAL or OTHER INTERNAL assigned.

Suboption 2 PROTOCOL

If you select this suboption, a drop-down list of various protocols appears:

- | |
|-----------|
| 1. TTY |
| 2. YMODEM |

Press the number of a protocol, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected protocol assigned.

Press the **[ESC]** key to exit this drop-down list.

Suboption 3 BPS RATE

If you select this suboption, the BPS Rate drop-down list appears with various bits per second (BPS) rates:

- | | |
|----|--------|
| 1. | 1200 |
| 2. | 2400 |
| 3. | 4800 |
| 4. | 9600 |
| 5. | 19200 |
| 6. | 38400 |
| 7. | 57600 |
| 8. | 115200 |

Press the number of a BPS rate, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected BPS rate assigned.

Press the **[ESC]** key to exit this drop-down list.

Suboption 4 DATA FORMAT

If you select this suboption, the Data Format drop-down list appears:

1. 8N1
2. 7E1

Press the number of a data format, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected data format assigned.

Press the **[ESC]** key to exit this drop-down list.

Suboption 5 AUTO ANSWER

This suboption is not supported at this time.

Option 5 NETWORK INTERFACE

Network Interface appears as Option 5 when Option **2. COMM SETTINGS** is set to NRINET, TFTP, or ESCVELL NETWORK.

If you select this option, the Network Interface drop-down list appears:

1. ETHERNET
2. RS485

Press the number of a network interface, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Communications menu with the selected network interface assigned.

Option 5 PHONE NUMBER

Phone Number appears as Option 5 when Option **2. COMM SETTINGS** is set to MODEM/DIRECT.

If you select this option, the Phone Number pop-up menu appears:



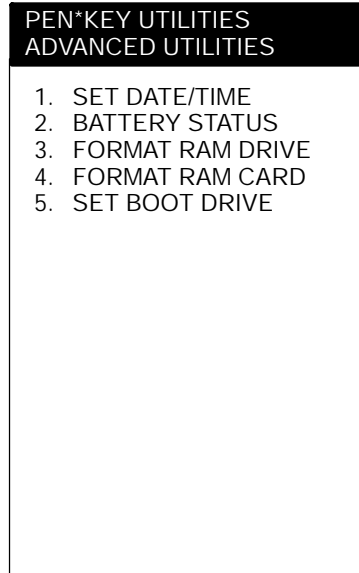
Enter up to 16 characters. Use the [**←SP**] key to backspace; use the [**CLR**] to reset to the previous phone number, and press [.] to insert a dialing pause command (“,”).

Press the [**ENTER**] key to save the new phone number and return to the Communications Settings menu.

Press the [**ESC**] key to exit this pop-up menu.

Option 9 ADVANCED UTILITIES

If you select this option, the Advanced Utilities menu appears:



Press the number of an advanced utility option, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter.

" NOTE:

Suboption 4 FORMAT RAM CARD appears only if the FORMAT.COM program is in the PATH.

Suboption 1 SET DATE/TIME

If you select this suboption, the Set Date/Time pop-up menu appears:

SET DATE/TIME	
DATE:	01/20/80
TIME:	23:12:04
[ESC]QUIT	

Enter numbers for the month, day, year (1980-2079), hour, minute, and second (up to 23:59:59). Press the **[ENTER]** key after each entry. An incorrect entry causes the computer to default to the initial number. Press the **[ESC]** key to exit this pop-up menu.

Suboption 2 BATTERY STATUS

Use this suboption to check battery status, and for 6210 Computers, to condition these batteries. The Battery Status screen appears when you select this suboption:

PEN*KEY UTILITIES	
BATTERY STATUS	
MAIN PACK	CHARGING
VOLTAGE	7.37
LAST COND	10/10/96
CAPACITY	23:59
BACKUP	
VOLTAGE	2.94
LAST COND	10/10/96
CAPACITY	23:59
CHARGER	16.22
[F2]CONDITION BATT	
[ESC]QUIT	

- **MAIN PACK:** Status of the main battery pack:
 - **OK** Battery operating properly.
 - **LOW** Power running low, needs recharging.
 - **CRITICAL** Power dangerously low, recharge soon or lose all data.
 - **CHARGING** Main battery pack recharging.
 - **MISSING** Main battery pack not loaded or detected.
- **VOLTAGE:** Amount of operational battery voltage.
- **LAST COND:** Date when battery was last conditioned. "??/??/??" if unknown.
- **CAPACITY:** Estimated time battery is operational after complete charge. "?:?" if unknown.
- **CHARGER:** Amount of voltage supplied by external charge source.

