



ConFigIT[®] Operating Manual

Software Version 6.0 rev003



OVERVIEW

About RAMAR®

RAMAR is a global provider of automatic meter reading systems for the utility industry. Through worldwide license and distribution agreements, RAMAR's powerful product solutions enable water, gas, and electric utilities to improve customer service, cost-efficiency, and meter reader safety. The company's comprehensive product portfolio covers basic data capture devices for mobile meter reading to sub-metering systems and customized two-way fixed network solutions.

RAMAR is one of the world's leading designers and suppliers of radio frequency based (RF) automatic meter reading (AMR) systems. RAMAR's focus is on developing cutting-edge products for the AMR market, and the company's development team is one of the largest most qualified in the world. RAMAR specializes in hand-held and mobile automatic meter reading, with a wide range of uses. Standard interfaces and protocols enable products to integrate with popular route management and billing software programs, hand-held computers, and meters.

About ConFigIT®

ConFigIT is the device that configures each TransPondIT, RAMAR's meter interface until (MIU), prior to connection to a meter. It enables the operator to program a number of parameters into the TransPondIT, including: utility code, MIU ID, meter reading, tamper count, transmit interval, meter type, meter read interval and meter model. The ConFigIT includes user-friendly software for quick and easy set-up.



PREFACE

What is the purpose of this manual?

This document was made to help users successfully program RAMAR's TransPondIT using ConFigIT.

Do I need to read the whole thing?

No, this manual is broken down into tasks. Make a note to read the sections that will help with your responsibilities.

Getting Started – Hardware setup instructions for TransPondIT Installer or Office Staff

Installing ConFigIT Software – TransPondIT Installer or Office Staff

ConFigIT Software Operation – TransPondIT Installer or Office Staff



Profile Editor Operation – TransPondIT Installer or Office Staff

Where do I find information about installing the TransPondIT?

RAMAR provides a TransPondIT manual and Technical Bulletins which cover specifics on meter interfacing and installation. It is recommended that these materials are reviewed BEFORE beginning an installation.

A RAMAR Quick Reference Guide is also available which covers the 900 series TransPondIT, ConFigIT, FastTrackIT and HandTrackIT. Contact your RAMAR distributor for a copy of this guide.

Where do I find information about developing my own ConFigIT software?

RAMAR has a Software Developer Kit (SDK) which is available to all Business Partners. Contact RAMAR Technical Support for more information at 1-888-98-RAMAR.

Who do I contact if I have a question?

Questions not covered by this manual should be directed to the RAMAR supplier. If a supplier is not available, contact RAMAR by calling 1-888-98-RAMAR.



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1 CHAPTER - GETTING STARTED

Overview – This section discusses which components are needed to setup and operate ConFigIT.

Components of ConFigIT

- Operating System - PC running Windows 98, NT, ME, 2000, or XP
- ConFigIT Device
- ConFigIT Software Version 5.6
- Serial Cable
- 4 - AA Alkaline Batteries or DC power supply
- DC Power Cable (not pictured)



Figure 1-1
Components of ConFigIT

1. Setting Up the ConFigIT Hardware

1.1. Power Supply

Newer models of the ConFigIT available August 2002 are equipped with both a battery compartment and a DC power jack. The power jack allows a transformer to be used with a 120V AC wall receptacle.



Figure 1-2 ConFigIT Power & Serial Connector

1.2. Batteries

The ConFigIT can use four AA sized batteries. The battery panel is located at the rear of the ConFigIT on the bottom. Slide the access panel toward the rear of the ConFigIT to remove it. Place the positive side of the battery on the side marked with the + plus sign in the ConFigIT.

1.3. Connectors

Newer models of the ConFigIT available August 2002 use a standard D-sub 9 pin RS232 cable on both ends of the cable.



**Figure 1-3
ConFigIT RS232 Cable**

Older models of ConFigIT require a special RAMAR cable with a LEMO connector (Product ID: HND0PC03) for connecting to the ConFigIT. When connecting the LEMO connector to the back of the ConFigIT box, ensure that the red dot on the connector and the red dot on the ConFigIT box are lined up. Insert the LEMO connector **WITHOUT TWISTING**. To release the LEMO connector grasp it as close to the red dot as possible then gently pull straight back.



