# ValueRead® Manual
Contents

1. Introduction

ValueRead is a program for the Psion Workabout used to read meters. It supports manual reading, TouchRead (including command reading by pressing the * key or the 7 key), and RF (Radio Frequency) reading, with the ability to see missed reads. It also supports manual installs and TouchRead installs, with the ability to see missed installs. You can also choose to use a fixed route or walk a route randomly.

2. Getting Started

Start by turning on the handheld and then highlight the ValueRead icon.

If you get a message stating that the serial port is already in use and ValueRead can't run, make sure that no other programs are running in the background that make use of the port, such as the Comms program (when you get back to the screen with the VRS and Comms icons, you can select "Exit all applications" under the Apps menu to cause all other programs to quit). The error screen looks like this:
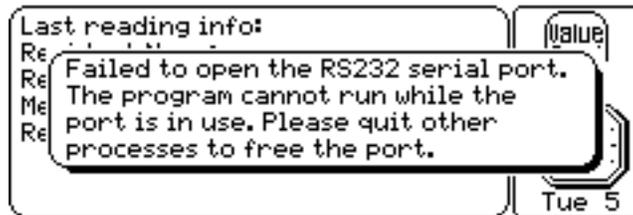
If everything goes well, you will see the main screen display.
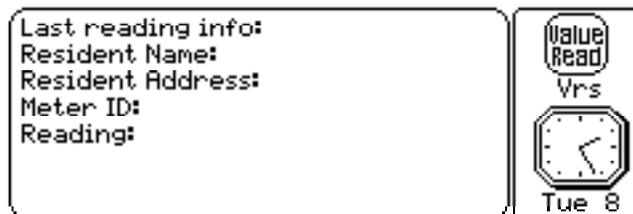
To view menu options press the Menu key. Here are the various menu items that are available:

```
┌─────────────────────────────────────────┐┌──────────────┐
│  View │ Install   Reads    File    Comm  ││   (Read)     │
│┌───────────────┐                         ││    Vrs       │
││View Route   ⌐R│                         ││              │
││View Reading ⌐E│                         ││   2:17       │
││View Install ⌐I│                         ││              │
│└───────────────┘                         ││    PM        │
│   Reauing.                               ││   Tue  2     │
│                                          ││              │
└──────────────────────────────────────────┘└──────────────┘

┌─────────────────────────────────────────┐┌──────────────┐
│  View │ Install │ Reads    File    Comm  ││   (Read)     │
│ R┌─────────────────────┐                 ││    Vrs       │
│ R│Wand Install       ⌐W│                 ││              │
│ M│Manual Install     ⌐Y│                 ││   2:17       │
│ R│See Missed Installs⌐O│                 ││              │
│  └─────────────────────┘                 ││    PM        │
│   Reauing.                               ││   Tue  2     │
└──────────────────────────────────────────┘└──────────────┘

┌─────────────────────────────────────────┐
│  View    Install │ Reads │ File    Comm  │
│ Reside┌────────────────────────────┐ ƎD) │
│ Reside│Comment Last Reading      ⌐Z│ ⌐s  │
│ Meter │Manual Reading            ⌐D│     │
│ Readir│See Missed Readings       ⌐F│ 7   │
│       │Fixed Route Mode          ⌐+│ m   │
│       │Deactivate Fixed Route Mode⌐−│ 2   │
│       │Goto Next Reading         ⌐N│     │
│       └────────────────────────────┘     │
└──────────────────────────────────────────┘

┌─────────────────────────────────────────┐
│  View    Install   Reads │ File │ Comm   │
│ Resident Name:┌────────────────────────┐ │
│ Resident Addres│List All Route Entries⌐A│ │
│ Meter ID:      │List All Reading Entries⌐B│ │
│ Reading:       │List All Install Entries⌐C│ │
│                │Delete Readings File  ⌐G│ │
│                │Delete Route File     ⌐H│ │
│                │Delete Install File   ⌐K│ │
│                └────────────────────────┘ │
└──────────────────────────────────────────┘

┌─────────────────────────────────────────┐
│  View    Install   Reads    File │ Comm │ │
│ Resident Name:┌────────────────────────┐ │
│ Resident Addre│Import Route          ⌐M│ │
│ Meter ID:     │Export Readings       ⌐P│ │
│ Reading:      │Export Install        ⌐J│ │
│               │Activate RF Reading Mode⌐L│ │
│               │About...              ⌐V│ │
│               │Exit                  ⌐X│ │
│               └────────────────────────┘ │
└──────────────────────────────────────────┘
```
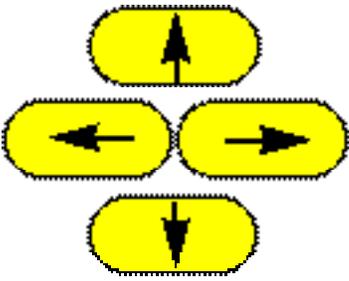
The following is a list of buttons and their associated action.

On/Esc Pressing the On button turns on the machine. Pressing this button during any ValueRead function will always take you back to the main screen unless explicitly noted.

Enter The Enter button will select menu options and dialog list lines for program processing.

Pressing the arrow keys will move the selection to the next menu or list line.

Switches the backlighting on and off.

Pressing the Menu key will bring up the ValueRead menu options.

Turns the machine off.

This key will delete text in dialog boxes where you enter text.

This special function key (called the Psion key) is used while pressing the X key to exit the ValueRead Program.
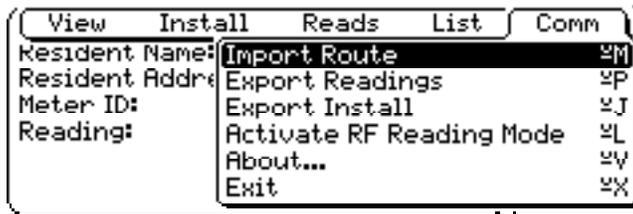
Further explanation of all the keys and their functions may be found in the Psion Workabout user guide.

3. Uploading

Before Readings may be taken, a route file must be loaded into your reader. There are two ways to get resident information into your reader. We will start with the easiest. This reader was designed to take route and reading information directly from ValueBill™. If you are using a different billing program please skip to the next section.
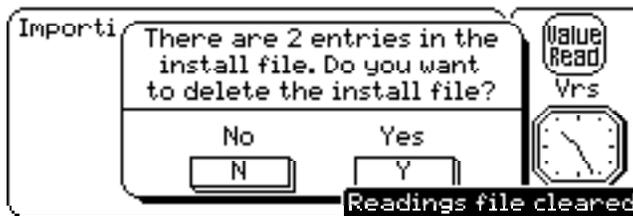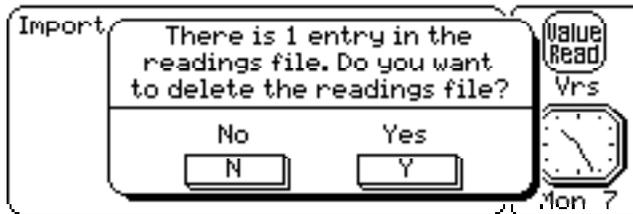
4. Getting a Route From ValueBill™ (skip if you have another billing package)

1). Connect the reader to your Mac or PC via cables provided with this system.

2). In ValueBill™ make sure your port selection in the preferences menu matches the serial port that you will be using to transfer the route file.

3). Goto the resident screen and click the "Send Route" button.

4). In ValueRead, press the menu key and then go to the Comm menu on your reader, highlight Import Route and press Enter:

```
┌─────────────────────────────────────────┐
│ View    Install    Reads    List │ Comm  │
│ Resident Name:│Import Route          ⌘M  │
│ Resident Addr │Export Readings       ⌘P  │
│ Meter ID:     │Export Install        ⌘J  │
│ Reading:      │Activate RF Reading Mode ⌘L│
│               │About...              ⌘V  │
│               │Exit                  ⌘X  │
└─────────────────────────────────────────┘

┌──────────────────────────────┐ ┌─────────┐
│ Importing a route file...    │ │ │Ualue│  │
│                              │ │ │Read │  │
│                              │ │   Vrs   │
│                              │ │   ╭──╮  │
│                              │ │   │  │  │
│                              │ │   ╰──╯  │
│        │Characters imported: 4647│       │
└──────────────────────────────┘ └─────────┘
```

At first, the number of characters imported will be shown as zero, but once the route file starts coming in, the number will count up very quickly. The text may be flashing rapidly. This is normal. The text flashes rapidly because it is continuously updated throughout the transfer so you can monitor the import process. You can load on as many route files as you wish, as long as you have enough disk space. The disk should hold up to about 5,000 route entries and 5,000 reading entries maximum, depending on the data.