Suboption 3 FORMAT RAM DRIVE

If you select this suboption, the Format RAM Drive pop-up menu appears:

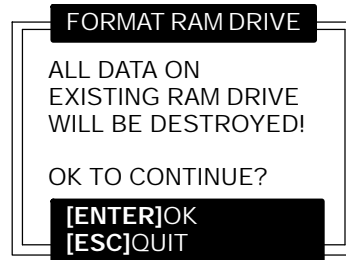
```

  FORMAT RAM DRIVE
  0MB  0KB
  [ENTER]OK
  [ESC]QUIT
  
```

Enter the total MB and KB for the RAM drive.

" **NOTE:** *A zero in both fields deletes the RAM drive.*

Press the **[ENTER]** key after each entry. A pop-up verification appears:

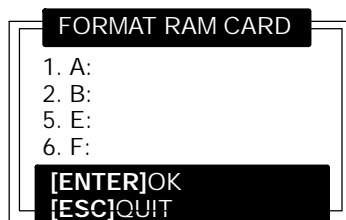


Press the **[ENTER]** key to continue. Press the **[ESC]** key to exit the menu.

Suboption 4 FORMAT RAM CARD

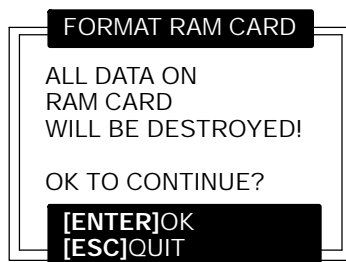
" **NOTE:** *This suboption appears only if the FORMAT.COM program is in the PATH. The 512KB flash does not include FORMAT.COM.*

If you select this suboption, the Format RAM Card pop-up menu appears:



" **NOTE:** *If the computer was booted from a RAM card drive, that drive is not displayed in the menu.*

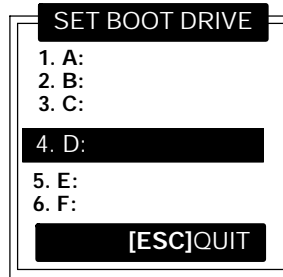
Press the number of the RAM card drive, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. A pop-up verification window appears:



Press the **[ENTER]** key to continue. Press the **[ESC]** key to exit the menu.

Suboption 5 SET BOOT DRIVE

If you select this suboption, the Set Boot Drive pop-up menu appears:



NOTE:

The current default drive is highlighted in this menu.

Press the number of a boot drive, or press the **Y** or **B** keys to scroll through the list, then press the **[ENTER]** key to enter. The computer returns to the Advanced Utilities menu.

Press the **[ESC]** key to exit this pop-up menu.

Appendix C

Supported Radio Configurations

RM280

The RM280 is a 2.4 GHz FHSS (Frequency Hopped Spread Spectrum) Network Interface Card. The RM280 is available in your 6100 Computer as a factory installed option. The RM280 adds a wireless LAN capability to the hand-held computer, allowing it to communicate with other network devices, through the 6710 Wireless Access Point.

Specifications:

Software Compatibility	Operates with most PC compatible communication protocols that support interfaces to Open Datalink Interface (ODI) or Network Driver Interface Specification (NDIS) drivers.
Range	Up to 500 feet (17 meters) line of site; 25,000 square feet (2,322 square meters) in typical indoor installations
Data Rates (Throughput)	800 kbs or 1.6 Mbs, auto selecting
Frequency Band	2400-2483 GHz FHSS
Output Power	100 mW
Regulatory Compliance	FCC 15.247; DOC RSS 210
FCC ID	EHARM2400

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