**RED DOTS located
on the bottom of
the connectors**

**Figure 1-4
LEMO Connector**

Both versions of the ConFigIT cables have a female D-sub 9-pin connector for connecting to the PC serial port. To attach the ConFigIT to a PC, connect the ConFigIT cable to the male 9 pin RS232 serial port on the PC.

If the PC does not have a serial port, an external USB to serial adapter may be purchased from a local computer parts vendor. Be sure to download the latest drivers for the appropriate operating system to ensure compatibility when using a USB to serial adapter.

2 CHAPTER – SOFTWARE INSTALLATION

Overview – This section discusses the various software installations.

2.1. Installation from 3½” floppy disk

- 1) Insert Disk 1 into the 3 ½” floppy (A:) drive
- 2) Click Start – Run and type a:\setup
- 3) Accept all default values during setup
- 4) Insert disk 2 when prompted

2.2. Installation from CD

- 1) Insert the disk into the CD ROM drive
- 2) Double-click on My Computer
- 3) Double-click on the CD ROM drive Icon
- 4) Double-click on Setup
- 5) Accept all default values during setup

3 CHAPTER – CONFIGIT SOFTWARE OPERATION

Overview – ConFigIT is the device used to program and read values in the TransPondIT. The software and hardware are operated from a host PC and are designed for use in the field or an office environment.

ConFigIT has two modes of operation, normal and profiled. Operation is the same in both modes with the exception that ‘profiled’ values such as the Utility Code cannot be changed. If a TransPondIT is read which does not match the profile, then the erroneous values are shown in red.

3.1. Starting ConFigIT

To open the ConFigIT software, go to Start – Programs – RAMAR and click on the ConFigIT icon. Alternatively, if a ConFigIT shortcut exists on the desktop, double-clicking the shortcut will also open the ConFigIT software.

NOTE: If there is no RAMAR folder in the Programs menu then the software is not installed. See the installations instructions in Chapter 2.



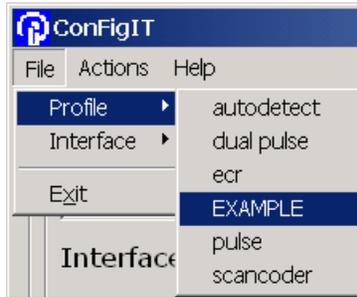
ConFigIT
Figure 3-1
ConFigIT Icon

3.2. Software Registration

WARNING - REGISTER SOFTWARE WITHIN 7 DAYS OR LICENSE WILL EXPIRE.

- 1) To register go to the Help menu in ConFigIT and click License.
- 2) If you want to register via email fill in the information and click Request else skip to step 6.
- 3) A Vcard file is created at C:\Program Files\RAMAR\ConFigIT
- 4) Email the Vcard to register@ramartech.com
- 5) If you would prefer to call in dial 1-888-98-RAMAR (72627) M-F 8 – 5:30 EST.

To start ConFigIT with a profile active, double-click a desktop shortcut or if ConFigIT is already open, select the profile name from the File -> Profiles menu. To create a shortcut to a profile, open the profiles editor from the programs menu and check the box labeled ‘Show Desktop Icon’.



**Figure 3-2
ConFigIT Activating a Profile**

Once a profile is active it cannot be deactivated or changed without exiting and restarting ConFigIT.



TIP – To create a shortcut for ConFigIT on the desktop, expand the menu system from Start -> Programs -> RAMAR; right-click the ConFigIT item and click copy. Right click on the desktop and click Paste Shortcut.

3.3. Reading a TransPondIT

Once the ConFigIT software is open, the only button not disabled is **Read**. A **Read** must occur so that the software can determine what type of TransPondIT is in the ConFigIT. Fully insert a TransPondIT in ConFigIT and click the **Read** button to enable the software. If a mouse is unavailable, pressing Alt-R will also perform a read. Similarly, all fields and buttons with an underlined letter have an Alt-key function.



Figure 3-3 ConFigIT with TransPondIT

During the read, the green **OK** light on the ConFigIT will light up and the orange **BUSY** light will flash. Once the read is finished the programmed values are displayed.