After you import a route, ValueRead will ask if you want to delete the entries in the Readings and Install files, if entries exist:

```
┌────────────────────────────────────┐ ┌─────────┐
│ Import│ There is 1 entry in the    │ │ │Ualue│  │
│        │ readings file. Do you want│ │ │Read │  │
│        │ to delete the readings file?│ │  Vrs  │
│        │                           │ │  ╭──╮  │
│        │   No          Yes         │ │  │  │  │
│        │  ┌───┐       ┌───┐        │ │  ╰──╯  │
│        │  │ N │       │ Y │        │ │ Mon 7 │
│        │  └───┘       └───┘        │ │       │
└────────────────────────────────────┘ └─────────┘

┌────────────────────────────────────┐ ┌─────────┐
│ Importi│ There are 2 entries in the│ │ │Ualue│  │
│         │ install file. Do you want│ │ │Read │  │
│         │ to delete the install file?│ │ Vrs  │
│         │                          │ │  ╭──╮  │
│         │   No          Yes        │ │  │  │  │
│         │  ┌───┐       ┌───┐       │ │  ╰──╯  │
│         │  │ N │       │ Y │       │ │       │
│         │  └───┘  │Readings file cleared│    │
└────────────────────────────────────┘ └─────────┘
```

Note that if you clear the readings file, the acknowledgement text "Readings file cleared" appears in the lower right-hand corner of the screen, which will last for a few seconds. If you also clear the Install file, you will get a similar acknowledgement.

5. Uploading From Other Billing Software and Order Conversion (skip if you have ValueBill)

Part 1: Order repositioning

If you're not using ValueBill, then you probably have the special version of ValueRead that allows you to reposition the field orders of the route, readings, and install files. If you choose "Convert Route Positions" from the "Convert" menu, then you can rearrange how
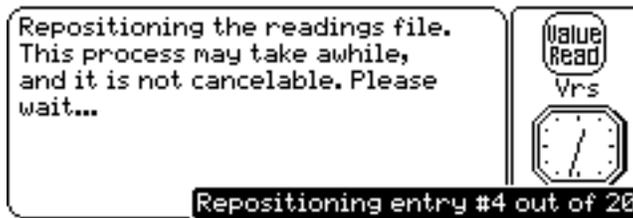
ValueRead will interpret the field order of the route file in the next two dialog boxes (Note: the default positions, which are the ones that are shown, are the positions used in ValueBill):
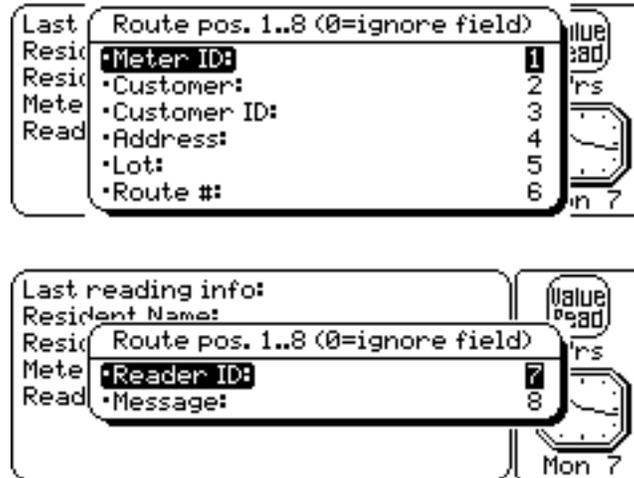
If you choose "Convert Reading Positions" from the "Convert" menu, you will see repositioning dialog boxes similar to the route position dialog boxes:
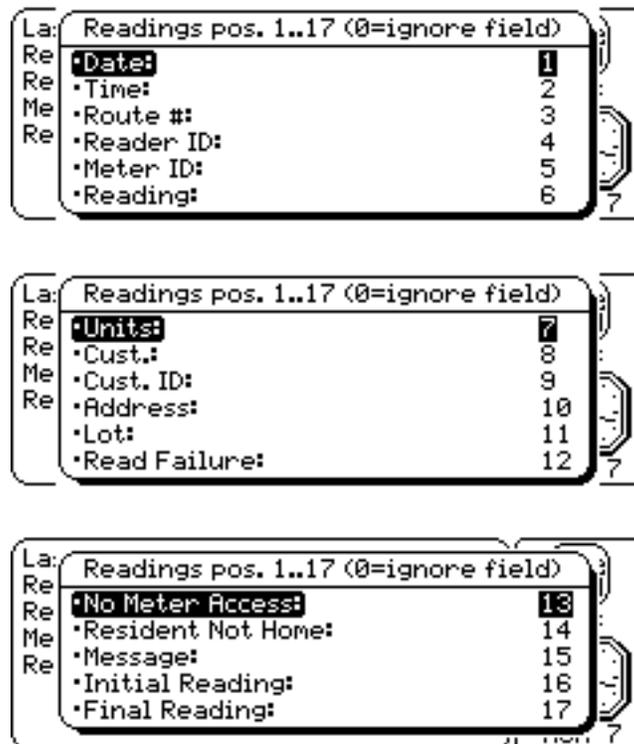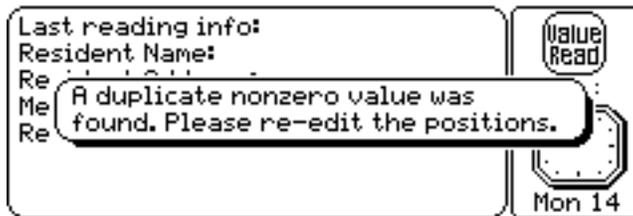

If you type a zero for a position, then the field will be completely ignored. If the numbers that you type are noncontinuous with some zero entries, then the numbers will be made into the smallest continuous sequence starting at 1 (e.g., if you type in 9, 2, and 6 as position entries with the rest being zero, the nonzero position entries will be changed to 3, 1, and 2 automatically). If all the nonzero entries are unique, then the repositioning will start:

```
Repositioning the readings file.       ⌜Value⌝
This process may take awhile,           ⌞Read ⌟
and it is not cancelable. Please         Vrs
wait...
                                        ╱────╲
                                       │  ╱   │
                                       │ ╱    │
                                        ╲────╱
Repositioning entry #4 out of 20
```
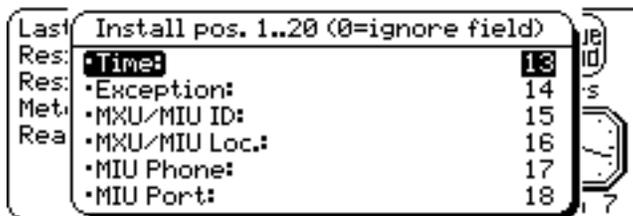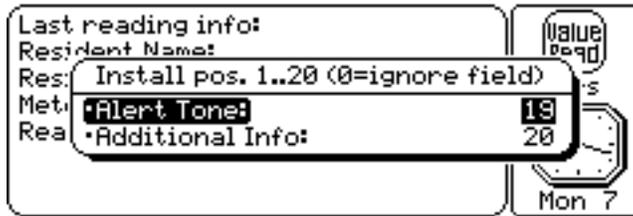
Unlike most processes in ValueRead, repositioning is not cancelable. If ValueRead is interrupted forcibly (i.e., if you press Psion+Escape to kill the process) and you relaunch ValueRead, then go through the repositioning dialog boxes again and let ValueRead reposition the file.

If you typed in a duplicate nonzero number, then ValueRead will inform you of this mistake:

```
Last reading info:                     ⌜Value⌝
Resident Name:                         ⌞Read ⌟
Re┌──────────────────────────────┐
Me│ A duplicate nonzero value was │
Re│ found. Please re-edit the positions.│
  └──────────────────────────────┘
                                        Mon 14
```

You can also reposition the install entries:

```
Las┌ Install pos. 1..20 (0=ignore field) ┐ue
Res│ � Meter ID:                   1│ID
Res│ •Reading:                           2│ s
Met│ •Customer:                          3│
Rea│ •Customer ID:                       4│
   │ •Address:                           5│
   │ •Lot:                               6│  7
```

```
Las┌ Install pos. 1..20 (0=ignore field) ┐ue
Res│ •Comments:                         7│ID
Res│ •Manufacturer:                      8│ s
Met│ •Size:                              9│
Rea│ •Type:                             10│
   │ •Installer ID:                     11│
   │ •Install Date:                     12│  7
```

```
Las┌ Install pos. 1..20 (0=ignore field) ┐ue
Res│ •Time:                            13│ID
Res│ •Exception:                       14│ s
Met│ •MXU/MIU ID:                      15│
Rea│ •MXU/MIU Loc.:                    16│
   │ •MIU Phone:                       17│
   │ •MIU Port:                        18│  7
```

