Intermec

Technologies Corporation

6212 Hand-Held Computer

USER'S GUIDE

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Acknowledgments

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Section 1

General Information

.. ..

About this User's Guide

This user's guide is divided into four sections and two appendixes.

Section 1

Contains general information about the components of your 6212 Hand-Held Computer. This includes telling you how the user guide is organized, a summary of the sections, and the specifications for your hand-held computer.

Section 2

Tells you how to prepare for using your hand-held computer.

Section 3

Contains information for maintaining your hand-held computer. Maintenance includes recharging the main battery pack, replacing the backup battery and handstrap, and cleaning the hand-held computer.

Section 4

Steps you through some procedures to use when troubleshooting your hand-held computer. This section does not contain all troubleshooting that can be done by an authorized Customer Support Specialist, but does contain in-

formation 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 to other manufacturer's products.

Appendix B

Contains the Utilities Program screens. This is system level information for your system administration people when defining and setting parameters to support your application.

Unpacking and Inspecting

The following procedures explain what to do when your hand-held computer arrives, and what to do if it has been damaged in shipping:

1. Remove the hand-held computer from its shipping container and inspect for any visible damage.
2. If your hand-held computer was damaged in shipping, record the model number, part number, and serial number. The model and part numbers can be found on the back side of the hand-held computer, the serial number is located on the inside of the case.
3. Save all paperwork pertaining to shipment, and immediately notify the transport company of the damaged item(s). Follow their instructions for filing a claim on the damaged items.

Authorized repair of products is available only at Service Centers. Unauthorized repair voids any and all warranties. Contact your Sales Representative for additional instructions.

Hand-Held Computer Description

Figure 1-1, Figure 1-2, Figure 1-3, and Figure 1-4 on pages 1-3, 1-4, and 1-5 show you the location of the key components for your hand-held computer.
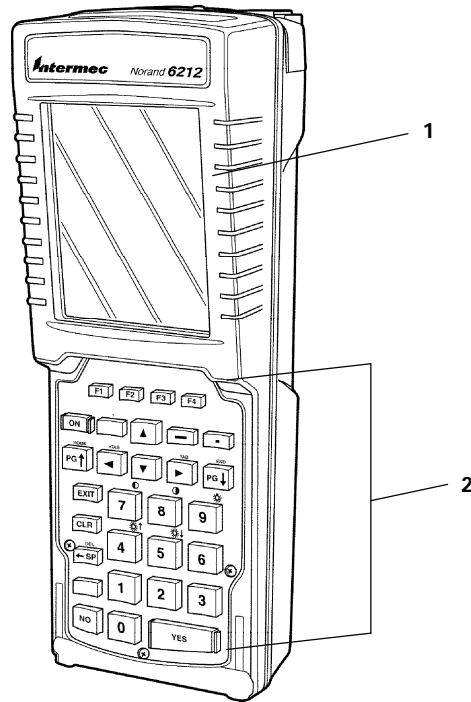
1. **Display**
2. **Keyboard**

Figure 1-1
Hand-Held Computer Front View
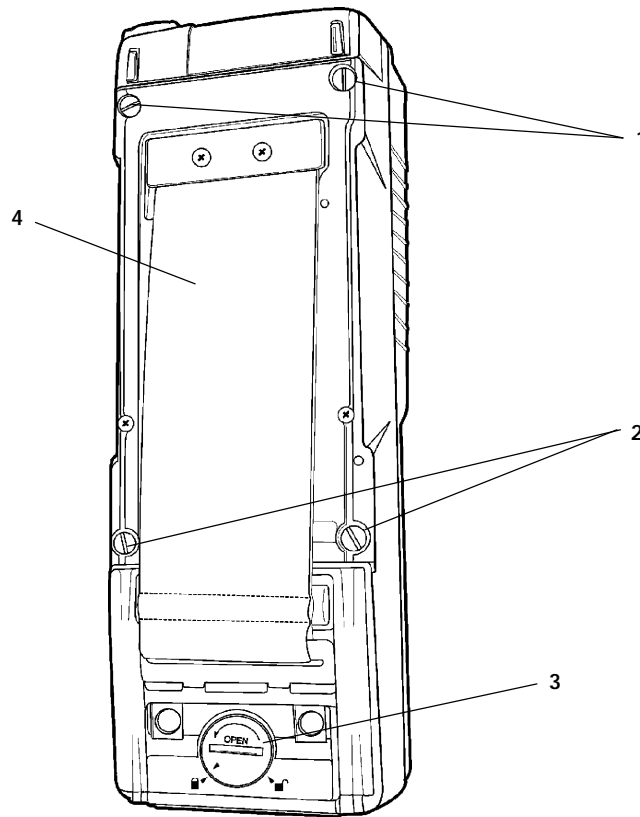
1. **PC card and backup battery retaining door (top screws)**
2. **PC card and backup battery retaining door (bottom screws)**
3. **Main battery pack compartment latch knob**
4. **Handstrap**

Figure 1-2
Hand-Held Computer Back View
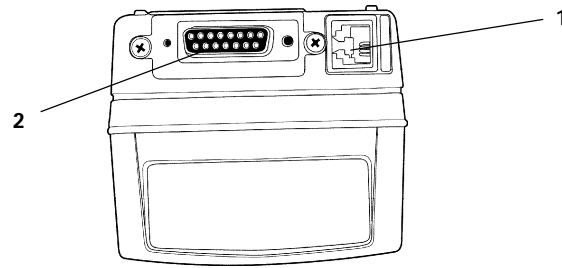
1. Phone jack (optional)
2. 15-pin female connector

Figure 1-3
Hand-Held Computer Top View
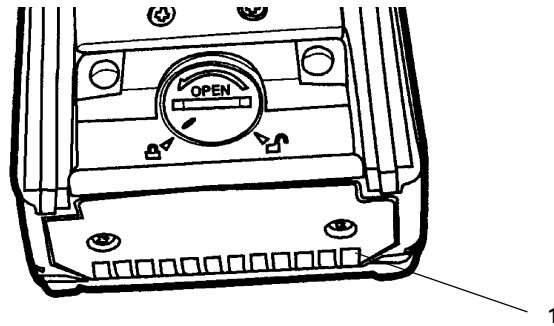
1. 12-pin surface contact connector

