

**UNIVERSAL DATA, INCORPORATED**



Complete Enterprise Solutions

# UDI-650 Reference Guide

---

COMPLETE ENTERPRISE SOLUTIONS

# **UDI-650 Reference Guide**

---

© UNIVERSAL DATA INCORPORATED

DOC. 16001

4150 Grange Hall Road

Holly, Michigan 48442

Phone 248.634.4000 • Fax 248.634.4310

<http://www.udisolutions.com>

© 2003 UNIVERSAL DATA, INC. All rights reserved.

UDI reserves the right to modify any product to improve dependability, function, or design.

UDI does not assume any product liability arising out of, or in connection with, the application of use of any product, circuit, or application described herein.

No license is granted, either expressly or by implication, estoppel, or otherwise under any patent right or patent, covering or relating to any system, combination, method, material, apparatus, machine, or procedure in which UDI products may be used. An implied license only exists for equipment, circuits, and subsystems contained in UDI products.

UDI and the UDI logo are registered trademarks of Universal Data, Inc. Other product names stated in this manual may be trademarks or registered trademarks of their individual companies and are hereby recognized.

Universal Data, Inc.  
4150 Grange Hall Road  
Holly, MI 48442  
<http://www.udisolutions.com>

# Table of Contents

	<b>Page No.</b>
<b>Introduction</b>	<b>3</b>
<b>About This Guide</b>	<b>4</b>
<b>Accessories</b>	<b>5</b>
<b>Parts Of UDI-650</b>	<b>6</b>
<b>Getting Started</b>	<b>9</b>
<b>Installing Battery</b>	<b>9</b>
<b>Charging the Battery</b>	<b>10</b>
<b>Starting the UDI-650</b>	<b>12</b>
<b>Using Compact Flash</b>	<b>13</b>
<b>Using the UDI-650</b>	<b>14</b>
<b>Display and Touch Screen</b>	<b>14</b>
<b>Using the Keyboard</b>	
<b>Qwerty Keyboard</b>	<b>16</b>
<b>Numeric Keyboard</b>	<b>17</b>
<b>Using the Stylus</b>	<b>18</b>
<b>Screen Features</b>	<b>19</b>
<b>Input Methods</b>	<b>20</b>
<b>Setting up Program Keys</b>	<b>20</b>
<b>Flash File System</b>	<b>21</b>
<b>Scanning with the UDI-650</b>	<b>22</b>
<b>Resetting the UDI-650</b>	<b>23</b>
<b>Host Communications</b>	<b>24</b>
<b>Running Applications</b>	<b>26</b>
<b>Maintaining the UDI-650</b>	<b>27</b>
<b>Troubleshooting</b>	<b>28</b>
<b>Regulatory Information</b>	<b>31</b>
<b>Warranty Information</b>	<b>34</b>
<b>Service Information</b>	<b>36</b>
<b>Contacting Universal Data</b>	<b>36</b>

---

This page intentionally left blank.



# INTRODUCTION

Congratulations on your purchase of Universal Data's UDI-650 handheld PC. Its unique combination of features makes this product superior for use in a wide range of applications. These features include:

- ✓✓ Full QWERTY or 35 Key Numeric keyboard
- ✓✓ Microsoft® Windows® Embedded CE.Net operating system
- ✓✓ RF communication via RF wireless network or a wide area network (WAN)
- ✓✓ Scanning capabilities
- ✓✓ Touch screen
- ✓✓ IrDA-compliant interface for printing and communication
- ✓✓ RJ-45 Serial communication port
- ✓✓ USB communication port
- ✓✓ Compact flash expansion slot
- ✓✓ Headset jack

## About this guide

This guide describes how to set up and operate the UDI-650 handheld PC. Specific topics covered include:

- ~~xx~~ Accessories
- ~~xx~~ Parts of the UDI-650 Series
- ~~xx~~ Installing the Battery
- ~~xx~~ Charging the Battery
- ~~xx~~ Inserting a Compact Flash Card
- ~~xx~~ Removing a Compact Flash Card
- ~~xx~~ Starting the UDI-650
- ~~xx~~ Aligning the Screen
- ~~xx~~ Using the UDI-650
- ~~xx~~ Using the Keyboard
- ~~xx~~ Using the Stylus
- ~~xx~~ Main Screen
- ~~xx~~ Input Methods
- ~~xx~~ Flash File System
- ~~xx~~ Scanning with the UDI-650
- ~~xx~~ Resetting your UDI-650
- ~~xx~~ Host Communications
- ~~xx~~ RJ-45 Serial Port Connection
- ~~xx~~ Maintaining the UDI-650
- ~~xx~~ Troubleshooting

## Accessories

The following optional accessories are available from Universal Data:

~~??~~ Additional Lithium-ion battery

~~??~~ Cables

?? AC Power/Charging cable

?? Vehicle Power/Charging cable

?? USB Communication cable

?? Serial Communication cable

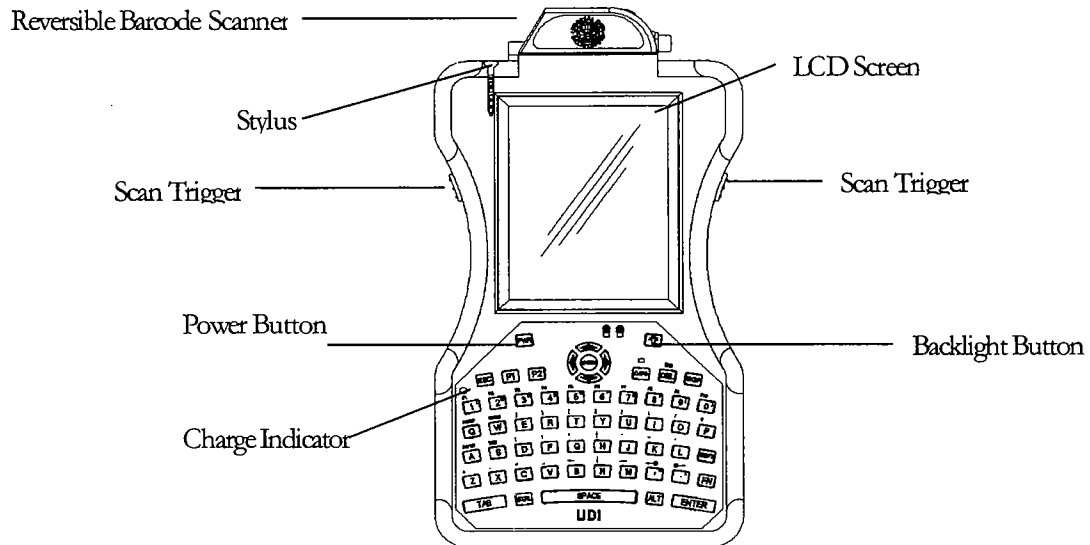
~~??~~ Single-slot battery charger

~~??~~ Compact Flash Card Devices

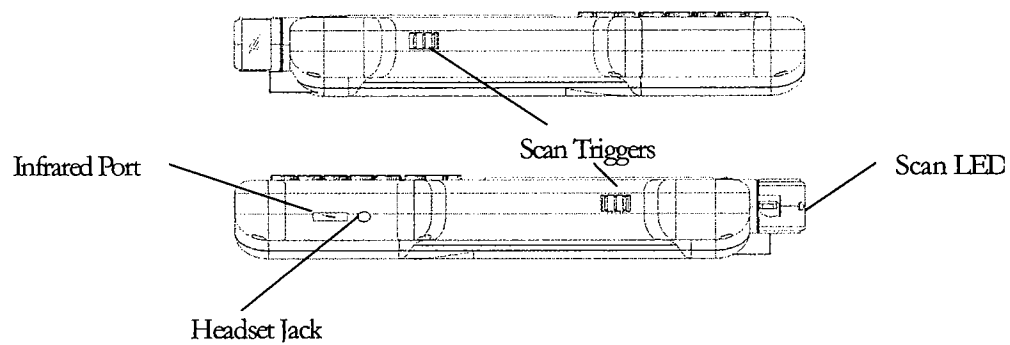


## Parts of the UDI-650

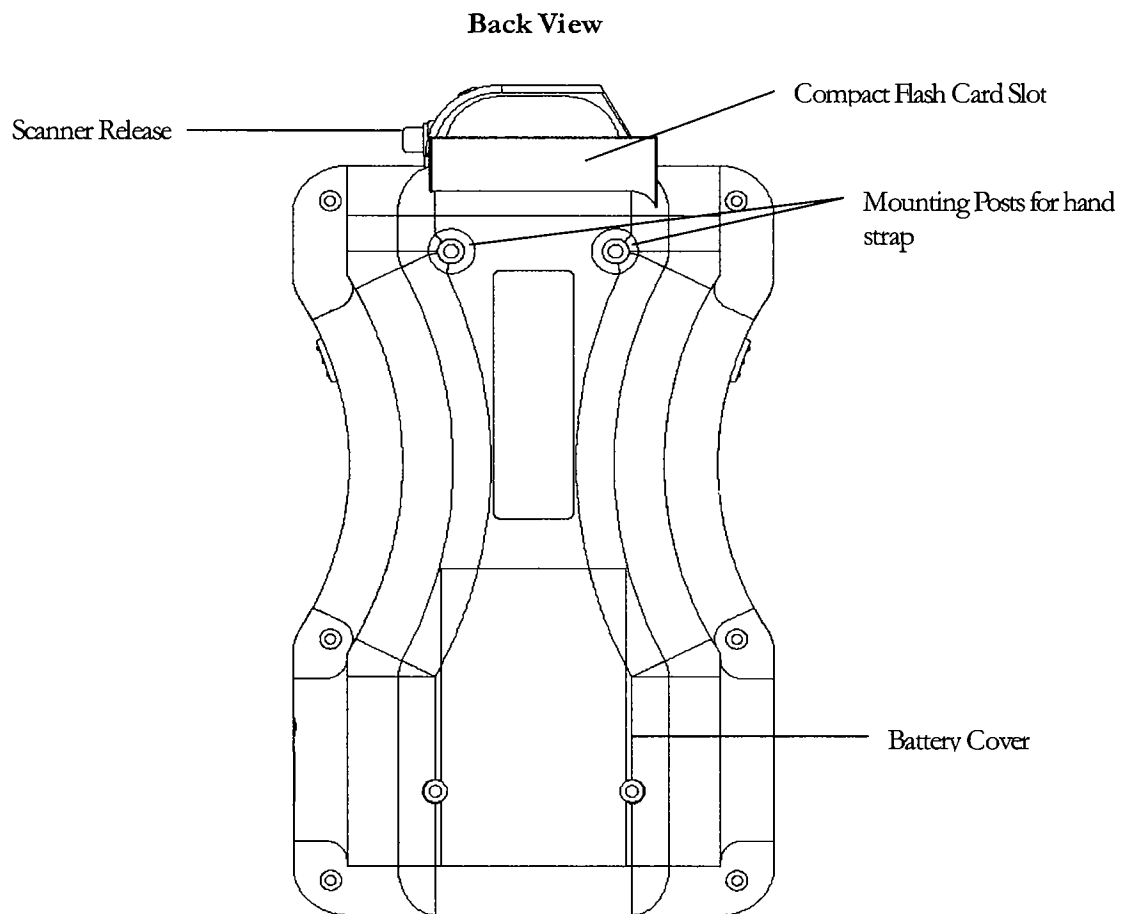
### Front View



### Side Views

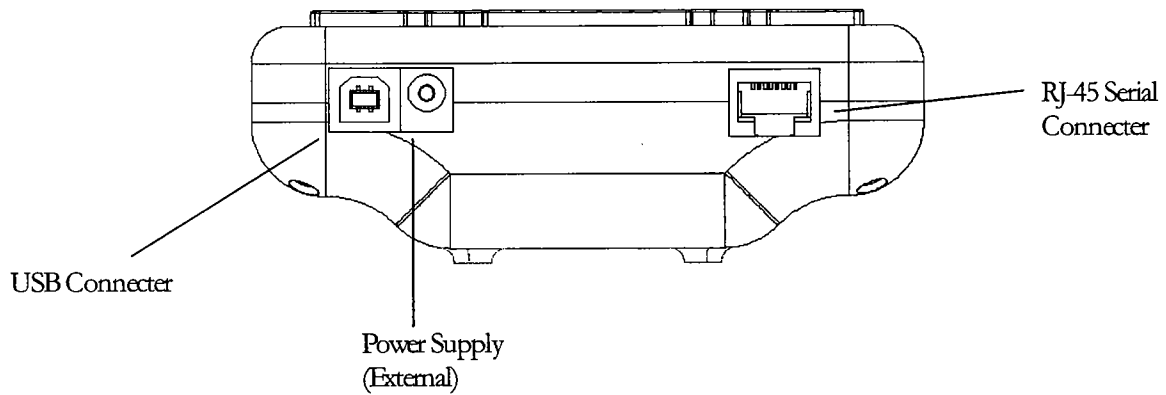


## Parts of the UDI-650 (continued)

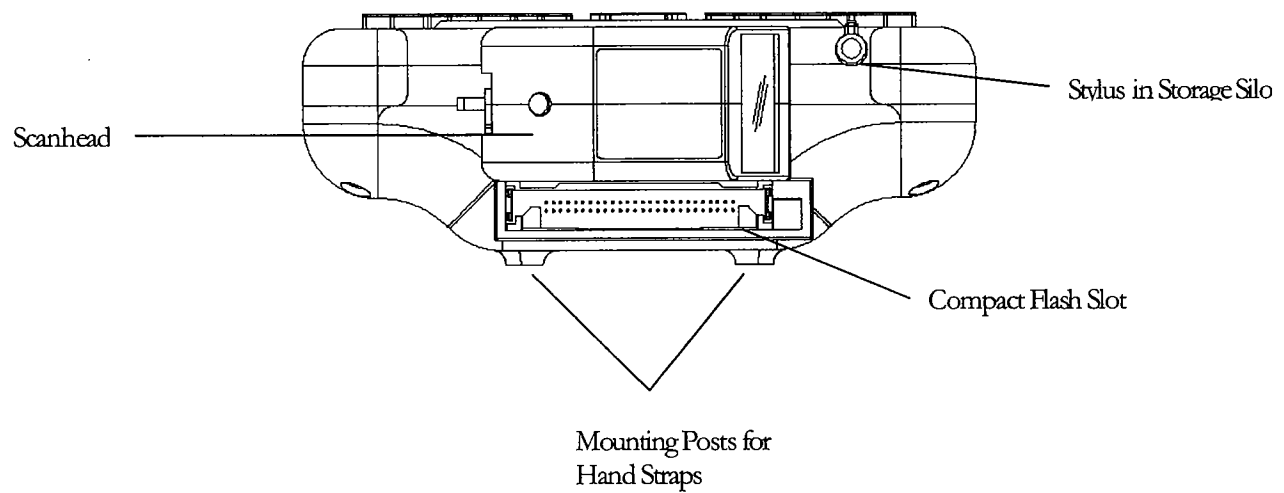


## Parts of the UDI-650 (continued)

Bottom View



Top View



# Getting Started

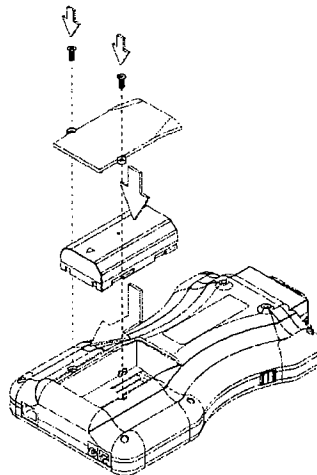
This section will explain the necessary steps for starting your UDI-650 Handheld PC.