With the order converter version of ValueRead, you need to use the Comms program to transfer the route, readings, and install file to and from your main workstation. See the section regarding the Comms program for instructions on how to do this. ValueRead will tell you to use the Comms program as in this example, if you try to use an import or export function:
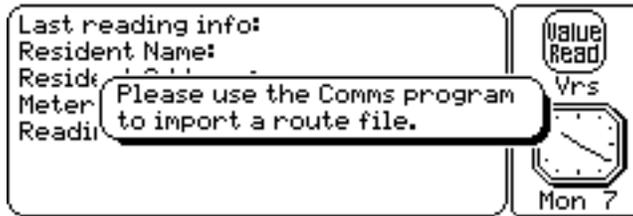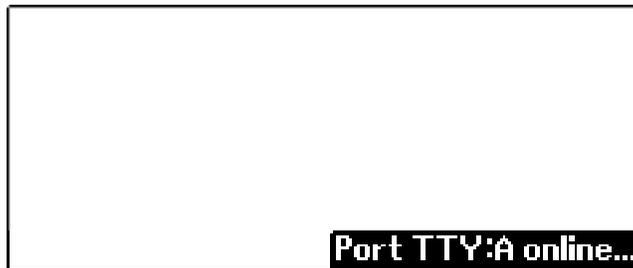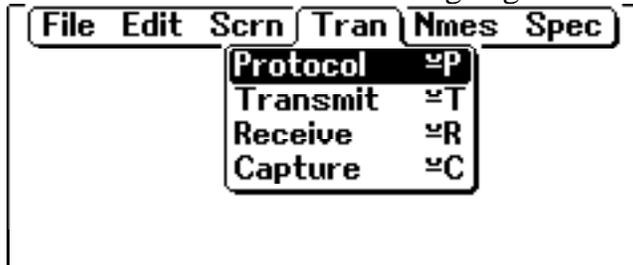

Part 2: Data transfer

A third party communications program is included on the same CD as the billing program. This communications program must be loaded onto your computer to do importing and exporting. Start the communications application and make sure your reader is attached via cables provided. To upload your ASCII text file onto your reader, follow this procedure:

1) Within the communications software on your computer, set the ports you will be using to communicate to and from your reader. Typically, serial connections through printer or modem ports work best. When your selections have been made, click O.K. and go to step 2.

2) On your computer, set your preferences to use the Zmodem protocol in the communications software if this is available; if Zmodem is not available, you can use Xmodem or Ymodem, but be sure to set the Psion for the same protocol. Select 9600 baud, 8 data bits, 1 stop bit, no local echo, no parity, XON/XOFF flow control. Prepare to send your ASCII text file, but do not press connect yet.

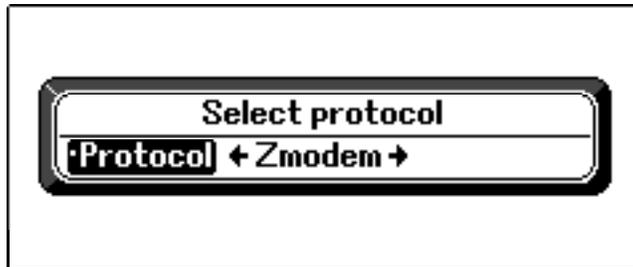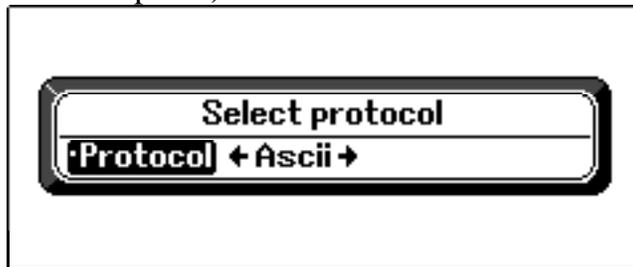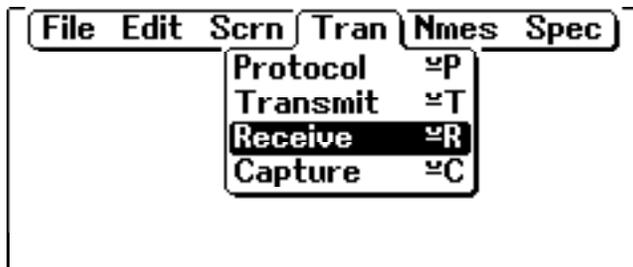3) On the reader , open the "Comms" communication program icon.

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Port TTY:A online...

Press the menu key. Go to the "Tran" menu and highlight Protocol.

File   Edit   Scrn   Tran   Nmes   Spec
```
Protocol    ⊻P
Transmit    ⊻T
Receive     ⊻R
Capture     ⊻C
```

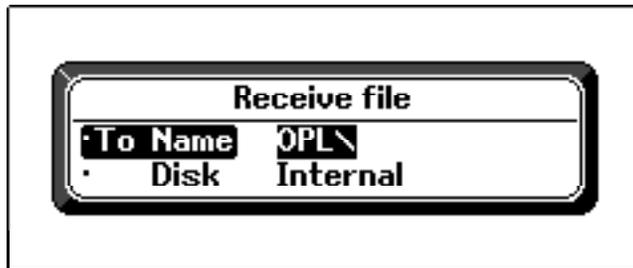Press the left arrow once to select Zmodem and then press Enter (or select whatever protocol you're using on your computer).

Select protocol
·Protocol ← Ascii →

Select protocol
·Protocol ← Zmodem →

Press menu again and highlight Receive, and press Enter.

File   Edit   Scrn   Tran   Nmes   Spec
```
Protocol    ⊻P
Transmit    ⊻T
Receive     ⊻R
Capture     ⊻C
```

"OPL" will be the default directory:

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```
        Receive file
·To Name    OPL\
·     Disk    Internal
```

Type in "app" and press Enter (N.B.: if you are using the Xmodem protocol, you also need to specify the file name, so you should type in "app\Route.txt" at the prompt instead of just "app"):

```
        Receive file
·To Name    app
·     Disk    Internal
```
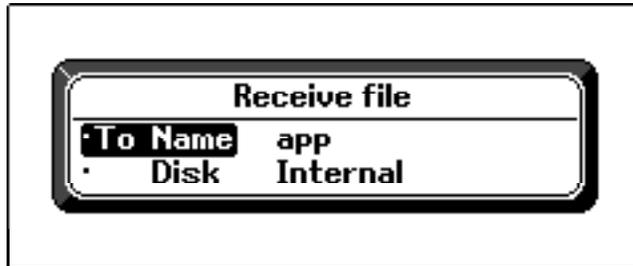
4) Press connect on the computer communications program and on the handheld to begin uploading the route information from the text file "Route.txt". When connection attempts are occurring, this screen should appear:

```
    Receive protocol "Zmodem"
            "M:\APP\"
           Connect 1

            Abandon
             Esc
```
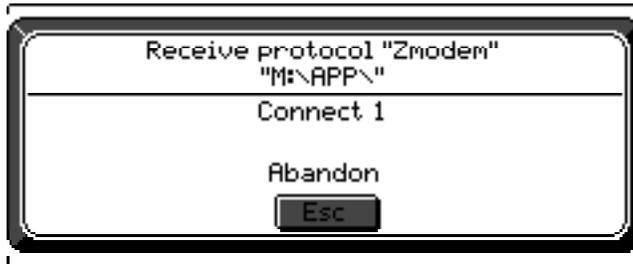
When the Zmodem transfer begins, a screen similar to this one will appear (it should say "M:\APP\ROUTE.TXT" for the path right underneath the first line of text that tells you the receive protocol):

```
    Receive protocol "Zmodem"
          "M:\APP\VRS.IMG"
            Block 0

            Abandon
             Esc
```

5) The upload rate is 9600 baud. This correlates to about 10 names per second, depending on the size of the data you're using. When the transfer is complete the computer will beep. If you see quotes or commas when you take a reading you must clean up your text file and re-load the information (Some programs may include quotes or commas with the tab delimitation; this may be a preference setting in your billing program). Your ValueRead program is now ready for use with the wand. If you want to make sure

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everything is ready, you can select "List All Route Entries" in the File menu to see that all your route entries are properly loaded.

6. Route Information

Route information should be uploaded from your computer and into the Psion before every reading period to make sure you are using the most current resident information. The ValueRead software does not allow editing of the route information from within the program. The route may be seen but not changed within ValueRead. All changes to route information must be made from the source billing program.
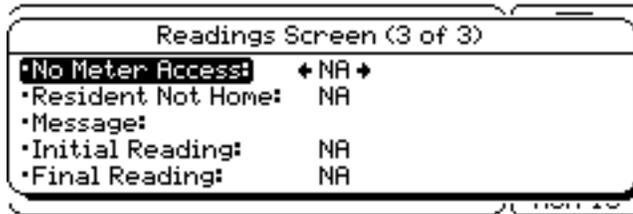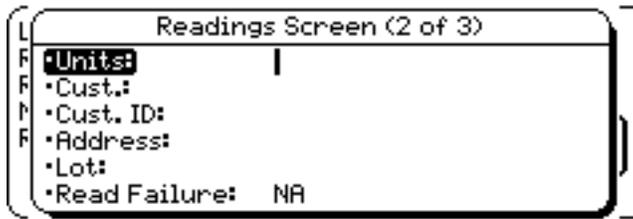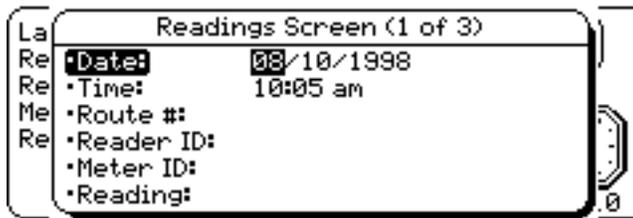
7. Manual Reads

Go to the Reading menu and highlight Manual Reading and press Enter. ValueRead will present a message asking for an address or lot number.

Type in an address or lot number and press Enter. If you are not sure of the exact address, just type in the first few numbers or part of the street name and press Enter (lot numbers are searched using an exact match, whereas addresses are searched using a case insensitive substring match). The reader will search the route file and display all appropriate matches in a list if there is more than one match. If you type in "hwy" or "HWY", you will get a screen similar to this one:

To choose the entry that you want to read, push the up or down arrow keys to get to the entry and press Enter. If the entry isn't on the screen, choose "(Next Screen)" and press Enter. The text "(Next Screen)" turns into "(Abort)" if the current screen is also the last screen that will be displayed. On any of the manual reading screens, the On/Esc key will cancel the manual read. If there is only one match, then ValueRead takes you directly to the screen where you can enter the reading information. This will bring up the first of three screens for entering the reading, comments, and other information. The screens look like the following: (you should only have to type in a reading):