Figure 1-4
Hand-Held Computer Bottom View

Hand-Held Computer Keyboard

Key Descriptions

1. **Function (F1–F4) keys**
2. **Window scrolling keys**
3. **Page down key**
4. **Numeric keys (0–9)**
5. **YES (Enter) key**
6. **NO key**
7. **Yellow shift key**
8. **Backspace key**
9. **Clear key**
10. **EXIT key**
11. **Page up key**
12. **ON key**
13. **Space key**
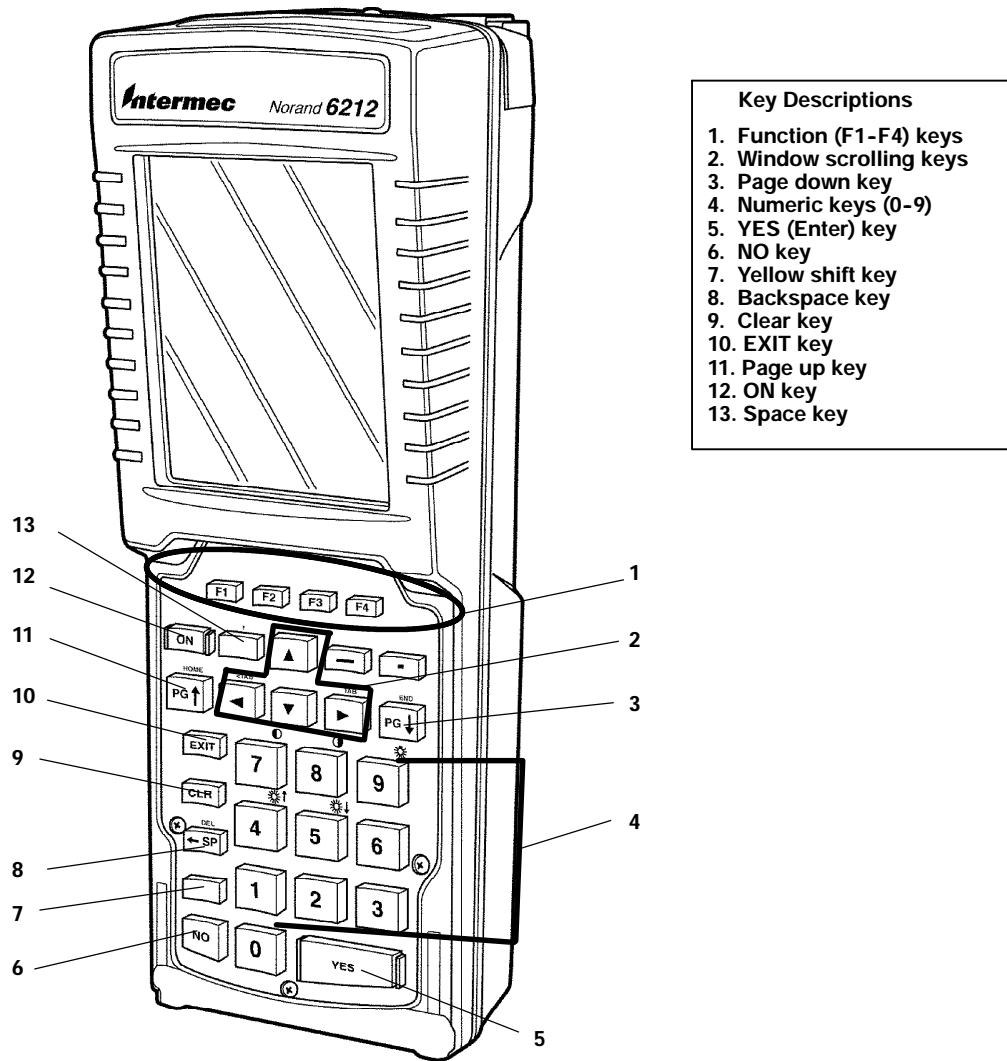
Figure 1-5
30-Key Keyboard

Key Descriptions

This section describes how the shift keys work. Your particular keyboard may have an overlay that has additional options other than those described in this section. Refer to your application operation manual for descriptions of those keys.

ON Key

Use the ON key to suspend or resume operation. The ON key does not completely "turn off" your hand-held computer but instead puts it in a suspend mode when you are not entering data. This allows you to save battery power.

YES (Enter) Key

Use the YES key to answer "Yes" to display prompts and to enter data.

NO Key

Use the NO key to answer "No" to display prompts.

Period [.] Key

Use the period [.] key as a period or a decimal point.

Clear Key

Use the Clear key to delete data being entered.

Page Up or Down Keys

Use the Page Up or Down keys to step forward or backward in your program.

EXIT Key

Use the Exit key to exit a program or portion of an application.

Minus [-] Key

Use the minus [–] key to enter negative values or dashes in character fields.

Numeric Keys

Use the numeric keys as you would those on a calculator. Numeric values are single keystroke operations.

Backspace [◄ SP] Key

Use the backspace key to back the cursor up one character at a time. Holding this key down will cause the cursor to continuously move backwards until you stop or you run out of space.

Shift Key

Using the yellow shift key, temporarily shifts the function of the keyboard. The shifted functions are yellow colored legends above the normal single keystroke keys.

Arrow Keys

The arrow keys move the cursor in the direction of the arrow.

Display

The display shows status messages, keyed-in entries, customer or product lists, calculations, and prompts for responses.

Backlight and Display Contrast Adjustment

Your hand-held computer display contains a backlight for operating in dark conditions. Although it greatly improves operating in dark conditions it does shorten your battery run time. Your hand-held computer will shut the backlight off when there is no activity. Section 2 explains how to turn on the backlight and adjust the contrast of the display.

Battery

Main Battery Pack

This hand-held computer uses a rechargeable lithium ion (Li Ion) battery pack.

Your hand-held computer senses the capacity (run time) left in your main battery pack before it goes into a low battery condition.

This user's guide may occasionally use the term "cycles" when presenting rechargeable battery instructions. Cycles are the number of times the rechargeable battery pack can be drained, and recharged during the life of the battery. The rechargeable battery design should give you many cycles of use.

When you press the ON key to suspend operation, your hand-held computer does not completely turn itself off. The main battery pack is protecting data and if the pack is completely charged it will protect the data for about six days.

Backup Battery

When your hand-held computer goes into shutdown mode because of low battery condition, the data is protected by the backup battery. Your hand-held computer will not accept data or process transactions until you deal with the

low battery condition. A fully charged backup battery will save data for about 10 hours.

Your hand-held computer contains a rechargeable NiCd backup battery. Most of the time the backup battery is in a rest mode, ready to take over data protection instantly when the main battery cells are in low condition or out of the hand-held computer.

If you are storing your hand-held computer for a long period remove all batteries. This will prevent any damage that could occur to your hand-held computer should the cells develop a leak.

Memory

This hand-held computer design uses these types of memory:

- " Main Memory DRAM
- " Flash ROM

Main Memory

Your main memory DRAM is 8 Megabytes. This memory is protected by the backup battery during low main battery conditions or when the main battery pack is removed.

Flash ROM

Your hand-held computer has 2 MB of flash ROM. This stores the BIOS and DOS firmware. Applications stored in flash ROM are copied into DRAM for execution. Flash does not require a battery in your hand-held computer to maintain its contents.

Reset Switch

In the rare event that your hand-held computer fails to respond to your input, it may be necessary to "reset." Avoid using the reset switch as this increases the chances that data will be lost. Only use the reset switch after trying all other solutions. Refer to the Troubleshooting Table in Section 4 and try those solutions before resetting your computer.

The Reset switch access is located behind the 15-pin connector. To access use a straightened large paper clip, insert one end in the reset switch hole.
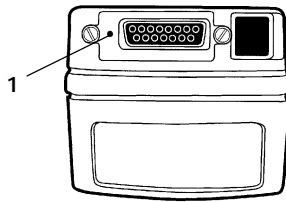
1. Reset switch location

Figure 1-6
Top End Reset Switch Access Point

Hand-Held Computer Specifications

Size:	9.5 inches (24.13 cm) long
	3.25 inches (8.26 cm) wide
	2.875 inches (7.30 cm) tall
Temperature:	
Operating:	4 to +140_F (–20 to +60_C)
Storage:	-22 to +158_F (–30 to +70_C) excluding batteries
	-4 to + 140_ F (-20 to + 60_ C) with batteries
Weight:	30 ounces (850.5 g)
Humidity:	5 to 95% noncondensing
Static Protection:	17 kV, (air discharge) 8 kV (direct injected)
Power source:	
Main battery:	Li Ion battery pack
Backup battery:	Nickel cadmium (NiCd)
Charging rate:	
+32 to 122° F (0 to +50_C)	Normal charge main battery (fully charge ¶ 2.5 hours) backup battery charge time is ¶ 10 hours
Below 0_C:	Trickle charge
Communication:	
Interface:	RS-232 and RS-485
Protocol:	Norand Proprietary Communications Protocol (NPCP), Xmodem, Ymodem

System Components:

Flash: 2048 KB

DRAM: 8 MB

Processor: AMD Elan SC400, 33 Mhz.

Display:

Type: VGA compatible LCD (standard)
                              touch screen (optional)

Size: 160 (wide) by 200 (long) pixel portrait orientation

Section 2

Hand-Held Computer Operation

Introduction

This section tells you how to:

- Install the main and backup batteries
- "Power-up" your hand-held computer
- Install optional memory cards
- Connect to peripheral devices

Getting Started

Unpack your 6212 Hand-Held Computer and inspect it for signs of physical damage that may have occurred in shipment or storage.