Before using your UDI-650, perform the basic setup procedures in the following sections:

- ?? Install the battery
- ?? Charging the battery and backup battery
- ?? Starting the UDI-650

## Installing the Battery

1. Using a #2 philips screw driver, remove the two screws that are on the sides of the rectangular door on the back of the UDI-650 unit by turning them counter-clockwise with a screwdriver. Lift the door up and away from the UDI-650.



2. Insert the Lithium-ion battery into the battery compartment with the battery contacts facing the bottom of the UDI-650. Slide the battery towards the bottom of the UDI-650 until you feel it stop.

(To remove battery, slide towards the top end of battery compartment. Battery will lift out.)

3. Replace the battery cover, pressing down firmly, and replace the two screws in the battery door and tighten them by turning them clockwise with a screw driver.

## Charging the Battery

Before using your UDI-650 for the first time, charge the lithium-ion battery and backup battery for about six hours using the AC Power/Charging cable.

### NOTE:

Your handheld PC is equipped with backup circuitry, which automatically charges from the fully charged lithium-ion battery. This backup battery retains data in memory when the handheld PC's battery is removed. It will retain the data for only 8 minutes. Attempting to leave the unit without a battery installed, or disconnected from the charging cable without the battery installed, will jeopardize the status of user data not saved in the Flash File System, see page 22. The four low battery messages are as follows:

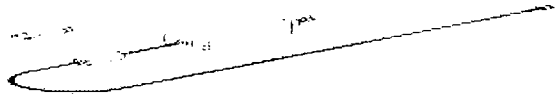
- i) 1<sup>st</sup> Notification: Low battery state: You should start planning for a time to change the battery or to start charging the unit.
  - (1) Message window appears.
  - (2) Double battery icon will display in the lower right corner
  - (3) 20% battery life remaining.
- ii) 2<sup>nd</sup> Notification: Critically low battery state: Finish current work in process and start charging the battery.
  - (1) Message window appears.
  - (2) Single battery with an exclamation point (!) will display in the lower right corner.
  - (3) 5% battery life remaining.
- iii) 3<sup>rd</sup> Notification: Reserve power state: You must immediately plug into AC power and start charging the battery even when not in use.
  - (1) Message window appears.
  - (2) Single "coin cell" icon will display in the lower right corner.
  - (3) Estimated battery life: Minimal battery life remaining.
- iv) 4<sup>th</sup> Notification: Auto-shutdown battery reserve:
  - (1) This is a safety feature to assist in maintaining data integrity.
  - (2) The unit will only remain on for 10 seconds at a time. This is indicating that you must plug in the unit. You can then either replace the battery or leave the unit on AC power for four hours to fully recharge the battery while it remains in the unit.
  - (3) Message window appears.
  - (4) Single "coin cell" icon with an exclamation point (!) will display in the lower right corner.

### NOTE:

Do not ship or store your UDI-650 for longer than 7 days with the battery installed without charging, due to the power drain.

**Charging the Battery Using the Charging Cable**

Plug in the AC Adaptor AC plug into a 120v AC outlet. Plug in the plastic triangle shaped end into the Power Supply. Plug in the round silver end into the matching jack on the bottom of the UDI-650 unit. On the face of the UDI-650 unit the charge indicator light should be red if the battery is accepting a charge, or green if the battery is fully charged. Depending on how much charge is in the battery when the charge cycle is started, the charging cycle can take up to six hours.



AC Power/Battery Charger Cable



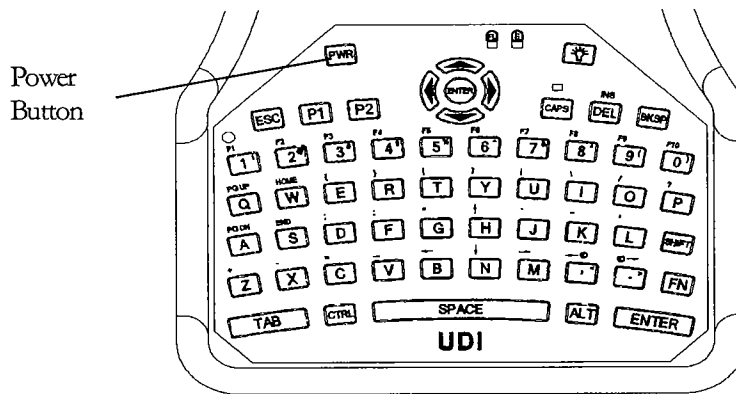
External Single Cell Battery Charger

To charge the battery outside of the UDI unit, use the UDI #U123274 External Battery Charger. Charge times are the same as internal

## Starting the UDI-650

### Power Button

With a charged battery installed and/or the AC Power cord attached, press the green PWR button to turn the UDI-650 on. If the handheld PC does not power on, there are a couple of items that could be the problem. Is there a charged battery in the battery compartment? If so, is it installed correctly, see Installing Battery. Try the PWR button. If these items do not start the UDI-650, do a Hard Reset of the unit. See Performing a Hard Reset on page 23.

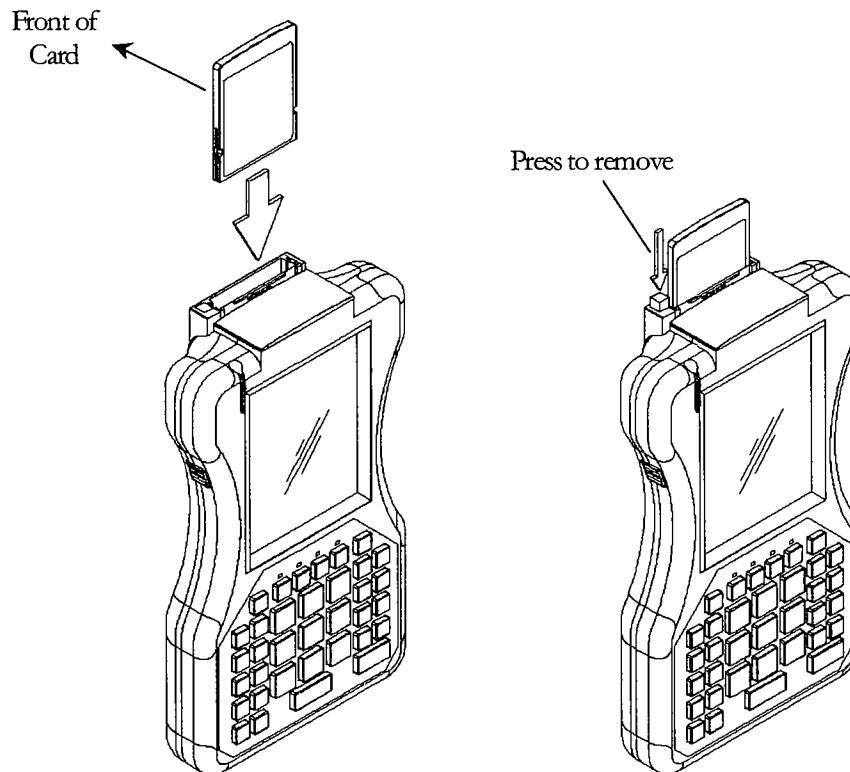


As the handheld PC initializes its unique Flash File system, the Universal Data splash screen displays for about 10 seconds along with the keyboard LEDs lighted. The next screen to appear is the "Screen Alignment" screen. See Display and Touch Screen section on page 14 for screen alignment. Note that this screen will appear every time you perform a hard reset. See Performing a Hard Reset on page 23.