```
┌─────────────────────────────────────┐
La│    Readings Screen (1 of 3)       │
Re│ ▮Date▮        08/10/1998          │
Re│ •Time:        10:05 am            │
Me│ •Route #:                        │
Re│ •Reader ID:                      │
  │ •Meter ID:                       │
  │ •Reading:                        │
└─────────────────────────────────────┘

┌─────────────────────────────────────┐
L │    Readings Screen (2 of 3)       │
F │ ▮Units▮          |               │
F │ •Cust.:                          │
N │ •Cust. ID:                       │
F │ •Address:                        │
  │ •Lot:                            │
  │ •Read Failure:   NA              │
└─────────────────────────────────────┘

┌─────────────────────────────────────┐
  │    Readings Screen (3 of 3)       │
  │ ▮No Meter Access▮    ← NA →       │
  │ •Resident Not Home:   NA          │
  │ •Message:                        │
  │ •Initial Reading:     NA          │
  │ •Final Reading:       NA          │
└─────────────────────────────────────┘
```
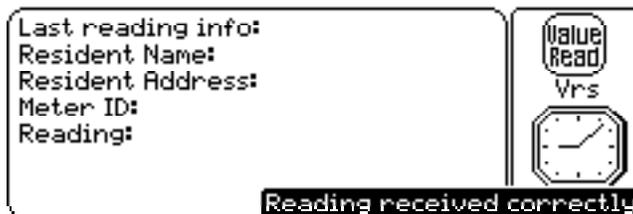
Pressing Enter will take you through the multiple dialog boxes until you are asked to save the reading.

```
┌────────────────────────────┐ ┌───────┐
│Last reading info:          │ │┌─────┐│
│Residen┌─────────────────┐  │ ││Value││
│Residen│Please make a    │  │ ││Read ││
│Meter I│    choice:      │  │ │└─────┘│
│Readind│▮ ▮Save reading▮ │  │ │  Vrs  │
│       │  • Edit current │  │ │ ┌───┐ │
│       │    reading      │  │ │ │   │ │
│       │  • Abort        │  │ │ │   │ │
│       └─────────────────┘  │ │ └───┘ │
│                            │ │Mon 14 │
└────────────────────────────┘ └───────┘
```
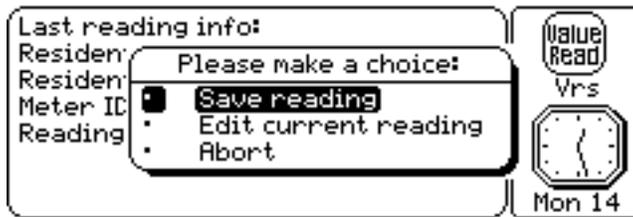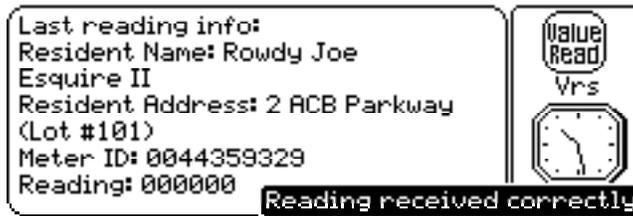
Save the manual reading to file by pressing Enter while "Save reading" is highlighted. Once the reading is saved, the last reading information on the main screen is updated.

8. Wand Reading

Plug the wand into the RS232 port on the top of the reader and tighten the connection fittings (Note: if you tighten the screws just enough so that the connection doesn't jiggle or if the connection jiggles only slightly, then the screws should be tight enough). Be sure the switch on the wand is set to the run position. Good readings are indicated by the text "Reading received correctly" in the lower right corner of the screen, then a high tone audio beep, followed by the updating of the pertinent account information on the main screen:

```
┌────────────────────────────┐ ┌───────┐
│Last reading info:          │ │┌─────┐│
│Resident Name:              │ ││Value││
│Resident Address:           │ ││Read ││
│Meter ID:                   │ │└─────┘│
│Reading:                    │ │  Vrs  │
│                            │ │ ┌───┐ │
│                            │ │ │   │ │
│                            │ │ │   │ │
│     ▮Reading received      │ │ └───┘ │
│      correctly▮            │ │       │
└────────────────────────────┘ └───────┘
```

```
Last reading info:
Resident Name: Rowdy Joe
Esquire II
Resident Address: 2 ACB Parkway
(Lot #101)
Meter ID: 0044359329
Reading: 000000          Value
                         Read
                         Vrs

                    Reading received correctly
```

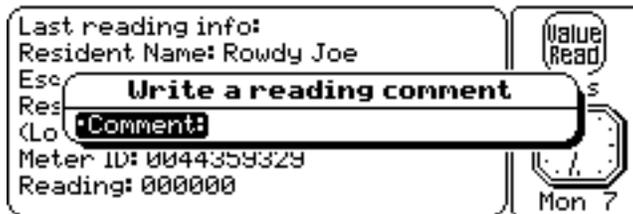The "Reading received correctly" text appears before the audible beep and before the account information is updated. The "Reading received correctly" text automatically disappears after a few seconds, resulting in a screen that looks like this:

```
Last reading info:
Resident Name: Rowdy Joe
Esquire II
Resident Address: 2 ACB Parkway
(Lot #101)
Meter ID: 0044359329
Reading: 000000

                         Value
                         Read
                         Vrs

                         Mon 7
```
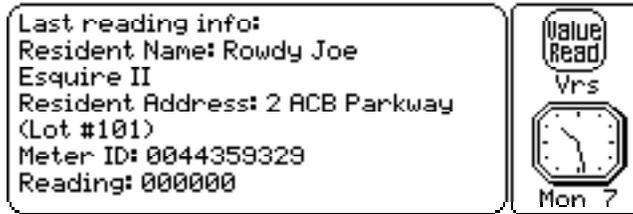
If you have a TouchRead wand that works by command reading, then instead of plunging the wand on the touchpad, you hold the wand on the touchpad while pressing either the * key or the 7 key to prompt the wand to take a reading.

If an error occurs while processing the information from the wand (i.e., if a bad read occurs), ValueRead will alert you by making a ringing sound. The screen will remain completely unchanged when a bad reading occurs. Bad reads may be due to a loose wire connection from the pad to the meter head. Occasionally, this problem may be due to a bad meter head. The meter head may need to be repaired or replaced. You may also want to make sure the wand is fastened to the handheld securely and properly in the RS232 serial port.

If you want, you can make a comment right after a wand reading. Choose "Comment Last Reading" from the "Reads" menu, and ValueRead will prompt you to type in a comment:

```
Last reading info:
Resident Name: Rowdy Joe
Esc                                    Value
        Write a reading comment        Read
Res                                  s
(Lo  [Comment:]
Meter ID: 0044359329
Reading: 000000
                                       Mon 7
```

If commenting the last reading is not allowed, ValueRead will present a dialog box telling you when it is allowed.

9. RF (Radio Frequency) Reads

Not all versions of ValueRead come with the capability to read RF meters. If your version doesn't have this capability, then a dialog box appears:

```
┌─────────────────────────┐ ┌───────┐
│Last reading info:       │ │ Value │
│Re┌─────────────────────┐│ │       │
│Re│ RF reading mode is not││ │       │
│Re│ available in this version.││  v  │
│Me│ Please call ABT Water Treatment││  │
│Re│ to upgrade. Phone: 1-800-697-9096││ │
│  └─────────────────────┘│ │       │
│                         │ │ Mon 28│
└─────────────────────────┘ └───────┘
```
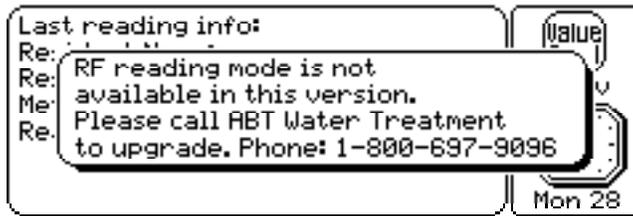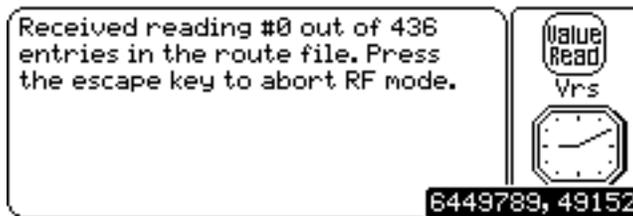
To do RF reading, simply connect the RF receiver unit up to the TTL port on the top of the Workabout, and select "Activate RF Reading Mode" from the "Comm" menu. If something went wrong when trying to establish a connection to the RF receiver unit, then the text "Activating RF mode failed." will appear on the screen in the lower right corner (be sure to check your connection if this happens):
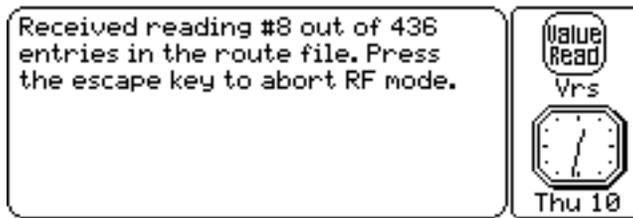
```
┌─────────────────────────┐ ┌───────┐
│Last reading info:       │ │ Value │
│Resident Name:           │ │ Read  │
│Resident Address:        │ │  Vrs  │
│Meter ID:                │ │       │
│Reading:                 │ │  ⌾    │
│                         │ │       │
│         Activating RF mode failed.│
└─────────────────────────┘ └───────┘
```

When the link to the RF unit is established, the following screen will appear for possibly several seconds:

```
┌─────────────────────────┐ ┌───────┐
│Analyzing files. Please wait...│ │ Value │
│                         │ │ Read  │
│                         │ │  Vrs  │
│                         │ │       │
│                         │ │  ⌾    │
│              RF mode activated.│
└─────────────────────────┘ └───────┘
```

Once ValueRead starts taking RF reads, the text on the screen will tell you how many reads have been received out of the number of entries in the route file. The text in the lower right-hand corner of the screen tells you the current meterID and reading, respectively, currently being processed:

```
┌─────────────────────────┐ ┌───────┐
│Received reading #0 out of 436│ │ Value │
│entries in the route file. Press│ │ Read  │
│the escape key to abort RF mode.│ │  Vrs  │
│                         │ │       │
│                         │ │  ⌾    │
│              6449789, 49152│
└─────────────────────────┘ └───────┘
```

If you aren't getting any RF reads, then the meterID and reading text does not show up on the screen:

```
┌─────────────────────────────────┐ ┌────────┐
│ Received reading #8 out of 436  │ │ Value  │
│ entries in the route file. Press│ │ Read   │
│ the escape key to abort RF mode.│ │  Vrs   │
│                                 │ ├────────┤
│                                 │ │   ╲    │
│                                 │ │    ╲   │
│                                 │ │        │
│                                 │ │ Thu 10 │
└─────────────────────────────────┘ └────────┘
```

If the RF receiving unit becomes disconnected from the Workabout, the text "Link to RF unit failed; Re-initializing..." appears:

```
┌─────────────────────────────────┐ ┌────────┐
│ Received reading #8 out of 436  │ │ Value  │
│ entries in the route file. Press│ │ Read   │
│ the escape key to abort RF mode.│ │  Vrs   │
│                                 │ ├────────┤
│                                 │ │   ╲    │
│                                 │ │    ╲   │
│                                 │ │        │
│ ███Link to RF unit failed; Re-initializing...███│
└─────────────────────────────────┘ └────────┘
```
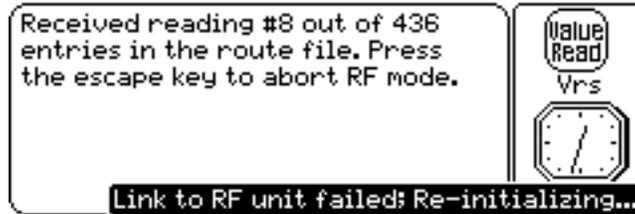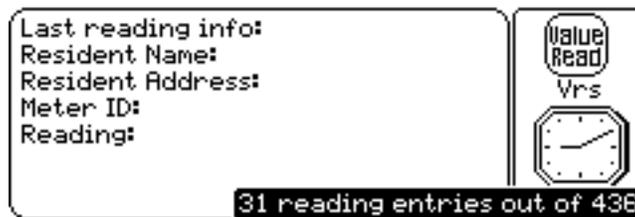
When you reconnect the RF receiving unit, RF reads will continue as usual:

```
┌─────────────────────────────────┐ ┌────────┐
│ Received reading #19 out of 436 │ │ Value  │
│ entries in the route file. Press│ │ Read   │
│ the escape key to abort RF mode.│ │  Vrs   │
│                                 │ ├────────┤
│                                 │ │   ___  │
│                                 │ │  ╱     │
│                                 │ │        │
│            ███6440108, 49152███ │ │        │
└─────────────────────────────────┘ └────────┘
```
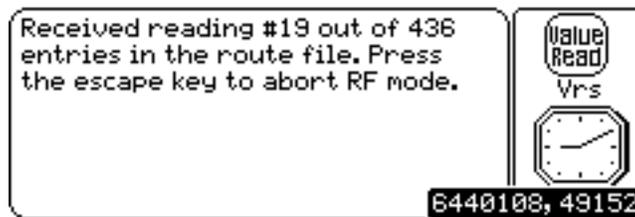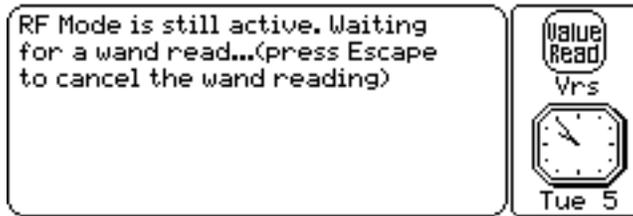
You may notice that the noninverted text that tells how many reads have been received is not updated continuously. This is done to help improve performance.

Pressing the On/Esc key will deactivate RF mode. When RF mode is deactivated, a final count of the number of readings received is briefly displayed on the screen:
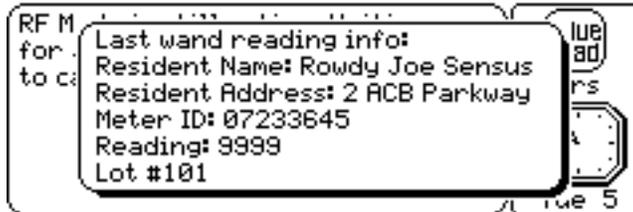
```
┌─────────────────────────────────┐ ┌────────┐
│ Last reading info:              │ │ Value  │
│ Resident Name:                  │ │ Read   │
│ Resident Address:               │ │  Vrs   │
│ Meter ID:                       │ ├────────┤
│ Reading:                        │ │   ___  │
│                                 │ │  ╱     │
│ ███31 reading entries out of 436███│ │        │
└─────────────────────────────────┘ └────────┘
```

Doing a manual read while in RF mode is straightforward: while in RF mode, choose "Manual Reading" from the "Reads" menu and proceed as usual.

To do a wand read while in RF mode, press the Enter key. The screen will change to the following:
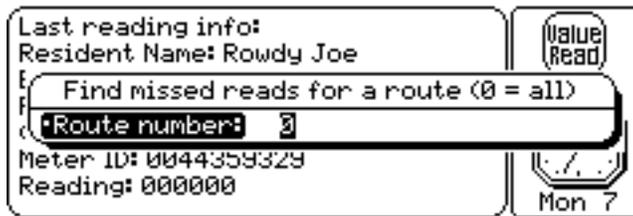
15

```
RF Mode is still active. Waiting
for a wand read...(press Escape
to cancel the wand reading)
```
```
Value
Read
 Vrs

 Tue 5
```

Once you take a wand reading, a dialog box appears, tellng you what the last reading was:

```
RF M                             lue
for .   Last wand reading info:   ad
to c;   Resident Name: Rowdy Joe Sensus
        Resident Address: 2 ACB Parkway  rs
        Meter ID: 07233645
        Reading: 9999
        Lot #101
                                  Tue 5
```
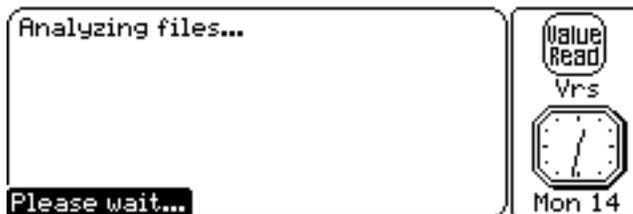
You must press the Enter key to dismiss the dialog box and continue taking RF reads. If you press Escape to cancel the wand read, then RF reads continue as usual, unless you press Escape a second time to cancel RF mode.
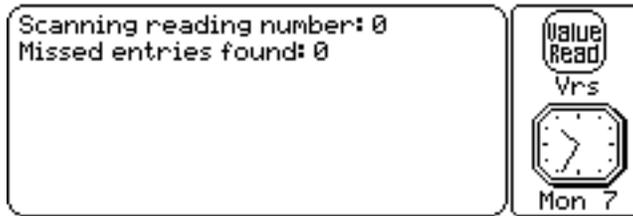
10. Viewing Missed Readings

To find missed readings, choose "See Missed Readings" under the "Reads" menu. You will then be prompted for a route number. Leave the route number at 0 to look at all the routes:

```
Last reading info:              Value
Resident Name: Rowdy Joe        Read
   Find missed reads for a route (0 = all)
  •Route number:   0
Meter ID: 0044359329
Reading: 000000                 Mon 7
```

The next screen may take awhile. Please be patient:

```
Analyzing files...              Value
                                Read
                                 Vrs


Please wait...                  Mon 14
```

The next screen tells you the scanning progress:

16

```
Scanning reading number: 0
Missed entries found: 0
```
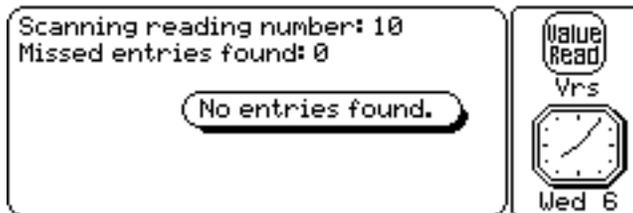
When six missed entries build up, then ValueRead will show you the first five entries with the "(Next Screen)" selection:

```
            Readings Missed:
■  (Next Screen)
·   177, 6219 US HIGHWAY 51 SOUTH, F  BECKEI
·   198, 6219 US HIGHWAY 51 SOUTH, MATT  STI
·   293, 6219 US HIGHWAY 51 SOUTH, ARLENE  [
·   295, 6219 US HIGHWAY 51 SOUTH, DONALD  I
·   314, 6219 US HIGHWAY 51 SOUTH, JUDY  SHI
```

If you select a particular entry in the list and press Enter, then you can see more detailed information about that particular entry. If there isn't anymore entries, then the selection would say "(Abort)", just like in the other lists:
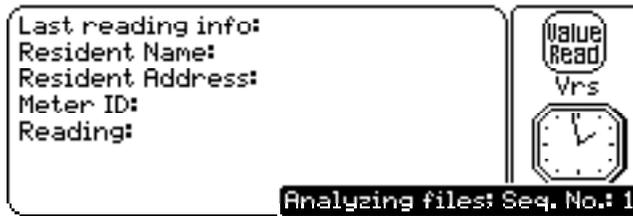
```
            Readings Missed:
■  (Abort)
·   13, 6219 US HIGHWAY 5, DAVID  GERARD
·   16, 6219 US HIGHWAY 5, MARK  SAHY
·   17, 6219 US HIGHWAY 5, DAVID  BRETZMAN
·   18, 6219 US HIGHWAY 5, RUTH POSEY
·   101, 2 ACB Parkway, Rowdy Joe Esquire
```
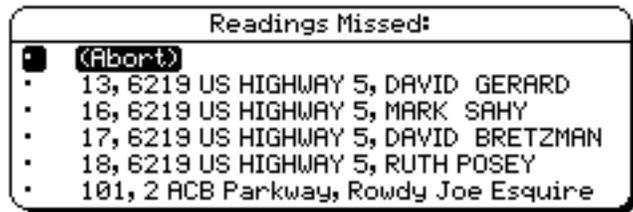
If no missed entries are found, then the following dialog box is displayed:

```
Scanning reading number: 10
Missed entries found: 0
        (No entries found.)
```
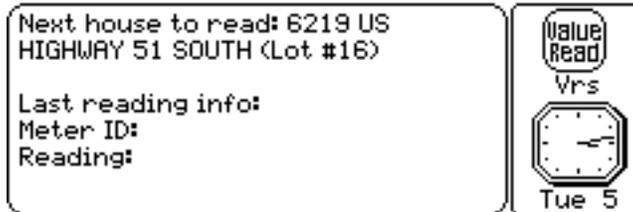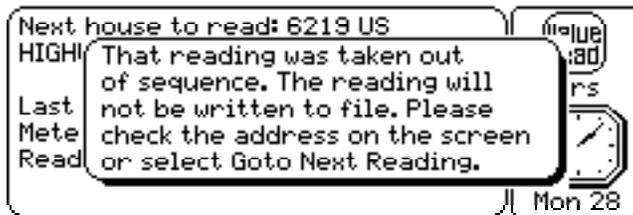
11. Fixed Routes

If you want to use a fixed route instead of the default random route mode, then choose "Fixed Route Mode" from the "Reads" menu. The fixed route mode works by looking at a sequence number provided with each route entry. The sequence number must have a value of at least 1, but the sequence number can skip a few numbers and the fixed route mode will work. When you activate the mode, ValueRead will first analyze the route file, then the screen will look like this (probably momentarily if the route file is small):
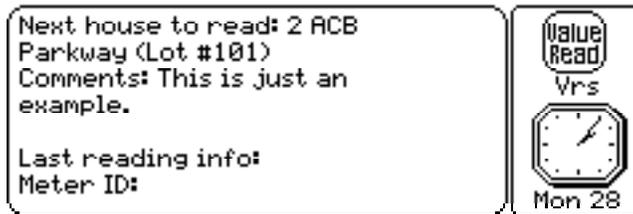
```
Last reading info:
Resident Name:
Resident Address:
Meter ID:
Reading:

                Analyzing files: Seq. No.: 1
```

The next screen will be the first nonread screen in the route:

```
Next house to read: 6219 US
HIGHWAY 51 SOUTH (Lot #16)

Last reading info:
Meter ID:
Reading:
```

If you take a reading out of sequence, then the following message is displayed:

```
Next house to read: 6219 US
HIGH  That reading was taken out
      of sequence. The reading will
Last  not be written to file. Please
Mete  check the address on the screen
Read  or select Goto Next Reading.
```
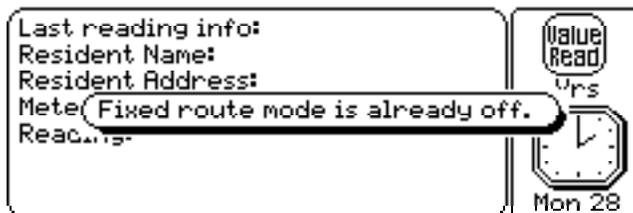
If you can't take a certain reading in the route, then choose "Goto Next Reading", and the next reading to take will be displayed on the screen. If a route entry has a comment, then the comment will be displayed on the screen with the address:

```
Next house to read: 2 ACB
Parkway (Lot #101)
Comments: This is just an
example.

Last reading info:
Meter ID:
```

When all the readings have been taken for the route, then ValueRead will notify you of this:

```
Last reading info:
Resident Name:
Residen
Meter I   The readings are all done
Reading   for this route.
```

18
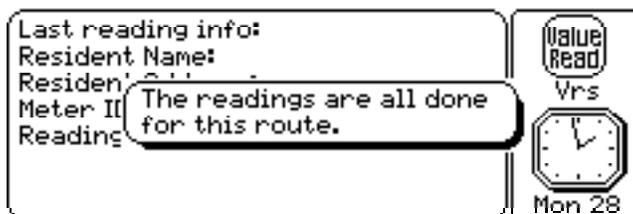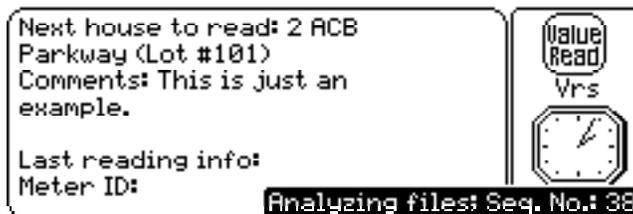
If you try to turn off fixed route mode and it is already off, then the following dialog box will be shown:

```
Last reading info:
Resident Name:
Resident Address:
Mete( Fixed route mode is already off. )
Read....g.
                                          Value
                                          Read
                                          Vrs

                                          Mon 28
```

Also, if you try to go to the next reading and fixed route mode is not active, then:

```
Last reading info:
Resident Name:
Resid( Going to the next reading
Mete|  is only available in fixed-route
Read\  mode.
                                          Value
                                          Read
                                          rs

                                          Mon 28
```
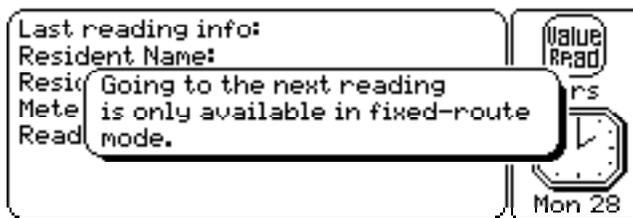
Between fixed route reads, you may notice the black text show up in the lower right corner:

```
Next house to read: 2 ACB
Parkway (Lot #101)
Comments: This is just an
example.