Fully charge the batteries in your hand-held computer before using them. Put the computer on a charging source for at least 10 hours to ensure that the backup battery and main battery pack are completely charged.

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. Or, you may use PC cards to load the application and data.

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.

Installing the Backup Battery

"NOTE: *Backup battery must be installed before using your computer for the first time.*

"NOTE: *Remove backup battery before storing your computer for longer than a week.*

Refer to Figure 1-2 when completing steps 1 and 2.

1. Use a flat blade screwdriver to loosen the four quarter-turn screws of the PC memory card door.

2. Drape the door over the top or off to the side, free of the compartment.

Refer to Figure 2-1 when completing these steps.

3. Using a nonmetallic object, such as a pen, push the connector on the battery pack down into the socket.

4. Push the battery down into the compartment

5. Replace PC memory card and back up battery compartment door.
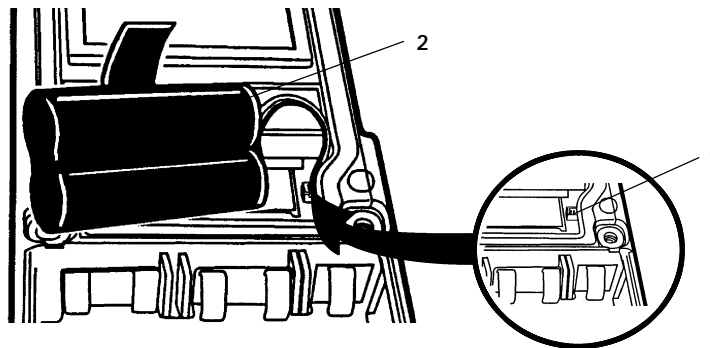
1. **Keyed backup battery connector jack**
2. **Backup battery connected**

Figure 2-1
Installing Back Up Battery

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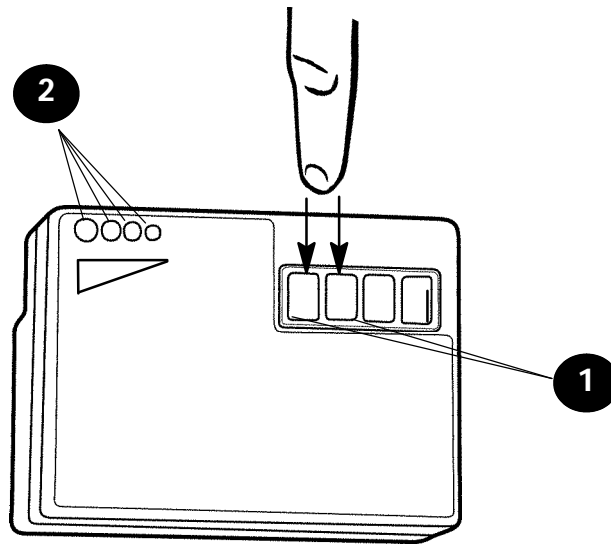
1. Touch finger across first two contacts
2. Capacity is displayed from right to left.
The higher the capacity the more LEDs light.

● = 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 2-2
Main Battery Pack Capacity Contacts

Main Battery Installation

1. Place your hand-held computer face down on a flat surface. Prop the top end up to avoid pressing any keys.

2. Open the battery compartment door by turning the latch knob attached to the handstrap in the direction of the arrow toward the position of the open padlock symbol. Use a flat blade screwdriver or the edge of a coin, to turn the latch knob.

" **NOTE:**   *Use a screwdriver or coin that fits the slot properly. A correct fit prevents wear on the latch knob corners.*
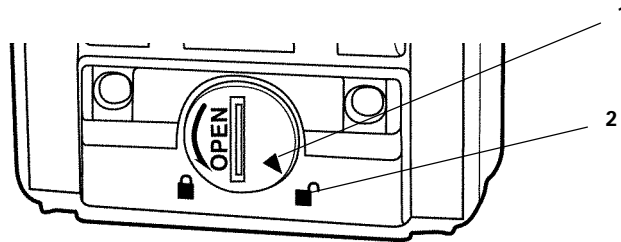
1. Latch knob position indicator
2. Open position indicator

Figure 2-3
Opening Battery Compartment

3. Take hold of the handstrap near the latch knob. The compartment door is attached to the handstrap.

4. Pull the handstrap and battery compartment door down toward the bottom and lift the strap up, then away from the main battery compartment.
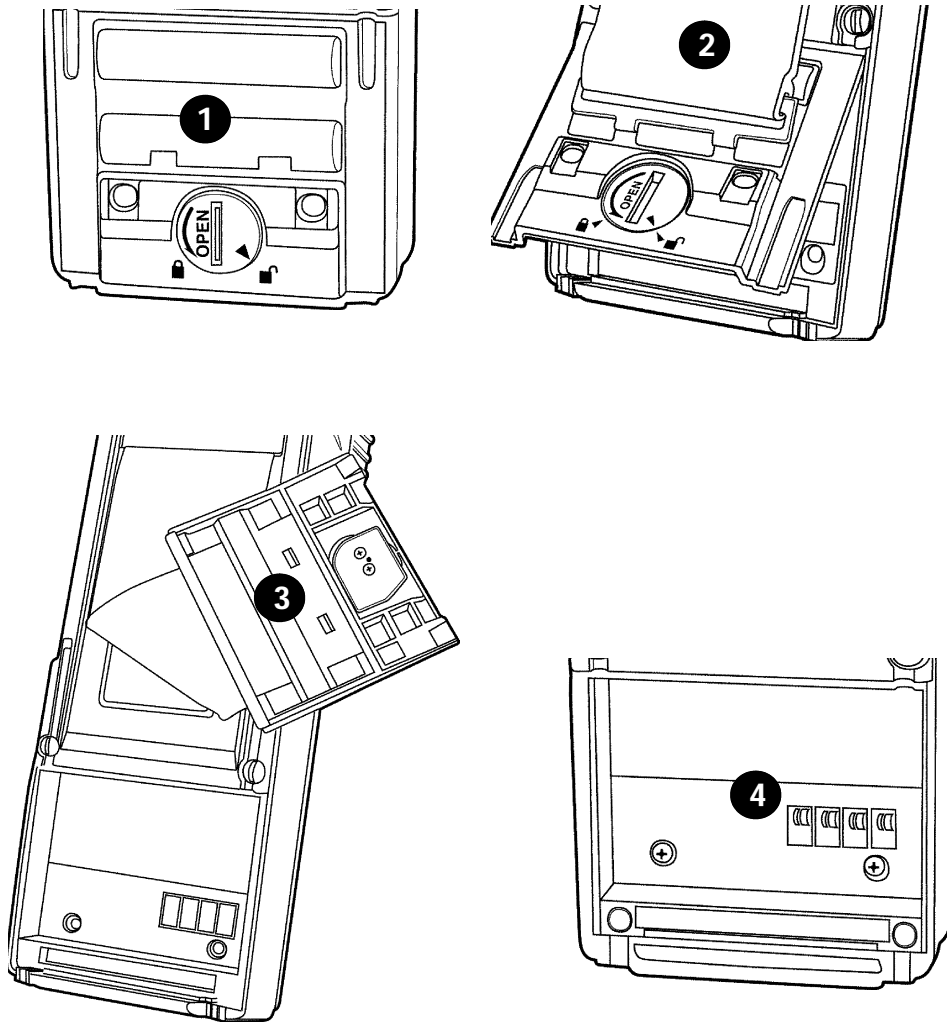
1. **Battery compartment door unlocked**
2. **Battery compartment door lifted**
3. **Battery compartment door moved out of the way**
4. **Main battery compartment**

Figure 2-4
Main Battery Compartment

5. **Hold the main battery pack with the exposed electrical contacts face down.**

    "   **The battery compartment contains a label showing the proper positioning of the pack.**