## Using Compact Flash

### Inserting a Compact Flash Card

The UDI-650 contains a slot for a type 1, 2, or 3 compact flash card. The card should be inserted so that the front of the card faces the back of the UDI-650, as shown below.



### Removing a Compact Flash Card

Press the flash card release button located to the left of the Compact Flash card. This will eject the card so that it may be easily removed.



## Using the UDI-650

### Display and Touch Screen

#### Aligning the Screen

This procedure is necessary for your UDI-650 to accurately determine the location of the stylus on the touch screen.

To align the screen:

(If necessary, adjust the contrast on the UDI-650 so the screen is readable. See Controlling the Backlight on Page 15)

1. Remove the stylus from its storage silo on the front of the UDI-650.
2. Touch the center of each target that appears on the screen with the tip of the stylus. Hold the stylus in position for about one second to allow the UDI-650 to read the location.
3. After all five targets have been touched, tap the screen with the stylus to complete the calibration procedure. The Calibrate function will repeat itself if the calibration was not correct.

You can also re-Calibrate at any time as follows

1. Select **MY COMPUTER**
2. Select **CONTROL PANEL**
3. Select **STYLUS**
4. Select **CALIBRATE**
5. Select **Re-CALIBRATE**

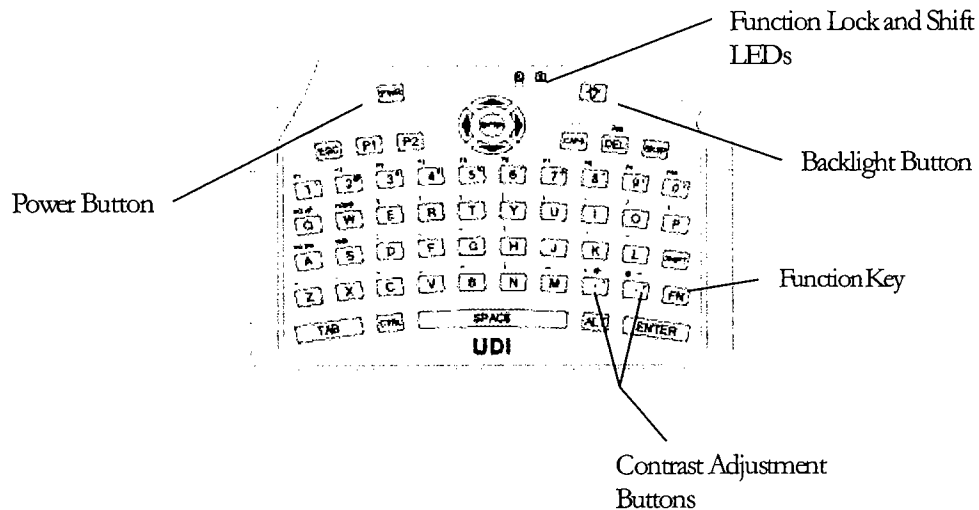
Tap the target firmly and accurately at each location on the screen. The target will continue to move until the screen is aligned.



## Display and Touch Screen (continued)

### Controlling the Backlight

The backlight has three brightness levels. Press the Backlight Button to change the backlight intensity to the desired level.



### Adjusting the Contrast

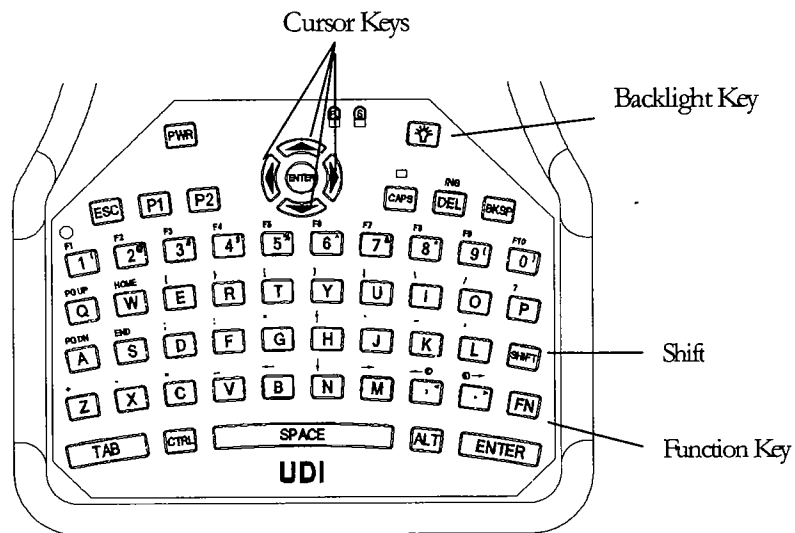
To adjust the contrast, first, press the red FN key twice (which will start Function Lock and illuminate the Function Lock LED). Next, press one of the two contrast adjustment buttons (the , and . buttons, [left and right red half moon symbols]). The left button decreases the contrast, while the right button increases it. Press the buttons until the desired contrast is obtained. When you are finished, press the FN button once—the Function Lock LED should turn off.

## Using the Keyboard

Note: Key functions can be changed by an application. Your keyboard may not function exactly as described.

### The QWERTY Keyboard

The 58-key keyboard is an alphanumeric keypad that produces the 26-character alphabet (A-Z), numbers (0-9), and assorted characters. The keyboard is color-coded to indicate which modifier key (**Shift** (yellow) or **Func** (red)) to press to produce a particular character or action.

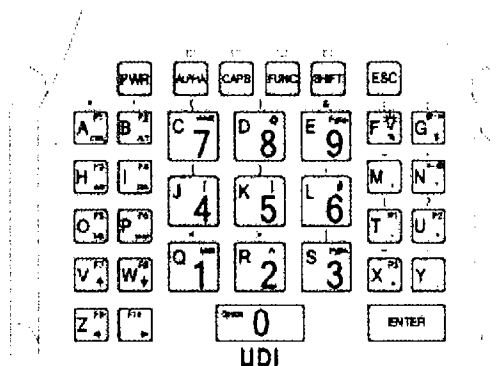


QWERTY Keyboard	
Key	Action
Note: Press the <b>FN</b> key, then another key to produce the value or function above that key. See individual key descriptions in this table for additional Function key usage.	
Shift	Press <b>Shift</b> to toggle between alpha and Shifted (Yellow) mode. In shift mode, pressing a key produces the yellow letter on that key; in normal mode, pressing a key produces the character in white. Shift followed by an Alpha key produces the opposite of the current Alpha State, Lower or Upper case.
Program 1 & 2	Press the <b>P1</b> or <b>P2</b> key to activate Program No. 1 or 2. See Setting Up Program Keys on page 20.