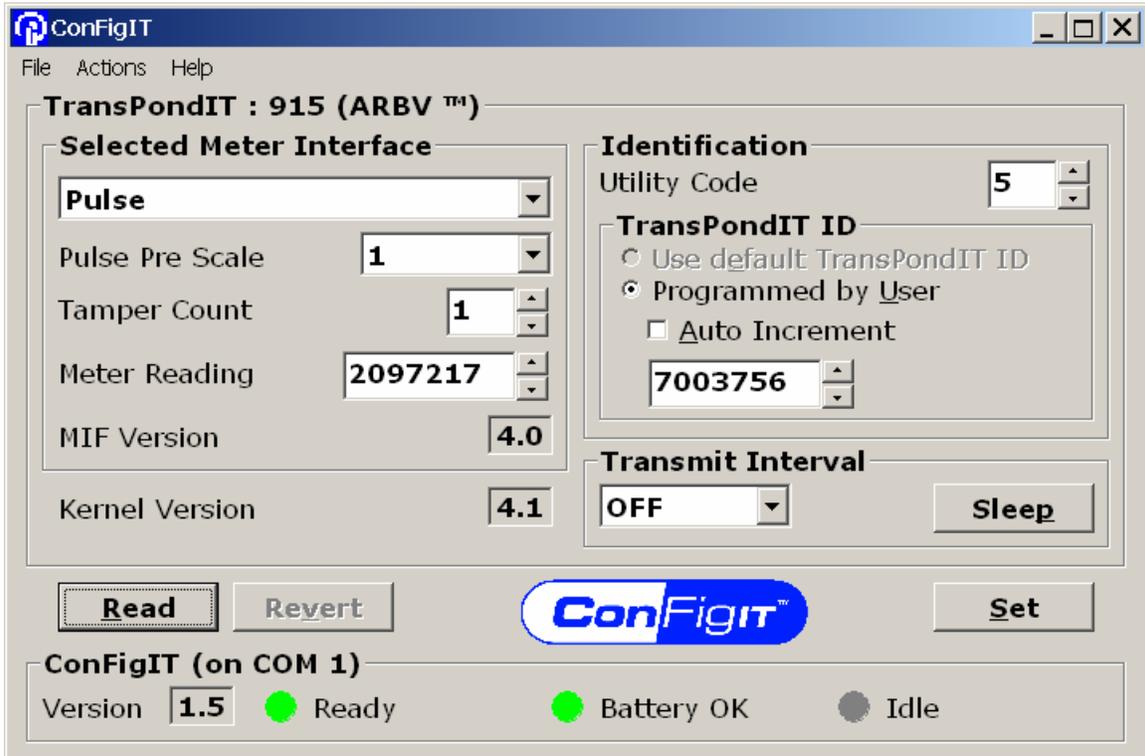


Figure 3-4 ConFigIT Interface



TIP - The software has been designed to use the Tab key to move from field to field in case a mouse or pointer device is not available.

3.4. Overview - Setting a TransPondIT

The ConFigIT software needs to know what type of TransPondIT is in the ConFigIT before any values can be set. To determine the type of TransPondIT a read must be performed by clicking the Read button or by pressing Alt-R. Fields that need to be configured are shown in the table. If the Profile Editor is used most fields below will be automatically set and do not need input from the operator. Refer to the Profile Editor section in this manual for more information.

Table 3-1 – TransPondIT values

Meter Interface	Values	Description	Set by Profile Editor
Pre Scale (Pulse only)	1,2,10, 20, 100, 200, 1000, 2000	Scales down the meter output	Yes
Read Interval (Encoded only)	1.25, 2.5, 5, 10 hours	Time between readings	Yes
Tamper Count (Pulse only)	0 - 255	Counts tamper wire disconnects/connects	No
Status (Encoded only)	0, 64, 65...	Indicates communication problem with meter	No

Meter Interface	Values	Description	Set by Profile Editor
Utility code	0 - 255	Number given to customer by distributor to ensure uniqueness of transmitter	Yes
TransPondIT ID	Pulse: 0 - 16,777,215 Encoded: 0 – 9,999,999	ID stored in transmitter; either programmed by the user or collected automatically from the meter	Yes – Range is specified for programmable TransPondIT
Meter Reading	0 - 16,777,215	Transmitted reading	No – Programmed by user (pulse) or read by TransPondIT (encoded)
Transmit Interval	5, 10, 20 seconds	Interval between transmissions	Yes

3.4.1. Using Auto Increment

ConFigIT allows the programmer to set a starting point for a range of ID's to be programmed in sequence. To use **A**uto Increment type the first ID number in the TransPondIT ID field and check the **A**uto Increment box or press Alt-A.