6. **Gently press the battery pack down into the compartment.**
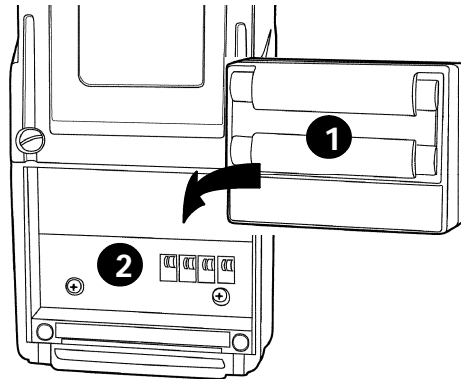
Figure 2-5
Installing Rechargeable Main Battery Pack

7. **Reinstall the door. Turn the latch knob 1/4-turn clockwise (to line up indicator with the closed padlock symbol) to lock it.**
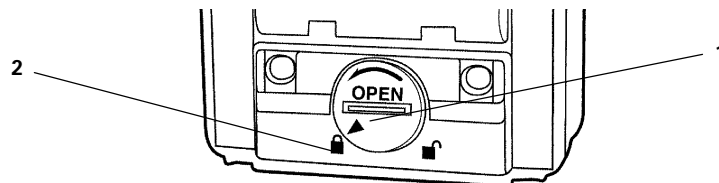
1. **Latch knob position indicator**
2. **Locked position indicator**

Figure 2-6
Closing Battery Compartment

Charging Your Batteries

Fully charge the battery pack before using your hand-held computer for the first time. Initial charge time to completely charge the main battery pack and backup battery should be at least 10 hours. After the initial charge, charging time takes 2.5 hours for the main pack and about 10 hours for the backup battery.

You can charge your NiCd batteries either in your hand-held computer or in a stand alone charger. The following devices provide charging for the main and backup batteries while they are in the hand-held computer:

- " **Multidock**
- " **Single dock**
- " **Printers**
- " **Wall charger**
- " **Many modems**

Turning On the Backlight and Adjusting the Display Contrast

Turning On the Backlight

1. Press the yellow shift key and then the backlight [☼] key. The backlight default setting is for the maximum brightness.

2. To adjust the brightness of the backlight, press and hold the yellow shift key and then press and hold either the up [☼↑] or the down [☼↓] keys.

" **NOTE:**   *There are 5 steps for the backlight brightness and 51 steps for the screen contrast.*

Adjusting the Screen Contrast

1. Press and hold the yellow shift key and then press and hold either the up [◑⬆] or down [◑⬇] contrast keys.

2. Continue to do this until you reach the contrast level you want.

Downloading Programs into Your Hand-Held Computer

Using Pen*Key Utilities to download programs into your hand-held computer may require you placing your computer into a dock. You can also download using an optional internal modem.

Install and charge the main and backup batteries before downloading any programs.

1. Turn your hand-held computer on by pushing the ON button.

2. Insert your computer into the dock or connect the modem. The first screen you see will show you general information, program version, and copyright data.

3. Press the **[YES]** key and continue.

4. This next screen will follow:

```
┌─────────────────────────────┐
│ PEN*KEY UTILITIES           │
│ COMMUNICATIONS              │
│                             │
│                             │
│ 1. BEGIN COMM SESSION       │
│ 2. COM  x-comm  set -- x    │
│ 3. UNIT ID       ZZZZZZX    │
│ 4. X -- mdm type -- x       │
│     xprotx    xbpsx    xfx   │
│ 5. PHONE NUMBER             │
│         ZZZZZZZZZZZZZZX      │
│                             │
│                             │
│                             │
│ 9. ADVANCED UTILITIES       │
│                             │
│                             │
│                   [NO]QUIT  │
└─────────────────────────────┘
```

5. **The default setting (BEGIN COMM SESSION) will be highlighted.**

    " **If this is the setting you want, press the [YES] key and continue.**

    " **If you want to change the communications parameters to something other than the default:**

    " **Press the number of the menu option you want, or**

    " **Use the arrow keys to highlight the desired selection**

6. **Press the [YES] key.**

At this point go to Appendix B for the Pen*Key Utilities Programs procedures.

Section 3

Routine Care and Maintenance

.. ..

Introduction

Your 6212 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, replacing the handstrap, and cleaning your hand-held computer.

Low Battery Indication

When you press the ON key to resume operation and it does not respond at all, this usually indicates a low main battery condition. Insert your hand-held computer in a printer or other charging source and your hand-held computer will turn on.

If it does not respond when inserted in the equipment that provides charging, another problem could exist. Refer to the **Troubleshooting** section for solutions.

Handstrap Replacement

To replace the handstrap follow these steps.

1. Remove the top and bottom screws holding the handstrap in place.

2. Position the Battery Compartment latch knob in the unlock position.

3. Lift the handstrap off and replace with a new one.
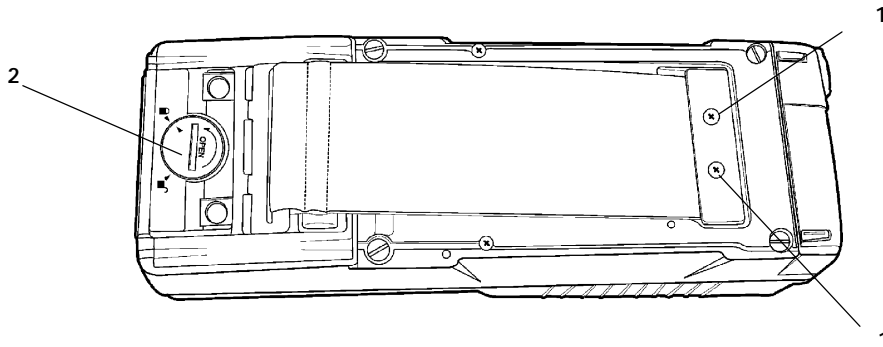
1. Screws holding handstrap
2. Battery compartment latch knob

Figure 3-1
Replacing The Handstrap

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, handstrap, 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 hand-held computer. Instead put the cleaner on a soft cloth and gently wipe the case.

Case and Display

We recommend cleaning the exterior of your hand-held computer using a soft cloth dampened with:

- " MICRO-CLEAN II cleanser, made by Foresight International, Inc. 4887 F Street, Omaha, NE 68127-0205 (telephone number 1-800-637-1344)
- " Glass cleaners or isopropyl alcohol

Surface Connectors

If surface connectors 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. Check the connectors on the docks or printers to ensure they are clean.

Keyboard

If necessary, use a dry toothbrush to dislodge accumulated dust or grime around the keyboard keys. Three screws secure the keyboard to the case. Unscrew those to remove the keyboard and do more cleaning if necessary.
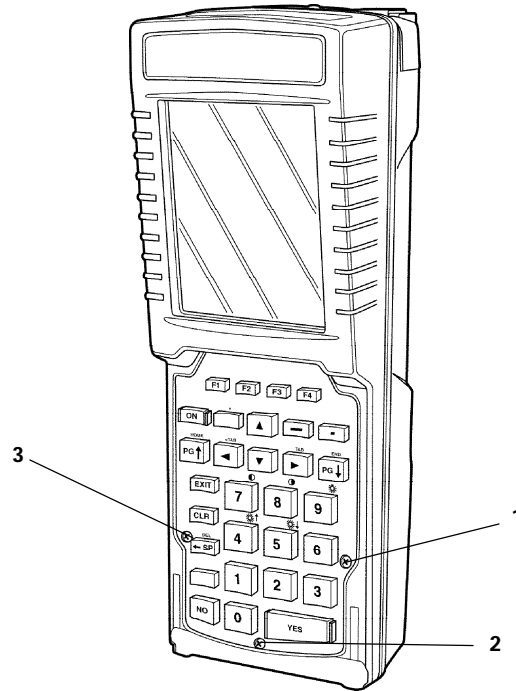
1-3. **Screws holding keyboard**

Figure 3-2
Removing The Keyboard

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 Table

This Troubleshooting table lists conditions you might see and offers some basic remedies:

Table 4-1
Basic Troubleshooting

Condition	Solution
Low Battery	**Recharge main Li Ion pack.**
When The ON Key Is Pressed The Display Is Blank.	Charge immediately! Data loss is imminent. If the application is displayed when charge is applied both the main and backup batteries were too low to run the computer but the data has been maintained. If your computer resets itself when charge is applied and returns to the Advanced Utilities program, the data was lost. You may need to reload the application.
Batteries Will Not Charge	This problem can occur if the battery pack drops below a certain voltage. Do these two things: * Replace with new charged battery pack. * Reboot computer.
Printer Not Ready	* Check to make sure there is power to printer. * Check cable connections. * Check for paper jam. * Check to make sure there is paper in paper compartment.
Will Not Turn On When The ON Key Is Pressed	* Ensure that there is a main battery installed. * Ensure that the main battery is charged. * Adjust contrast.