QWERTY Keyboard (continued)	
Key	Action
Backlight	Press the Backlight key to change the brightness of the display.
Caps/Shift	Press Shift key when in alpha mode, then another key to capitalize the letter on that key. Press Caps lock to enable all uppercase Alpha.
Contrast	See Adjusting the Contrast on page 15.
Cursor	Press cursor keys to move the cursor left, right, up, and down on the screen.
Enter	Press Enter after entering data or a command.
Power	See Starting the UDI-650 on page 12.
Scan	Press the left or right Scan triggers to scan bar codes.
Back space	Press BkSp key to erase information entered on the display, one character at a time.
Tab	Press Tab to move from field to field.

### The Numeric Keyboard

The Numeric keyboard is an alphanumeric keypad that produces the 26-character alphabet (A-Z), numbers (0-9), and assorted characters. The keyboard is color-coded to indicate which modifier key (Alpha-Numeric, Func) to press to produce a particular character or action. The keyboard default is numeric, producing the white number or white character on that key.



Numeric Keyboard

Numeric Keyboard	
Key	Action
Note: Press Func or Shift, then another key to produce the value or function above that key. See individual key descriptions in this table for additional Function key usage.	
Alpha	Press the <b>Alpha</b> key to toggle between alpha and numeric mode. In alpha mode, pressing a key produces the yellow letter on that key; in numeric mode, pressing a key produces the number or character in white. Press <b>Alpha</b> twice to lock Alpha mode. Press <b>Alpha</b> a third time to revert back to numeric mode.
Caps	Press <b>Caps</b> when in alpha mode, then another key to capitalize the letter on that key, caps lock mode. Press <b>CAPS</b> a second time to disable Caps Lock.
Program 1, 2 & 3	Press the <b>P1</b> , <b>P2</b> , or <b>P3</b> key to activate Program No. 1, 2, or 3. See Setting Up Program Keys on page 20.
Contrast	See Adjusting the Contrast on page 15.
Cursor keys: ? ? ? ?	Press cursor keys to move the cursor left, right, up and down on the screen.
Enter	Press the <b>Enter</b> key after entering data or a command.
Power	See Starting the UDI-650 on page 12.
Backlight	See Controlling the Backlight on page 15.

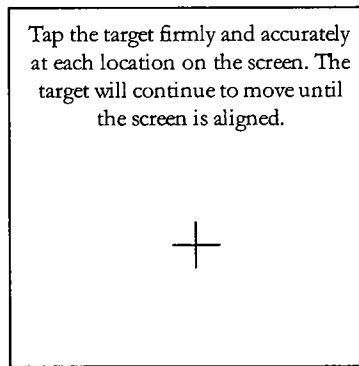
### Using the Stylus

The stylus selects items and enters information. The stylus functions as a mouse.

- ?? Tap the screen once to select option buttons and open menus.
- ?? Tap the screen twice to open items and select options.
- ?? Drag: Hold the stylus on the screen and drag across the screen to select text and images. Drag in a list to select multiple items.
- ?? Tap-and-hold: (Right Click) Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action you want to perform.

## Screen Features

When you turn on your handheld PC it will return to the last screen accessed before power down, whether manually or after an idle shutdown. If the UDI-650 is hard reset (rebooted) the unit will start with the Stylus/Screen Alignment function.



After alignment the Windows Desktop will appear.

### **Navigation Bar and Command Bar**

The navigation bar at the top of the screen displays the active program and allows you to perform functions within programs and close screen. The command bar at the bottom of the screen contains menus and buttons to perform tasks in programs, battery status, date and/or time, opened programs, and battery warnings.

## Input Methods

Enter information in any program by typing with the QWERTY or NUMERIC keyboard, the soft keyboard, or writing using the Transcriber feature.

The Transcriber feature allows letters, upper and lower case, and numbers to be written anywhere on the screen and have those characters entered at the current position of the cursor.

There are three modes of the Transcriber feature: Forced Caps, Letters and Numbers, and Numbers. The Forced Caps mode will make any letter entry, whether upper or lower case, into the upper case representation of the letter. This mode also accepts numbers. The Letters and Numbers mode allows entry of letters in either upper or lower case, and numbers. Numbers mode allows the entry of numbers only.


## Setting up Program Keys

The UDI-650 offers the ability to quickly launch programs or take you to a specified menu by using the program keys, P1, P2 or P3 (P3 only on the 35 key unit).

To set up a program key:

Select **MY COMPUTER**  
Select **CONTROL PANEL**  
Select **UDI-650**  
Select **QUICK LAUNCH**

At this point, you have two options for setting up a programmable key:

1. Type in the location of the application or file you want assigned to the key.
- or
2. Click on the  icon; this will take you to Explore. At this point, you can navigate to the directory containing the application or file you want assigned to the key.

## **Flash File System**

The flash file system included with the UDI-650 handheld is designed to fulfill two functions:

1. Provide a method for users to save data and applications to flash, up to 32 Mbytes, preserving them in case of a power loss.
2. Maintain a back-up copy of the Windows CE registry on flash, providing the ability to maintain user and application settings in the event of power loss.

### **Flash File System Folder**

The UDI-650 provides access to the flash file system through a folder named 'Flash Folder'. This folder is accessible from the root directory of the device. Applications may use this folder as they would any other. Any file I/O accesses to this folder are accessing flash rather than RAM. This means files and data written to this folder will be retained if the device loses power. This folder may be used as if it were any other folder in Windows. So, applications like Word can save documents in that folder, and custom applications can save their data in that folder.

### **Registry Backup**

The UDI-650 will maintain a backup copy of the Windows CE registry on flash. This registry is restored from flash when Windows CE boots itself for the first time. This makes it possible for user and application settings to be maintained in the event of power loss. Because the Windows CE image is also saved on flash, the UDI-650 can recover from power loss with a minimum of effort. No user intervention is required to either backup or restore the registry. It is saved periodically during normal UDI-650 operation and when the battery level reaches a critically low condition. Restoration of the registry is also automatic.

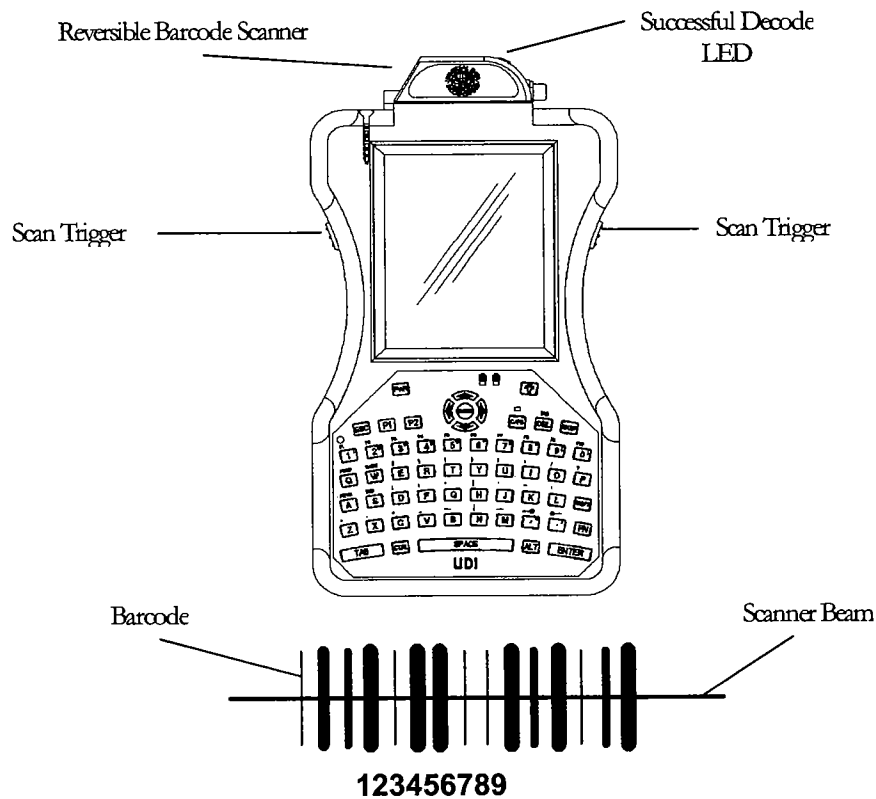


## Scanning with the UDI-650

The UDI-650 has a removable scanner, which collects data by scanning bar codes. See the *UDI-650 Integrated Barcode Scanner, Scanner Control, and Programming API guides* for information on configuring your handheld PC for scanning.