Last reading info:
Meter ID:        Analyzing files: Seq. No.: 38
                                          Value
                                          Read
                                          Vrs
```
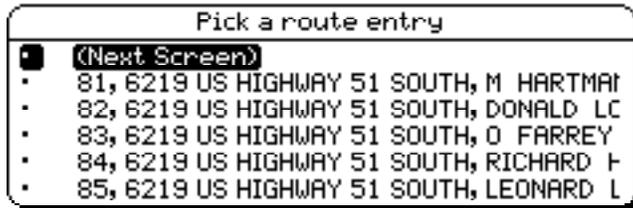
The text may stay on for awhile for large route files, and the number may increase a lot before the next address to read pops up on the screen. The number will count up a lot if a bunch of sequence numbers were skipped (e.g., if your sequence numbers range from 1 to 20 but then jump up to 70).

12. Listings

To see the route list go to the List menu, highlight "List All Route Entries", and press Enter. To see the reading list go to List menu, highlight "List All Reading Entries", and press Enter. You can also see a list of all the Install entries by selecting "List All Install Entries". If nothing comes up after half a second, then some text will pop up on the screen and start flashing, telling you that the entries are being counted (this only happens for files with at least a moderate number of entries; about 200 reading entries or more, or about 400 or more route entries, and comparable amounts for the install file):

```
Last reading info:
Resident Name: Rowdy Joe
Esquire II
Resident Address: 2 ACB Parkway
(Lot #101)
Meter ID: 0044359329
Counting entries...
```
```
Value
Read
Vrs

Mon 7
```

A screen similar to the following should appear:

```
              Pick a route entry
  ■  (Next Screen)
  ·   81, 6219 US HIGHWAY 51 SOUTH, M  HARTMAN
  ·   82, 6219 US HIGHWAY 51 SOUTH, DONALD  LC
  ·   83, 6219 US HIGHWAY 51 SOUTH, O  FARREY
  ·   84, 6219 US HIGHWAY 51 SOUTH, RICHARD  F
  ·   85, 6219 US HIGHWAY 51 SOUTH, LEONARD  L
```

Usually, each line has these entries in this order: lot number, address, and customer name. If the entry doesn't contain any of that information, then the line shows these fields in this order: meterID, and reading. If a field is longer than 17 characters long, then the field in the list box is truncated to 17 characters. If an entry doesn't have a lot number, address, customer name, meterID, or a reading to display, then a line entry will be "(nothing displayable)".

To see more, click on the "(Next Screen)" option. To see more information on an entry, select it and press Enter. The appropriate display screens will appear so you can see all the information for that entry. The "(Next Screen)" option changes to "(Abort)" for the last screen. You can press On/Esc at any time to dismiss the listing.
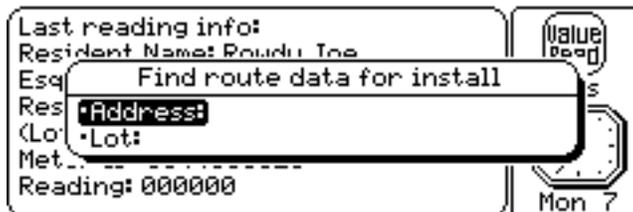
13. Installs Reading Route - (Skip this section if you already have meter ID's for each resident.)

This procedure is used to link new meters to new or existing residents. This linking procedure may be used for single installations or large scale, several hundred new meters. Electronic install requires that a name and address be in the route file for proper linking. If you do not have Electronic Coded Register (ECR) meters skip to the manual install section.
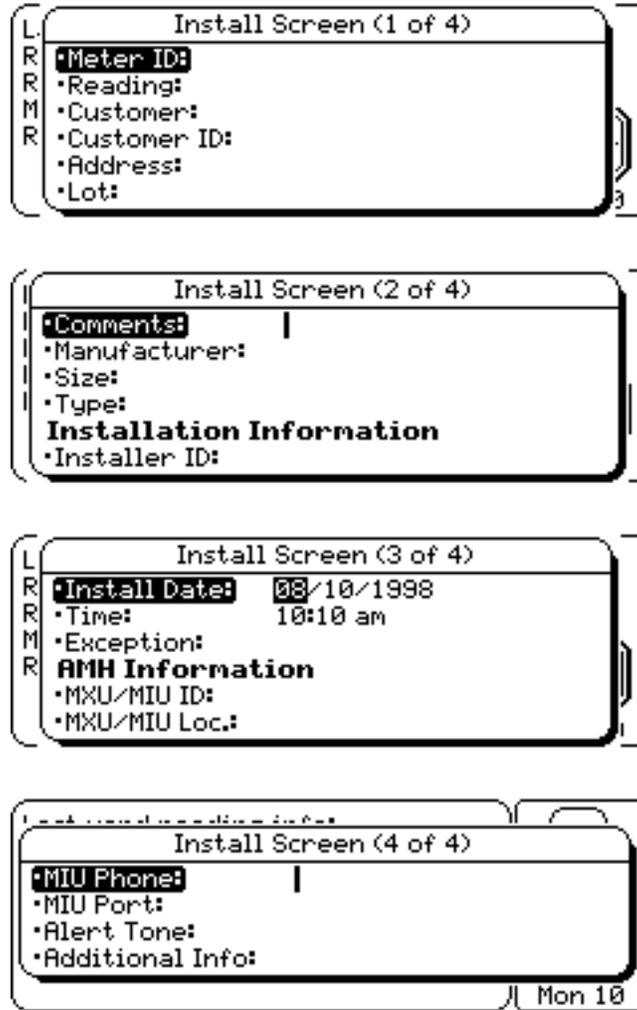
You can see missed installs if you are installing new meters (it is the last menu item in the "Install" menu). You can have both an install route and a regular route file loaded simultaneously and the See Missed Installs and See Missed Readings features will still work.

14. Manual Install for Dial Read Meters

Choose "Manual Install" from the "Install" menu. You will be prompted to enter in some data for the install:
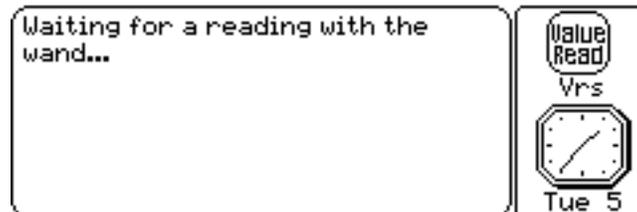
```
Last reading info:
Resident Name: Rowdy Joe
Esq      Find route data for install
Res   ■Address:
(Lo    ·Lot:
Met
Reading: 000000
```
```
Value
Read

Mon 7
```

20

The rest is the same as with manual reads, except the install screens look different:

```
L ┌──── Install Screen (1 of 4) ────┐
R │ ▐Meter ID:▌                      │
R │ •Reading:                        │
M │ •Customer:                       │
R │ •Customer ID:                    │
  │ •Address:                        │
  │ •Lot:                            │
  └──────────────────────────────────┘

  ┌──── Install Screen (2 of 4) ────┐
  │ ▐•Comments:▌         |           │
  │ •Manufacturer:                   │
  │ •Size:                           │
  │ •Type:                           │
  │ Installation Information         │
  │ •Installer ID:                   │
  └──────────────────────────────────┘

L ┌──── Install Screen (3 of 4) ────┐
R │ ▐Install Date:▌   08/10/1998     │
R │ •Time:           10:10 am        │
M │ •Exception:                      │
R │ AMH Information                  │
  │ •MXU/MIU ID:                     │
  │ •MXU/MIU Loc.:                   │
  └──────────────────────────────────┘

  ┌──── Install Screen (4 of 4) ────┐
  │ ▐MIU Phone:▌        |            │
  │ •MIU Port:                       │
  │ •Alert Tone:                     │
  │ •Additional Info:                │
  └──────────────────────────── Mon 10
```

As with a manual read, you will be prompted to save the install, edit the install, or abort. When you save a manual install, the manual install process will run again automatically until you abort at any time by pressing the On/Esc key.

15. Electronic Install for ECR Meters

To do an electronic (or wand) install, choose "Wand Install" from the "Install" menu. The screen changes to the following:

```
┌──────────────────────┐ ┌─────────┐
│ Waiting for a reading │ │ ⌐Value⌐ │
│ with the              │ │ │Read│  │
│ wand...               │ │ Vrs     │
│                       │ ├─────────┤
│                       │ │   ◔     │
│                       │ │         │
│                       │ │ Tue  5  │
└──────────────────────┘ └─────────┘
```

If you get a good read, then you will be prompted for an address or a lot number (note that wand installs do not give an audio chime for a good reading, but you will get the rings if a bad reading occurs). At this point, it is like taking a manual reading, except that if you

save the entry, the entry will be saved to the Install file. If you want to abandon wand install mode, keep pressing the On/Escape key until you get the main screen.

16.   Downloading

There are two ways to get information from your reader. As before we will start with the easiest which is to the ValueBill™ Billing program. If you have not purchased ValueBill™ please skip to the other billing software section.

To ValueBill™ - Proceed with the following steps:

1). Connect the reader to your Mac or PC via cables provided with this system.
2). In ValueBill™ make sure your port selection in the preferences menu matches the port where you connected the cable.
3). Select "Export Readings" from the Comm menu (or select "Export Install" to get new installs).
4). In ValueBill in the Readings screen, click on "Get Readings". If you want to get an install, click the "Get Install" button (it is also on the Readings screen).
5). Now click continue on your computer to complete the download procedure. Your readings will load quickly. To display the reading list from ValueRead, go to the List menu, highlight "List All Reading Entries", and press Enter.

17. Downloading To Other Billing Software

You must download via the Comms program on the Psion, and the communications application program provided with the ValueRead™ package. Protocols remain the same as described in section 2. The reader sends an Ascii delimited file. Be sure that you have the column positions set correctly, and the file that you choose to export is "Readings.txt".

1) Within the communications software, make sure you have selected the ports you will be using to communicate to and from your computer. Typically, serial connections through printer or modem ports work best. When your selections have been made, click OK and go to step 2.

2) On your computer, set your preferences to use the Zmodem protocol in the communications software. Select 9600 baud, 8 data bits, 1 stop bit, no echo, no parity. Prepare to receive an ASCII text file, but do not press connect yet.
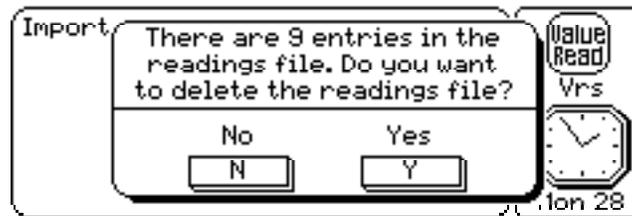
3) On the reader , open the "Comms" communication program icon. Press the menu key. Go to the "Tran" menu and highlight Protocol. Press the left arrow until you see Zmodem and then press Enter. Press menu again and highlight Transmit, and press Enter. Make sure to go to the "APP\" directory and select "Readings.txt", then press Enter (or you can select "Install.txt" if you want the install file), then press Enter again to start the transmission.

4) Press connect on the computer communications program to begin downloading the Readings file.
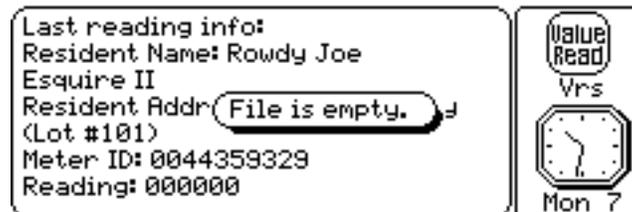
5) The download rate is 9600 baud. This correlates to about 5 names per second, depending on the data used. When complete the reader will beep. Your readings or installs are now ready to be imported into your billing program.

18. Deleting old files

After a reading and install cycle, you should delete the old readings, route, and install files so you can store fresh information for the next reading cycle. The delete files menu items are the last three menu items in the Reads menu. When you select one, you will get a confirmation dialog box similar to this one:

```
Import    There are 9 entries in the      Value
          readings file. Do you want      Read
          to delete the readings file?     Vrs

            No          Yes
          ┌─────┐     ┌─────┐
          │  N  │     │  Y  │
          └─────┘     └─────┘          Mon 28
```
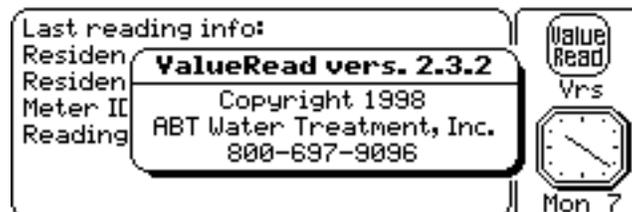
If you press "Y" to delete the file, then all entries will be cleared from the file. If you press "N" or On/Esc, then the file will be left intact. If the file is empty, you should see a dialog box telling you this:

```
Last reading info:                        Value
Resident Name: Rowdy Joe                  Read
Esquire II                                 Vrs
Resident Addr File is empty.
(Lot #101)
Meter ID: 0044359329
Reading: 000000                          Mon 7
```

19. The "About..." Screen

In case you want to show off your program to a friend, or you want to contact ABT Water Treatment, Inc., choose "About..." from the "Comm" menu, and a dialog box similar to this one will be displayed:

```
Last reading info:                        Value
Residen                                   Read
Residen  ValueRead vers. 2.3.2            Vrs
Meter II      Copyright 1998
Reading  ABT Water Treatment, Inc.
               800-697-9096              Mon 7
```

20. Tech Support / ABT Software Support

Regular Hours Weekdays 9:00 am - 5:00 pm CST

Customer Service Request.............................800-697-9096

Software Questions...800-697-9096 or trentk@inwave.com

Tech Support (Mac).......................................800-697-9096 or trentk@inwave.com

Tech Support (Win)..608-363-0887 or markj@inwave.com

Additional Product Sales........................... 800-697-9096

Fax...608-364-4116

To take advantage of your 90 day free support you must mail or fax your warranty card and complete sales receipt to ABT. 90 day support begins on the date of purchase. For annual support contract pricing beyond 90 days please contact ABT.

ABT Technologies
2 ABC Parkway
Suite 101
Beloit, WI 53511

21. Bug reporting

The ValueRead software is made to be as intuitive and as easy to use as possible, and it goes through extensive and thorough testing before a public release. If something doesn't seem to perform correctly or intuitively, then please report what the software does and suggest what the software should do. Feature requests for future versions are also welcome.

It is also possible that some debugging text may have been left in the code accidentally, resulting in a cryptic dialog box showing up on the screen, as in the following example:
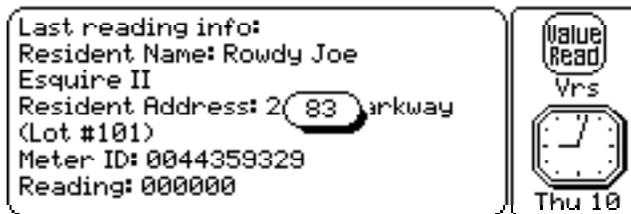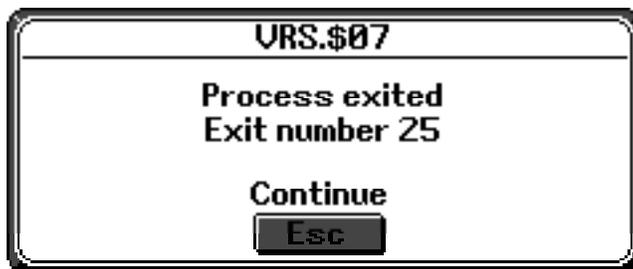

Please report when something like this happens. To make the dialog box go away, simply press the Enter key.

Some bugs or machine states may also cause internal miscellaneous errors to occur, resulting in a dialog box similar to this one:
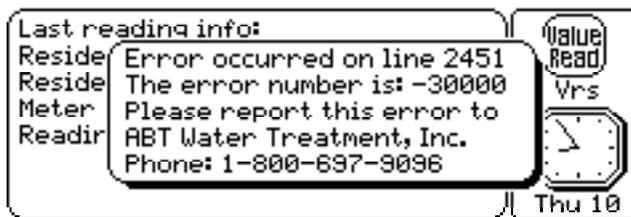
If this happens, please report the line and error number reported in the dialog box. You may want to press the Psion+control+shift+"S" key to take a snapshot of the screen, and view the screenshot later on your main workstation. It is also possible that a fatal program fault may cause the program to be panicked, resulting in a screen that looks similar to this one:

```
┌─────────────────────────────────┐
│         VRS.$07                 │
├─────────────────────────────────┤
│                                 │
│        Process exited           │
│        Exit number 25           │
│                                 │
│           Continue              │
│          ┌─────────┐            │
│          │  Esc    │            │
│          └─────────┘            │
└─────────────────────────────────┘
```

You might also get a screen that doesn't show the process name and process number (i.e., the "VRS.$07" will not appear at the top of the screen), as in this screenshot:

```
┌─────────────────────────────────┐
│                                 │
├─────────────────────────────────┤
│                                 │
│        Process exited           │
│        Exit number 60           │
│                                 │
│           Continue              │
│          ┌─────────┐            │
│          │  Esc    │            │
│          └─────────┘            │
└─────────────────────────────────┘
```

In such an event, the route, readings, and install files should remain intact. Please report the exit number as soon as possible so we can fix the problem. In any of these cases, one can start ValueRead again and continue what you were doing when the bug occurred.

If the Workabout "locks up" (i.e., you press keys but nothing seems to happen), then try soft resetting the machine by pressing Psion+control+delete. If nothing happens, then remove the main battery and reinsert it (this will force a reset, and your files should be left intact). This may also help clear up inexplicable problems with ValueRead or the Comms program. As long as the backup lithium battery is in place and has enough charge, then the ValueRead program and associated files will remain intact in either event. Warning: be careful not to hard reset the machine by pressing Psion+shift+control+delete, as this will delete the ValueRead software and the associated files. The ValueRead software will require reinstallation.