Table 4-1 (continued)
Basic Troubleshooting

Condition	Solution
Hand-Held Computer will Not Turn On When Placed In A Dock	* Ensure the dock is plugged in. * Reseat hand-held computer into dock to ensure proper connection. * Adjust the contrast setting, it may be turned Off.
Hand-Held Computer Shuts Down During Use	* You may have a very low battery. Try recharging the main battery.
Hand-Held Computer Resets When You Replace Or Check The Main Battery	The backup battery may not be fully charged, allow 14 hours to completely recharge the backup battery.
Hand-Held Computer Goes To Sleep Immediately After It Has Been Removed From The Charger	* Ensure that the battery pack is installed properly in the battery compartment. * Ensure that none of the contacts in the battery compartment are bent. * Ensure that there is no foreign material (dust, dirt, or plastic shavings, etc.) on the battery pack or battery contacts. * Press the ON key. If your computer does not resume, the battery still is low. Recharge for at least 30 minutes or try another battery pack.

Table 4-1 (continued)
Basic Troubleshooting

Condition	Solution
Hand-Held Computer Does Not Suspend	* The unit will not turn off when it is connected to a charging device. * The unit may not turn off when it is processing data or in radio communications. This is OK if connected to a charger or placed in a dock. If this is not the case, and either of these conditions continues for a long period of time, contact customer support personnel, as this will run down the batteries.
Hand-Held Computer Takes A Long Time To Boot Up After A Reset	Normal time is between 10–45 seconds. If it takes longer than that, contact customer support personnel.

Table 4-1 (continued)
Basic Troubleshooting

Condition	Solution
Hand-Held Computer Does Not Start Up	* Ensure that the battery pack is installed properly in the battery compartment.
	* Ensure that the battery compartment is operational (no bent contacts, no foreign materials, etc.).
	* Remove any PC cards and reset your computer. If your computer beeps after the reset but does nothing else, the flash may be corrupted. You will need a Master-Mode Boot card to reflash your computer.
Hand-Held Computer Displays A Bad Tcom Message	* The unit may not be making full contact with the dock. Try reseating the unit in the dock.
	* The dock may not be properly connected to the host. Make sure there is a connection. TCOM errors may happen when telephone service is lost, or for reasons not related to the physical connection.

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 trouble-shooting information.**

" **Call the 24-hour Customer Response Hot-Line at 1-800-755-5505.**

Diagnostic

Your hand-held computer performs a power on self test whenever it is reset. It will alert you if it fails by beeping or displaying information about the problem. Your hand-held

computer also contains some diagnostic data which may be useful for your Customer Support Specialist in helping define and debug a problem.

Repair Service

Authorized repair of equipment is available only at our Service Centers. Unauthorized repair voids any and all warrnaties.

- Contact your sales representative for additional information.
- Call the Customer Response Center to determine where to ship the product.
- 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

" "

15-Pin Female D-Sub Connector

Pin	Signal	Function
1	RI	RS-232 Ring Indicator
2*	DTR/TXD COM2	RS-232 Data Terminal Ready
3	RTS	RS-232 Request To Send
4	TXD	RS-232 Transmitted Data
5	RXD	RS-232 Received Data
6	CTS	RS-232 Clear To Send
7*	DSR/RXD COM2	RS-232 Data Set Ready
8	CHARGE_EXT	External Charge Voltage input
9	GND	Ground, Signal
10	DCD	RS-232 Data Carrier Detect
11	Not Used	
12	Not Used	
13	Not Used	
14	Not Used	
15	SW_V+	Switched 5.0 volt peripheral power

* Pin 2 and 7 are multiplexed. If the three wire COM2 is selected then the /signal applies.

12-Pin Surface Contact Connector

Pin	Signal	Function
1	GND	Ground (rightmost side)
2	TPON	Ethernet Output
3	485- & TPOP	RS-485 I/O and Ethernet Output
4	TXD	RS-232 Transmitted Data
5	RTS	RS-232 Request To Send
6*	DTR/TXD COM2	RS-232 Data Terminal Ready
7*	DSR/RXD COM2	RS-232 Data Set Ready
8	CTS	RS-232 Clear To Send
9	RXD	RS-232 Received Data
10	485+ & TPIP	RS-485 I/O and Ethernet Input
11	TPIN	Ethernet Input
12	CHARGE_DOCK	Dock Charge Voltage (leftmost side)

* Pin 6 and 7 are multiplexed. If the three wire COM2 is selected then the /signal applies.

4-Pin RJ11 Connector

Pin	Signal	Function
1	Not used	
2	TIP	Modem TIP
3	RING	Modem RING
4	Not used	

Appendix B
PEN*KEY^R Utilities Program

The PEN*KEY^R Utilities Program provides basic functions required to prepare your Hand-Held Computers for use.

Entry Point

Screen Title

```
PEN*KEY UTILITIES
PSROMOC Vx.xx

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TECHNOLOGIES
CORPORATION.
ALL RIGHTS RESERVED

[YES]CONTINUE
```

Key Description

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 **[YES]** key to enter. Select one option each time.

Press the **[NO]** key to exit a pop-up menu.

The following is an example of a pop-up menu screen.

```
┌─────────────────────────────┐
│    CHANGE UNIT ID           │
├─────────────────────────────┤
│  UNIT ID         2233233    │
│  WORKGROUP                  │
│  6200IPL                    │
│  ▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀   │
│  [F4]RESET FACTORY          │
│  [NO]QUIT                   │
└─────────────────────────────┘
```

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 **[YES]** key to select. Select one suboption each time.

Press the **[NO]** key to exit a drop-down list.

The following is an example of a drop-down list.

```
┌───────────────────────┐
│ 1. NETWORK. . .        │
│ 2. MODEM/DIRECT        │
│ 3. ACCESSORY CARD      │
│ 4. HANDHELD            │
│ 5. REMOTE OPS          │
│ 6. INTERSERVER         │
└───────────────────────┘
```

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   │
│ ╭─────────────────────────╮ │
│ │ [NO]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 **[YES]** key to enter that character. Press **[YES]** again to move to the next field.

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

Press **[YES]** to save the entries and exit the menu. Press the **[NO]** key to exit without saving the entries.

Title Screen

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

```
PEN*KEY UTILITIES
PSROMOC Vx.xx

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TECHNOLOGIES
CORPORATION.
ALL RIGHTS RESERVED

[YES]CONTINUE
```
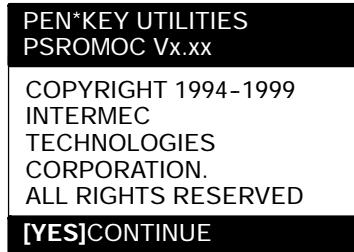
Press the [YES] key to continue.