To scan bar codes with the UDI-650:

1. Aim the scanner at the bar code.
2. Press the scan trigger. Ensure the red scan beam covers the entire bar code. The green LED lights and a beep sounds to indicate a successful decode.



## Resetting the UDI-650

If your UDI-650 handheld PC stops responding to input: you may need to perform a hard re-set.

**WARNING:** Data or Settings not permanently stored in the Flash File System or synchronized to a PC will be lost during a HARD reset; this is the same as a cold boot of a desktop PC.

Before performing a Hard Reset, try turning off the UDI-650 unit by pressing the green PWR key once. Turn the UDI-650 unit back on by pressing the green PWR key again. If the unit is still not responding, perform a Hard Reset.

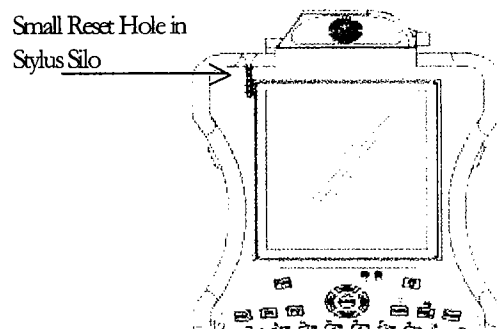
### Performing a Hard Reset

A hard reset restarts your UDI-650 handheld PC and erases all stored records and entries in RAM. All data in the Flash File System is retained, see page 22. *Therefore, never perform a hard reset unless powering the unit off and on does not solve your problem.*

Note: You can restore any data previously synchronized with your computer during the next ActiveSync operation.

To perform a hard reset on the handheld PC:

1. Remove the Stylus.
2. Press the reset button by inserting a paper clip into the small reset hole in the stylus silo until you feel a clicking sensation. Remove the paper clip.
3. As the handheld PC reboots the Alignment screen will appear.
4. Realign the screen as described in section 1. (See Page 14)



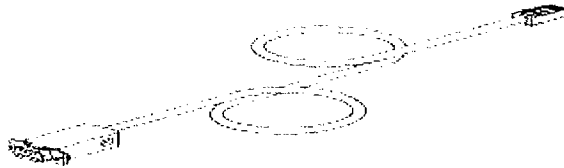
## Host Communications

The UDI-650 Series handheld PC can communicate with a host PC either directly through its communications port using an RS-232 serial cable, USB cable, Infrared, or wirelessly via a RF wireless LAN. Communications with a host PC requires the use of Microsoft ActiveSync Version 3.5 or higher. For more information on setting up ActiveSync communications with your UDI-650 Series handheld PC, refer to the *Microsoft ActiveSync information in Windows Help*.

### Using the RS-232 Serial Cable

To connect the RS-232 serial cable for host communication:

1. Connect the RS-232 serial communication cable's RJ-45 connector into the port on the bottom of the handheld PC.
2. Plug the other end of the RS-232 serial communication cable into the host PC.
3. Begin host communication software, ActiveSync, and follow onscreen instructions.



### Using the USB Cable

1. Connect one end of the USB cable to the host computer Host Port (flat end).
2. Plug the other end of the cable into the UDI-650 USB port.
3. Begin host communication software, ActiveSync and follow onscreen instructions.



## **HOST COMMUNICATIONS (continued)**

### **Infrared port**

The UDI-650 uses a special application program for sending information to, and receiving information from, another computer or hand-held device via the Infrared (IR) port.

### **Sending Information**

From Windows Explorer, Highlight the file to send, Tap on the FILE name, Tap on SEND TO, Tap on IR RECIPIENT.

1. A dialog box will appear looking for receiving device.
2. Line up the IR port with the receiving device.
3. Upon connection, another dialog box will appear showing status of transmission.

### **Receiving Information**

From Windows Explorer, Tap on FILE, Tap on RECEIVE.

1. Select the folder to store the file.
2. Line up the IR port with the sending device and initiate transfer.

### **Communicating with Printers**

Drivers maybe necessary for your printer, check with the printer manufacturer for Windows CE.Net drivers.

To print to a serial printer:

1. Attach an RS-232 serial cable to the serial port in the bottom of the UDI-650.
2. Attach the other end of the cable to the serial port on the printer.
3. Run your application's print function.

To print from an IrDA-complaint printer:

1. Point the IrDA port on the side of the UDI-650 at the IrDA port on the printer, at a maximum distance of 39 inches (1 meter).
2. Run the application's print function.

**Note:** The UDI-650 must have software configured to communicate with the printer you are using.

## Running Applications

The UDI-650 uses the Windows CE.net operating system. The UDI-650 can run off the shelf applications that are written for Windows CE.net 4.2. It also supports:

- ?? Applications developed for Windows CE.net 4.2 Standard SDK platform.
- ?? Applications developed for Windows CE.net 4.2 using AYG Shell interface.
- ?? Applications developed for Windows CE.net 4.2 using our SDK platform that is included on the supplied UDI-650 application CD.
- ?? Applications developed for Windows CE.net 4.2 using the Compact Framework.

It does not run PocketPC, PocketPC 2002, or Mobil 2003 applications. These programs use libraries that are not available for the UDI-650. It is possible that some of the applications written for these operating systems do not require the special libraries and may run, but they will most likely need to be installed by hand. The only way to be sure is to try them.

## Maintaining the UDI-650

To maintain your UDI-650 in good working order:

- ?? Do not scratch the screen. Use the supplied stylus or plastic tipped pens intended for use with a touch-sensitive screen. Never use a pen or pencil or other sharp object on the screen.
- ?? If the surface of the UDI-650 screen becomes soiled, clean it with a soft cloth moistened with a diluted window-cleaning solution. Do not spray any cleaner directly on the unit.
- ?? Although your UDI-650 is water and dust resistant, do not expose it to rain or moisture for an extended period of time. Treat your UDI-650 as you would a pocket calculator or other small electronic instrument.
- ?? The touch-sensitive screen of your UDI-650 contains glass. Do not drop your UDI-650 or subject it to strong impact.
- ?? Protect your UDI-650 from temperature extremes. Do not leave it on the dashboard of a car on a hot day, and keep it away from heat sources. Never put your UDI-650, or its battery, into a fire because it may explode.
- ?? Do not store or use your UDI-650 in any location that is extremely dusty, damp or wet.
- ?? The UDI-650 should not be stored or shipped with the battery installed for more than seven days without charging due to the battery drain.