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 op-
                   tion, followed by up to nine additional options:

```
┌─────────────────────────────┐
│ PEN*KEY UTILITIES           │
│ LANGUAGE SELECTION          │
├─────────────────────────────┤
│  1. ENGLISH                 │
│  2.                         │
│  3.                         │
│  4.                         │
│  5.                         │
│  6.                         │
│  7.                         │
│  8.                         │
│  9.                         │
│  0.                         │
├─────────────────────────────┤
│                   [NO]QUIT  │
└─────────────────────────────┘
```

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

                   Press the [NO] 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 fol-*
*lowing pop-up menu appears. Press the **[YES]** key to continue:*

```
COMMUNICATIONS
FEATURE
NOT SUPPORTED
[YES]CONTINUE
```

The Communications Menu appears after the Title Screen:

```
PEN*KEY UTILITIES
COMMUNICATIONS

1.  BEGIN COMM SESSION
2.  COMM SETTING
                    NRINET
3.  UNIT ID
4.  NETWORK PARAMETERS
    SERVER NAME

    CLIENT IP ADDRESS
                    0.0.0.0
    ROUTER
                    0.0.0.0
    SUBNET MASK
                    0.0.0.0




9. ADVANCED UTILITIES
                [NO]QUIT
```
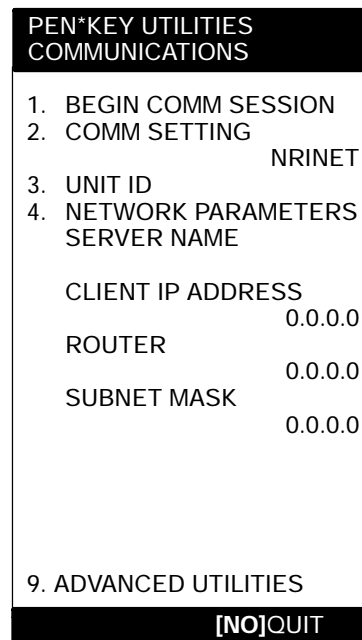
Option 1 BEGIN COMM SESSION

If you select this option, the computer repeatedly attempts communication until successful or you press the [NO] key.

" **NOTE:**   *If you press the [NO] key, this verification window appears:*

```
ARE YOU SURE YOU
WANT TO STOP
COMMUNICATIONS
NOW?
[YES]STOP
[NO]RESUME
```

" **NOTE:**   *This window may not appear immediately. For most communication settings, a session cannot be interrupted once it has started, so the [NO] 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




 [NO]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
[YES]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



[NO]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
                     NO
CONFIGURING



LAST SESSION:      T289
NO RESPONSE FROM
MODEM



[NO]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 **[YES]** 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:

Transfer:
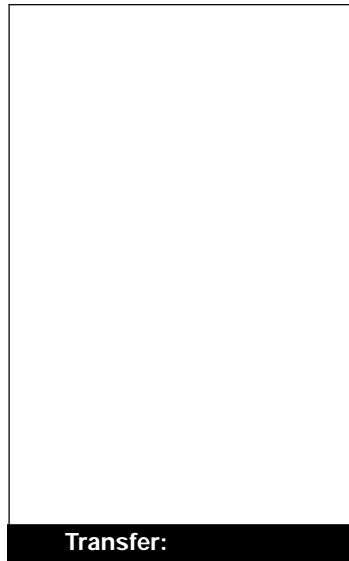
Press the **[NO]** key to exit this screen.

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 **[NO]**
- " **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	**[NO]** 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 1-800-755-5505 (U.S.A or Canada) or 1-425-356-1799.*

*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 **[NO]** 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 **[NO]** 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.

" **813** An attempt to send data to the server failed due to a closed connection. Ensure the server is still running, check all cables and network connections.

" **814** An attempt to receive data from the server failed due to a closed connection. Ensure the server is still running, check all cables and network connections.

" **815** Could not access the network attach information.

" **816** An error occurred reading the network attach information.

" **817** Server did not respond to the connect request. Ensure the server is still running, check all cables and network connections.

" **818** An error occurred reading the TCP/IP kernel information.

" **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 **[NO]** key.
- **100** TCP/IP kernel is missing.
- **101** Invalid client IP address. Ensure the entry for CLIENT IP ADDRESS is correct or ensure the DHCP server is running.
- **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:

```
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 **[YES]** key to enter.

Suboption 1 NETWORK

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

```
1. NETWORK. . .

1. NPCP RS485
2. NPCP RS232
3. NRINET
4. TFTP
5. NOVELL NETWARE
```

Press the number of a network or press the Y or B keys to scroll through the list, then press the **[YES]** 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 **[NO]** 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
                    NO
5.  PHONE NUMBER
         9...131369282




9.  ADVANCED UTILITIES
```

Suboption 3 ACCESSORY CARD
Suboption 6 INTERSERVER

If you select either of these suboptions, the computer returns to the Communications Menu with ACCESSORY CARD or INTERSERVER assigned to Option **2. COMM SETTING.**

```
PEN*KEY UTILITIES
COMMUNICATIONS

 1.  BEGIN COMM SESSION
 2.  COMM SETTING
         ACCESSORY CARD
 3.  UNIT ID




 9. ADVANCED UTILITIES
```
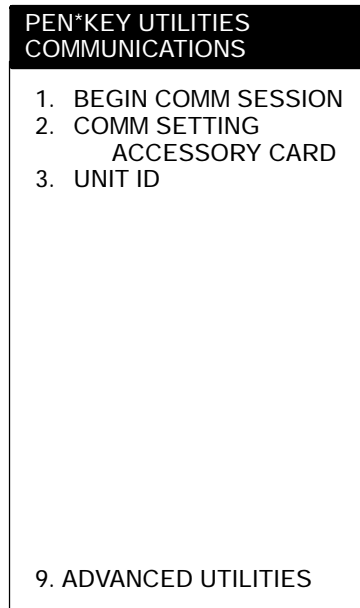
Suboption 4 HANDHELD
Suboption 5 REMOTE OPS

These suboptions are not supported at this time.

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            │
│  [NO]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 [YES] 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 [NO] 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 NOVELL 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        ║
║ [NO]QUIT                     ║
╚══════════════════════════════╝
```

If you have an alphanumeric keyboard, press the characters
to the host name, then press the **[YES]** 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 **[YES]**
key to enter that character. Press **[YES]** again to move to
the next field. Press the **Y** or **B** keys to move between
fields.

Press **[YES]** to save the entries and exit the Network Pa-
rameters menu. Press the **[NO]** key to exit without saving
the entries.

NETWORK PARAMETERS with NOVELL 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.
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 **[YES]** key to enter. Press the **[NO]** 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.
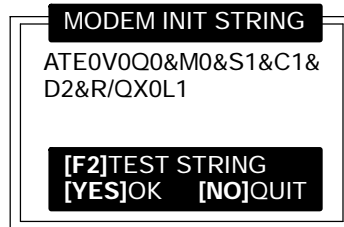
```
MODEM PARAMETERS
1. MODEM TYPE
      NM2400/NM2400A
2. PROTOCOL       TTY
3. BPS RATE       2400
4. DATA FORMAT    8N1
5. AUTO ANSWER    NO
         [NO]DONE
```

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

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

```
┌─────────────────────────────┐
│  ┌───────────────────────┐  │
│  │   MODEM INIT STRING   │  │
│  ├───────────────────────┤  │
│  │ ATE0V0Q0&M0&S1&C1&    │  │
│  │ D2&R/QX0L1            │  │
│  │                       │  │
│  │ ┌───────────────────┐ │  │
│  │ │ [F2]TEST STRING   │ │  │
│  │ │ [YES]OK  [NO]QUIT │ │  │
│  │ └───────────────────┘ │  │
│  └───────────────────────┘  │
└─────────────────────────────┘
```

     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 [YES] key to enter the string or press [NO] 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      │ │
  │ │ [YES]OK    [NO]QUIT  │ │
  │ └──────────────────────┘ │
  └──────────────────────────┘
```

                    **Momentarily, the computer displays the modem's
                    response:**

```
  ┌──────────────────────────┐
  │ ┌──────────────────────┐ │
  │ │  MODEM INIT STRING   │ │
  │ └──────────────────────┘ │
  │  ATE0V0Q0&M0&S1&C1&      │
  │  D2&R/QX0L1              │
  │                          │
  │  RESULT:    97           │
  │ ┌──────────────────────┐ │
  │ │ [F2]TEST STRING      │ │
  │ │ [YES]OK    [NO]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 Divi-
                    sion, contact our Customer Response Center at 1-800-755-5505
                    (U.S.A. or Canada) or 1-425-356-1799.*

                    *Modem string errors are most likely to be mistakes that can be cor-
                    rected by checking the instructions that came with the modem. If that
                    does not work then contact the manufacturer of the modem you are
                    using.*

                    b. **Press the [YES] key to update the modem initial-
                       ization 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 pro-tocols appears:

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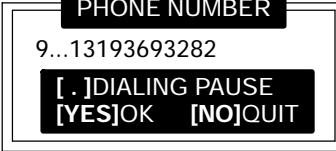
Press the number of a protocol, or press the Y or B keys to scroll through the list, then press the **[YES]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected protocol assigned.

Press the **[NO]** 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 **[YES]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected BPS rate assigned.

Press the **[NO]** 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 **[YES]** key to enter. The computer returns to the Modem Parameters pop-up menu with the selected data format assigned.

Press the **[NO]** 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 NOVELL NETWARE.

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

```
1.
2. RS485
```

Press the number of a network interface, or press the Y or B keys to scroll through the list, then press the **[YES]** 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:

```
┌══════════════════════┐
│    PHONE NUMBER      │
│ 9...13193693282      │
│ [ . ]DIALING PAUSE   │
│ [YES]OK    [NO]QUIT  │
└══════════════════════┘
```

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 **[YES]** key to save the new phone number and re-turn to the Communications Settings menu.

Press the **[NO]** key to exit this pop-up menu.

Option 9 ADVANCED UTILITIES

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

```
PEN*KEY UTILITIES
ADVANCED UTILITIES

1.  SET DATE/TIME
2.  BATTERY STATUS
3.
4.
5.  SET BOOT DRIVE
```
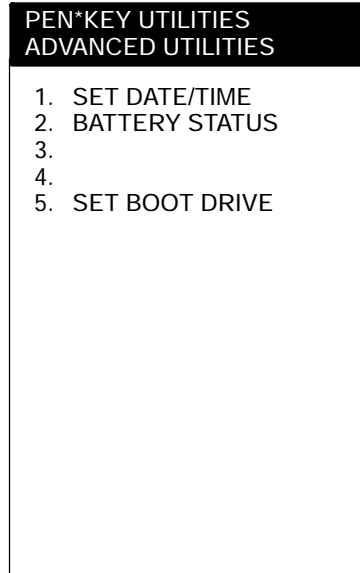
Press the number of an advanced utility option, or press the Y or B keys to scroll through the list, then press the **[YES]** key to enter.

"NOTE: *Suboption 4 FORMAT RAM CARD appears only if the FOR-MAT.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   │ │
│ │                     │ │
│ │      [NO]QUIT        │ │
│ └─────────────────────┘ │
└─────────────────────────┘
```

Enter numbers for the month, day, year (1980–2079), hour, minute, and second (up to 23:59:59). Press the **[YES]** key after each entry. An incorrect entry causes the computer to default to the initial number. Press the **[NO]** key to exit this pop-up menu.

Suboption 2 BATTERY STATUS

Use this suboption to check battery status, and 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   │
│                           │
│                           │
│  BACKUP                   │
│  VOLTAGE           2.94   │
│  LAST COND    10/10/98    │
│  CAPACITY         23:59   │
│                           │
│  CHARGER          12.00   │
│                           │
│                           │
│ [F2]CONDITION BATT        │
│            [NO]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.

To start a conditioning cycle for the 6212 Computer main
battery pack or backup battery, press **[F2]** to access this
list:

```
┌─────────────────────────┐
│ ┌─────────────────────┐ │
│ │ 1. BACKUP           │ │
│ │                     │ │
│ │      ▐[NO]QUIT▌      │ │
│ └─────────────────────┘ │
└─────────────────────────┘
```
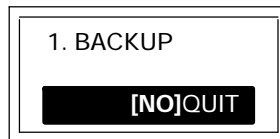
Select option 1. MAIN PACK to condition the main battery pack; or select option 2. BACKUP to condition the backup battery. The Battery Conditioning screen appears with the status of the battery selected:

```
PEN*KEY UTILITIES
BATTERY CONDITIONING

  BACKUP
  VOLTAGE          2.90
  DISCHARGING     23:59
  NO ERRORS
```

" **DISCHARGING:** The displayed time is the elapsed time in the current conditioning state, *not* the total conditioning time. Elapsed time is tracked only until conditioning is complete or has failed. The following conditioning states may be displayed:

    " **"INITIALIZING"**   System is initializing

    " **"DISCHARGING"** Battery is discharging

    " **"CHARGING"**   Battery is charging

    " **"COMPLETE"**   Battery conditioning complete

    " **"FAILED"**   Battery conditioning failed

¨ **NO ERRORS** The status of the battery conditioning cycle. If the battery conditioning fails, one of the following messages appears:

> ¨ **"OLD POWER SUPPLY NOT SUPPORTED"**
>
> ¨ **"CANNOT CONDITION BOTH MAIN AND BKUP"**
>
> ¨ **"CHARGE LOST DURING CONDITION CYCLE"**
>
> ¨ **"CHARGE NOT ENABLED"**
>
> ¨ **"TEMPERATURE TOO HOT OR COLD"**
>
> ¨ **"POWER FAILURE"**
>
> ¨ **"SYSTEM SUSPENDED"**
>
> ¨ **"NO BATTERY"**
>
> ¨ **"INIT FAILED NOT SUPPORTED"**
>
> ¨ **"ERROR #NNN"**
> > Unknown error code meaning occurred.

¨ **NOTE:**   *[YES] CONTINUE does not appear until the conditioning cycle is complete.*

A condition cycle cannot be stopped by any means except when the charge is removed or when there is a power failure.

Menu Option 1 BACKUP

¨ **NOTE:**   *The backup battery conditioning cycle takes up to 22.5 hours to complete when the backup battery is fully charged at the beginning of the cycle.*

A condition cycle cannot be stopped by any means except removing the charge, when there is a power failure, or in extreme temperatures. Conditioning is not allowed and is

stopped when temperatures fall below 0° C (32° F) or rise above 40° C (104° F).
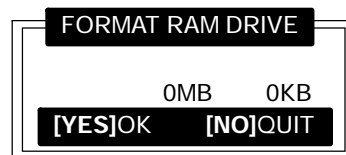
Considerations

As battery conditioning removes charge from the batteries, take care to keep the computer on charge once you start a conditioning cycle or if a condition cycle stops due to error. If the computer is removed from charge during a condition cycle, the computer may suffer data loss or reset itself depending on the battery condition. Also, as the state of the batteries is unknown, improper functioning of the backup battery system may occur and result in improper computer behavior and data loss if the computer is used for data processing purposes before the batteries can be fully recharged. Due to the risk involved in conditioning, remove important data from the computer before you start a condition cycle. If anything goes wrong, this data can be restored.

If errors are reported during the condition cycle, the condition cycle terminates. If this occurs, the battery being conditioned should charge completely or be replaced with a charged battery before you use it. It takes two hours for the main battery to charge and 12.5 hours for the backup battery to charge. To reduce chances of condition cycle errors, keep the computer on charge until the cycle is complete and only cycle the batteries in temperatures below 30° C (86° F).