## Troubleshooting

Problem	Cause	Solution
UDI-650 does not turn on.	<ol style="list-style-type: none"> <li>1. Battery not charged.</li> <li>2. Battery not installed properly.</li> <li>3. System lockup.</li> </ol>	<ol style="list-style-type: none"> <li>1. Charge or replace the lithium-ion battery in the UDI-650.</li> <li>2. Ensure battery is installed properly.</li> <li>3. Perform a hard reset. See Resetting the UDI-650 on page 23.</li> </ol>
Battery did not charge.	<ol style="list-style-type: none"> <li>1. Battery failed.</li> <li>2. UDI-650 AC Power/Charging Cable disconnected while charging.</li> </ol>	<ol style="list-style-type: none"> <li>1. The battery requires up to six hours to recharge fully. Re-connect the AC Power/Charging cable to jack on bottom of UDI-650.</li> <li>2. Replace battery. If your UDI-650 handheld PC still does not operate, try on/off, then a hard reset; see Resetting the UDI-650 on page 23.</li> </ol>
Cannot see characters on display.	<ol style="list-style-type: none"> <li>1. UDI-650 not powered on.</li> <li>2. Contrast not adjusted properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Press the PWR key.</li> <li>2. To adjust the contrast on your UDI-650 handheld PC, see Adjusting the Contrast on page 15.</li> </ol>
Fail to communicate with an IrDA printer.	<ol style="list-style-type: none"> <li>1. Distance from printer is more than 1 meter (39 inches)</li> <li>2. Obstruction interfered with communication.</li> <li>3. Application is not enabled to run IrDA printing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Bring the handheld PC closer to the printer and attempt communications again.</li> <li>2. Check the path to ensure no objects were in the way.</li> <li>3. Printer support must be included with the application to run IrDA printing on the handheld PC. See your System Administrator.</li> </ol>
During data communication, no data was transmitted, or transmitted data was not received.	<ol style="list-style-type: none"> <li>1. Handheld PC unplugged from host PC cable during communications.</li> <li>2. Incorrect cable configuration.</li> <li>3. Communication software was incorrectly installed or configured.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect the handheld PC to the communication cable, and re-transmit.</li> <li>2. See your System Administrator.</li> <li>3. Perform setup as described in the Microsoft ActiveSync information in Windows Help</li> </ol>

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
UDI-650 turns itself off.	1. UDI-650 is inactive.	1. Your UDI-650 turns off after a period of inactivity. This period can be set from one to 60 minutes. Check the Power dialog box (in the System tab under Start/Settings), and change the setting if you need a longer delay before the automatic shutoff feature activates.
UDI-650 doesn't recognize my handwriting.	1. Transcriber software not running. 2. Character strokes written incorrectly with the stylus.	1. See the Windows CE.Net Help for setting up and starting the Transcriber software. 2. For your UDI-650 to recognize handwriting input with the stylus, characters must be written a certain way. See the Windows CE.NET Help for information about how to write character strokes.
No sound is audible.	1. Volume setting is low or turned off.	1. Check the System Volume slider in the Sounds & Reminders properties dialog box (under Start/Settings) to make sure the volume is not turned down.
Tapping the screen buttons or icons does not activate the corresponding feature.	1. LCD screen not aligned correctly.	1. Align the screen. Choose <b>STYLUS</b> from the <b>DESKTOP, SETTINGS</b> , screen, see page 14.
A message appears stating that your UDI-650 handheld PC memory is full.	1. Too many files are stored on the handheld PC. 2. Memory allocation too low. 3. Too many applications installed on the handheld PC.	1. Delete unused memos and records. You can save these records on your computer. 2. Adjust the memory allocation. Select Start, then Settings, and select the System tab. Tap Memory and adjust the slider. 3. If you have installed unnecessary applications on your UDI-650, remove them to recover memory. Select Start, then Settings, and select the System tab. Tap Remove Programs, select the unused program and tap Remove.
The scanner does not operate when the trigger is pressed.	1. Scanner may not be configured.	1. See the <i>UDI-650 Integrated Barcode Scanner—Scanner Control</i> manual for scanner configuration setup.



Problem	Cause	Solution
IrDA beamed data does not transmit.	<ol style="list-style-type: none"> <li>1. UDI-650 handheld PCs are too close together.</li> <li>2. IrDa window is dirty or obstructed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm that the UDI-650 handheld PCs are 5" – 30" apart, and there is a clear path between the two devices.</li> <li>2. Gently clean the IrDA window using a soft cloth. Do not spray any cleaner directly on the unit.</li> </ol>
When receiving serial port transmitted data, an out of memory message appears.	<ol style="list-style-type: none"> <li>1. Not enough free memory available for receiving data.</li> </ol>	<ol style="list-style-type: none"> <li>1. Requires at least twice the amount of memory available as the data you are receiving. For example, if you are receiving a 30k application, you must have at least 60k free.</li> </ol>
Your UDI-650 handheld PC does not accept scan input.	<ol style="list-style-type: none"> <li>1. Scanning application is not loaded.</li> <li>2. Unreadable bar code.</li> <li>3. Distance between exit window and bar code is incorrect.</li> <li>4. Handheld PC is not programmed for the bar code.</li> <li>5. Handheld PC is not programmed to generate a beep.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify that the unit is loaded with a scanning application. See your System Administrator.</li> <li>2. Be sure the symbol is not defaced.</li> <li>3. Be sure you are within proper scanning range.</li> <li>4. Be sure the handheld PC is programmed to accept the type of bar code you are scanning. See the <i>UDI-650 Integrated Barcode Scanner, Scanner Control, and Programming API guides</i>.</li> <li>5. If you are expecting a beep on a good decode and don't hear one, check that the application is set to generate a beep on a good decode.</li> </ol> <p>Note: If the scanner is still not reading symbols, contact your distributor, or Universal Data.</p>

## Ergonomic Recommendations

Caution: In order to avoid or reduce the potential risk of ergonomic injury, follow the suggestions below. Consult with your local Safety and Health Manager to guarantee that you are supporting your company's safety programs to avoid employee injury.

- ?? Minimize or exclude repetitive motion
- ?? Maintain a natural position
- ?? Minimize or exclude extreme force
- ?? Keep objects that are used frequently within reach
- ?? Perform tasks at correct heights
- ?? Minimize or exclude vibration
- ?? Minimize or exclude direct pressure
- ?? Provide comfortable workstations
- ?? Provide sufficient clearance
- ?? Provide a suitable work atmosphere
- ?? Improve work procedures

## Regulatory Information

All UDI devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Any alterations or adjustment to UDI equipment, not clearly approved by UDI, could void the user's authority to operate the equipment.

## Laser Devices

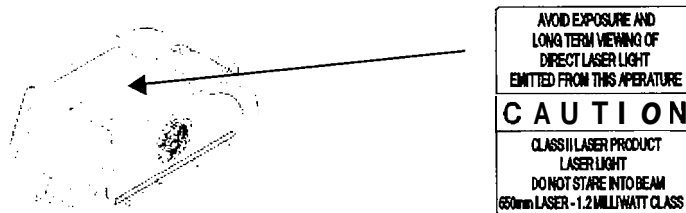
UDI devices using lasers comply with US 21CFR1040.10, and IEC825-1:1993, EN60825-1:1994+A11:1996. The laser classification is marked on one of the labels on the device.

Class 1 laser devices are considered not to be harmful when used for their intended purpose. The following statement is required to comply with US and international policy:

Caution: Use of controls, alteration or performance of procedures other than those specified at this time may result in harmful laser light exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very intense light source, such as the sun, the user should avoid staring directly into the light beam. Brief exposure to a Class 2 laser is not known to be damaging.