Suboption 3 FORMAT RAM DRIVE

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

```
┌──────────────────────────────┐
│    FORMAT RAM DRIVE           │
│                               │
│            0MB      0KB       │
│   [YES]OK      [NO]QUIT       │
└──────────────────────────────┘
```

Enter the total MB and KB for the RAM drive.

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

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

```
┌─────────────────────────┐
│  ███████████████████    │
│  █ FORMAT RAM DRIVE █    │
│  ███████████████████    │
│                          │
│   ALL DATA ON            │
│   EXISTING RAM DRIVE     │
│   WILL BE DESTROYED!     │
│                          │
│   OK TO CONTINUE?        │
│  ███████        ███████  │
│  █[YES]█OK     █[NO]█QUIT │
│  ███████        ███████  │
└─────────────────────────┘
```
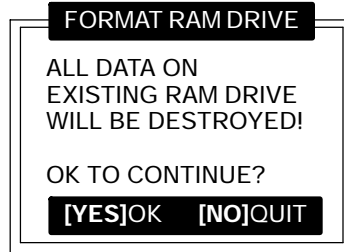
Press the [YES] key to continue. Press the [NO] key to exit the menu.

Glossary

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ATA Card

A credit-card-sized device, which has been specially designed to meet the needs of small computers, and can be inserted and removed from a PC Card slot. In the PEN*KEY products, it is generally a flash storage card, modem, radio, etc. (See also: Flash Card, SanDisk, Spinning Media, or Hardcard)

Boot Default Drive

The drive from which the computer will boot. By default, it is the flash drive D: but another drive (RAM drive or card slot) may be selected.

Bootable ATA

The ability to run the CONFIG.SYS and AUTOEXEC.BAT from an ATA card. In some older versions of flash, the CONFIG.SYS from the flash drive had to be run to load the drivers for the ATA card. With *Bootable ATA* the CONFIG.SYS and AUTOEXEC.BAT are run from the ATA card without loading any drivers.

Dock

A device in which one or more hand-held computers may be placed for charging and communication.

DOS (Disk Operating System)

A program or set of programs that tells a disk-based computer system to schedule and supervise work, manage computer resources, and operate and control its peripheral devices.

Download

The transmission of data from a host computer to a mobile computer.

Ethernet

A general term indicating both 802.3 and DIX Ethernet (also called Ethernet 2.0). See also: 802.3

Flash

A technology for nonvolatile memory storage. A special type of EEPROM that can be erased and reprogrammed.

Flash Card

A memory storage PC Card that meets the ATA standard. (See also: ATA Card, SanDisk, Spinning Media, or Hardcard)

Function

A collection of declarations and statements returning a value that can be called by name.

Host Address

The part of an internet address that designates which node on the (sub)network is being addressed. Also called host number.

Host Computer

A large computer that serves many users, such as a PC, minicomputer, or mainframe.

Host Controller

A 4980 Controller that is functioning as a host to a secondary controller.

Host Port *(com4980)*

A port that can connect to a host or a 4980 Network Controller.

Host System *(com4980)*

The Unix system that the COM4980 Package runs on.

LAN (Local Area Network)

A group of network devices in which each device can communicate through a wired or wireless link. The wired link may have several segments joined by repeaters and

bridges. The LAN is characterized by the relatively short distance it is designed to cover, a high speed of operation, and relatively low error rates. The geographic scope of LANs is limited to thousands of feet or closely-spaced building complexes.

Modem

A communication device that enables a computer to transmit information over a telephone line.

Modem Baud Rate

The speed of the modem connection. The higher the number the faster the rate.

Modem Device Name

The name of the communications port, for example: COM1, AUX2, HOST3, or DIGI4.

Modem Settings

The command strings required by your modem.

MS-DOS (Microsoft Disk Operating System)

A master control program for 16-bit, Intel-based system. One of the more common operating systems on PC systems.

Multicast Address

A form of broadcast address through which copies of the frame are delivered to a subset of all possible destinations with a common multicast address.

Multi-Link (Mlink)

A software product that allows for transmitting data from a terminal to a PC-compatible computer.

Multi-tasking

A computer's ability to run more than one application at the same time.

Network

A computer data communications system which interconnects computer systems at various sites. A network

may include any combination of LANs, MANs, or WANs. See also: LAN, WAN, internet.

(ADK) A computer network or terminals connected by means of (wires or radio transmissions) using software that enables them to exchange information.

NMSD

NORAND Mobile Systems Division of Intermec Technologies Corporation.

NPCP (NORAND® Portable Communications Protocol)

NPCP, a NORAND proprietary protocol, provides session, network, and datalink services for NORAND HHCs in the NORAND LAN environment used with printers and data communications.

OEM *(Original Equipment Manufacturer)*

A term that identifies certain hardware vendors who produce PC hardware for a system built by another company.

On Key

This key is found on some units. It will not turn the unit "On" or "Off" but it will suspend/resume operation.

PC Card

A device that fits in the card slots of an Intermec or other computer. In some PEN*KEY computers, the smaller type II card occupies one slot, while a type III card blocks the second slot. The card may be used for data storage, modem, printer, wireless, or other purposes.

Generally, PC Card is used in reference to devices, whereas PCMCIA is a reference to the standard.

PC Card Icon

An icon located in the System Tray, which indicates a PC Card is plugged into the PC Card slot. (See also: System Tray)

PCMCIA (Personal Computer Memory Card International Association)

An industry group responsible for creation of the standard for devices (slightly larger than a credit card) for small computers, such as laptop and hand-held computers.

Formerly, devices were referred to as PCMCIA cards, but are now generally referred to as PC Cards, while PCMCIA is a reference to the standard.

PEN*KEY Utilities

A program that provides the basic functions needed to prepare the PEN*KEY for use, including program load and data communications.

Plug and Play

The combination of BIOS, operating system, and peripheral device components that provides an environment that configures itself, thereby avoiding potential hardware conflicts for the operating system by polling the peripheral devices, assessing their requirements, and determining and implementing optimal settings for each device.

Port

The physical hardware communication port.

(SNMP) Physically, an access point to a computer, multiplexer device, or network. Logically, a pointer to a TCP/IP application.

Protocol

A formal description of message formats and the rules computers must follow to exchange those messages.

ROM (Read Only Memory)

Contains information that cannot be reprogrammed by the user. A user can write some variables to ROM; such as software, boot segment, data segment, and baud rate.

RS-232 C (Recommended Standard 232)

An Electronic Industries Association standard interface between data terminal equipment (DTE) and data

circuit-terminating equipment (DCE) with serial binary data interchange.

SanDisk

A brand of flash memory card. (See also: ATA Card, Flash Card, Spinning Media, or Hardcard)

Scroll

To move through text or graphics (up, down, left, or right) to see parts of the window not shown onscreen.

Serial Interface

An interface in which the terminal or computer sends single bits of information to the other device, one after another.

Serial Lid

A cap for the 6100 Computer which contains various communications capabilities.

Stylus

A pen-shaped device, used for input on a touch screen by tapping or sliding.

UPC (Universal Product Code)

A bar code symbology used throughout the grocery and retail industries.

Upload

The transmission of data from a mobile computer to a host computer.

Wireless

The transmission of data using radio waves.

The wireless access point provides store-and-forward operation (a hop) with each frame transmitted twice over the wireless media to reach its destination. Because frames are transmitted twice, the amount of wireless traffic over the radio network doubles.

In general, the throughput of a wireless access point has about half the effective bandwidth of a wired bridge,

because all frames received on the radio channel must be forwarded on the same channel. Therefore, using a wireless access point exchanges performances for ease of installation.

Wireless Stations

An inclusive term that refers to network terminals and computers equipped with wireless NICs. Network terminals include the INTERMEC RT1100 Radio Terminal, RT1700 Radio Terminal, and RT5900 Radio Terminal, and the TRAKKER ANTARES products. Wireless computers include the JANUS Terminal, PEN*KEY 6400 Computer, and PEN*KEY 6550 Computer.

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