### Scanning Label



In accordance with Clause 5, IEC 825 and EN60825, the following information has been made available to the user:

CLASS 1      CLASS 1 LASER PRODUCT  
CLASS 2      LASER LIGHT  
**Do not stare into beam**

### Class 2 Laser Product

### Power Supply

Note: Use only a UDI-approved power supply output, rated 12V and minimum 2.5A. The power supply has approvals from UL, CE and TUV.

### FCC RF Exposure Guidelines

To maintain conformity with FCC RF exposure fulfillment requirements, use only holsters, belt-clips, or comparable accessories that maintain a 2.5 cm separation distance between the user's body and the reverse side of the terminal, as well as the antenna. The use of third-party holsters, belt-clips, and similar accessories should not contain metallic components in its assembly. The use of these accessories that do not meet these requirements, may not conform to FCC RF exposure compliance requirements, and should to be avoided.

## **Radio Frequency Interference Requirements**

FCC Part 15 limits are intended to provide reasonable protection against damaging interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not set up and used in accordance with the instructions, may cause harmful interference to radio communications. Nevertheless, there is no assurance that interference will not occur in a particular installation. If this equipment does cause damaging interference to television or radio reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following procedures:

- ?? Reorient or reposition the receiving antenna
- ?? The separation may be increased between the equipment and receiver
- ?? Connect the equipment into an outlet on a circuit different from that to which the receiver is linked
- ?? Seek advice from the dealer or a knowledgeable radio/TV technician for help

## **Hazard Location Usage**

- A. "THIS EQUIPMENT IS INTENDED FOR USE IN NON-  
HAZARDOUS LOCATIONS ONLY."
- B. "CAUTION! EXPLOSION HAZARD! SUBSTITUTION OF  
COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1,  
DIVISION 2."

## Warranty

- (A) **Warranty** Universal Data, Inc. (henceforth “Seller”) hardware products are warranted against defects in materials and workmanship for a period of twelve (12) months from the date of shipment, unless otherwise provided by Seller in writing, considering the product remains unchanged and is functioning under normal and suitable conditions. Warranty durations and provisions on UDI software, integrated installed systems, product tailored or designed to meet specific customer specifications (“Custom Products”), reconditioned products, and remanufactured or upgraded products, shall be as provided in the applicable product specification in effect at the time of purchase or in the associated software license.
- (B) **Spare Parts** Spare parts (i.e. parts, subassemblies, or components sold by Seller for use in the maintenance and service of products) are warranted against imperfection in workmanship and materials for a period of thirty (30) days from the date of shipment. Spare parts may be new or originate from returned units under the circumstances set forth in subsection D below.
- (C) **Repair of UDI-branded hardware** For repairs on UDI-branded hardware products under this Agreement, as well as repairs covered by warranty, the repair services are warranted against imperfection in materials and workmanship on the repaired component of the product for a period of thirty (30) days from the shipment date of the repaired product, or until the end of the original warranty period, whichever is longer.
- (D) **Product Service** products may be serviced or manufactured with parts, components, or subassemblies that originate from returned products and that have been tested as meeting appropriate specifications for equivalent new material and products. The sole responsibility of Seller for defective hardware products is restricted to repair or replacement (at Seller’s option) on a “return to service depot” basis with prior Seller approval. Customer shall be accountable for return shipment charges for product returned where Seller determines there is no defect (“No Defect Found”), or for product returned that Seller determines is not entitled for warranty repair. Customer is responsible for shipment to the Seller and assumes all costs and risks associated with this transportation; return shipment to the Customer will be at Seller’s expense. No charge will be made to Buyer for replacement parts for warranty repairs. Seller is not accountable for any loss of or damage to any software programs, data or

removable data storage media, or the restoration of reinstallation of any software programs or data other than the software, if any, installed by Seller during manufacture of the product.

**(E) Original Warranty Period** Except for the warranty applying solely to the repaired component arising from a repair service in Section C above, the aforementioned requirements do not broaden the original warranty period of any product that had either been replaced or repaired by Seller.

**(F) Warranty Provisions** The above warranty provisions shall not apply to any product (a) which has been repaired, tampered with, customized or changed in any way, except by Seller's approved service personnel; (b) in which the imperfection or damage to the product result from normal wear and tear, mishandling, carelessness, unacceptable storage, water or other liquids, battery leakage, use of parts or accessories not accepted or supplied by UDI, or failure to execute operator handling and scheduled maintenance instructions supplied by Seller; (c) which has been subjected to abnormal physical or electrical stress, exposure, or forces, or abuse or accident beyond normal use within the specified operational and environmental restrictions set forth in the applicable product specifications; nor shall the above warranty terms apply to any disposable or consumable items, such as batteries, supplied with the product.

EXCEPT FOR THE WARRANTY OF TITLE AND THE EXPRESS WARRANTIES ACKNOWLEDGED ABOVE, SELLER DISCLAIMS ALL WARRANTIES ON PRODUCTS FURNISHED HEREUNDER AS WELL AS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. ANY IMPLIED WARRANTIES THAT MAY BE ENFORCED BY LAW ARE LIMITED IN DURATION TO THE LIMITED WARRANTY PERIOD. A NUMBER OF STATES OR COUNTRIES DO NOT ALLOW A LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE RESTRICTION OR EXCLUSION OF SUBSTANTIAL OR INCIDENTAL DAMAGES FOR CONSUMER PRODUCTS. IN SUCH STATES OR COUNTRIES, FOR SUCH PRODUCTS, SOME EXCLUSIONS OR RESTRICTIONS OF THIS LIMITED WARRANTY MAY NOT APPLY.

The acknowledged express warranties are in lieu of all responsibility of liabilities of the part of Seller for indemnity, as well as but not restricted to, unusual, indirect or consequential damages arising out of or in association with the user or performance of the product or service. Seller's liability for damages to Buyer or others resulting from the use of any product or service supplied hereunder shall in no way surpass the purchase price of said product or the fair market

value of said service, except in instances of injury to personnel or property.

### **Service Information**

#### **Contacting Universal Data Incorporated**

At Universal Data Incorporated, we do more than develop data collection solutions. We are a single resource for software and support that puts you in complete control of your operation.

Please send comments, questions, or technical problems to [support@udisolutions.com](mailto:support@udisolutions.com). Please include as much information about the problem so we can be of more help. The e-mail will be answered promptly.

Visit Universal Data on the World Wide Web at [www.udisolutions.com](http://www.udisolutions.com) or e-mail our Webmaster at [udiadmin@udisolutions.com](mailto:udiadmin@udisolutions.com)

Software requests or suggestions are welcomed. Contact us at [software@udisolutions.com](mailto:software@udisolutions.com). Please no software support questions. Please use [support@udisolutions.com](mailto:support@udisolutions.com) for all customer support issues.

### **Telephone**

Universal Data can be reached by phone between 8:00 A.M. and 5:00 P.M. Eastern Time, Monday through Friday.

Customer Support and General Sales line: (248) 634-4000

Universal Data Incorporated Sales and Support Fax: (248) 634-4310

### **PLEASE HAVE THE FOLLOWING AVAILABLE:**

Product serial number.

Software version number.

What were you doing when the problem occurred?

How have you tried to solve the problem?

NOTE: If there are questions about a UDI Handheld unit, please have the unit on-hand along with a fresh battery.

Revision A -- September 2003