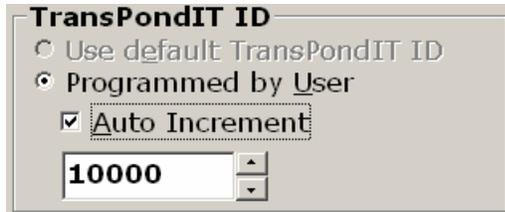


Figure 3-5 Auto Increment

3.4.2. Setting a Pulse TransPondIT

A pulse TransPondIT counts switch closures using a mechanical device within the meter or retro-fitted to the exterior of the meter.

Fields that are specific to the pulse interface are:

Table 3-2 Pulse Type Interface Values

Fields	Comments
Pre Scale	TransPondIT kernel versions 2.5 and later offer more choices for this field.

Tamper	This value will increment each time the tamper wire is removed and reconnected.
Meter Reading	Determined by pulses as a ratio of the Pre Scale value
TransPondIT ID	Programmed by user

A visual read of the mechanical meter can be taken at the time of installation and the reading can then be configured using the Meter Reading input field.

To determine Pre Scale find out what units the system is billing in and then determine the number of units represented by each pulse.

**Example 3-1
ConFigIT Pre Scale**

Billing is done in 1000 gallon increments.
 Billing Units = 1000 gallons
 The meter generates a pulse for every 10 gallons.
 Meter Units = 10 gallons

To determine pre-scale divide the billing units by the meter units.
 $1000 / 10 = 100$

Therefore 100 is the correct Pre Scale in this example. Once all the values have been selected and entered click the **Set** button. Note that if a mouse is not available pressing Alt-S will also perform the **Set** function.



Figure 3-6 ConFigIT Set Button

It is not necessary to perform a read after a set, this is done automatically.

The ConFigIT software will not allow invalid settings to be stored in the TransPondIT.

If the TransPondIT being programmed is not recognized by the software then contact RAMAR for an update.

3.4.3. Setting an Encoded TransPondIT

Encoded meters communicate directly with the TransPondIT providing information such as the reading and/or meter ID.

Some encoded meters may not require programming the TransPondIT ID. Refer to the following table for more information.

Table 3-3 Encode Type Interface Values

Meter Interface	TransPondIT Model #	ID can be extracted from Meter?	Comments
ABB Scancoder	915-03-20	Yes	
ECR	915-04-20	Yes	Drops most significant digits.
ARBV	915-05-20	No	ID is not provided by the meter
Pro Read / Auto-detect	915-06-20	Yes	Model X6-12 requires the ID to be programmed

For 04-20 and newer models we drop the most significant digits (left most) so that the ID will fit in the TransPondIT ID field. If there is a problem with duplicate ID's the customer can get additional utility codes from the distributor or RAMAR.

**Example 3-2
ECR ID Extraction Model 04-20**

The meter has an ID number of 12345678.

The TransPondIT reads the ID and drops the left most digits so that the ID has 7 digits.

The ID stored in the TransPondIT = 2345678.

For TransPondIT models X4-12 and older we subtract 16,777,215 from the Meter ID until it is lower than 16,777,215.

For more information on a specific application please review RAMAR's technical bulletins which can be obtained from your distributor or directly from RAMAR.

Once all the values have been selected and entered click the **Set** button. Note that if a mouse is not available pressing Alt-S will also perform the **Set** function.



Figure 3-7 ConFigIT Set Button

It is not necessary to perform a read after a set, this is done automatically.

The ConFigIT software will not allow invalid settings to be stored in the TransPondIT.

If the TransPondIT being programmed is not recognized by the software then contact RAMAR for an update.



TIP - The ConFigIT hardware will stay powered on for one minute which is indicated by the green LED. During this time the green **OK** LED will flash each time the ConFigIT receives a signal from the TransPondIT.

3.5. Turning Off Transmitter

The **Sleep** button allows the operator to turn off the TransPondIT transmitter. Selecting **OFF** in the Transmit Interval drop down menu and clicking the **Set** button will also turn off the transmitter.



Figure 3-8
ConFigIT Sleep Button

3.6. Revert

The purpose of the **Revert** button is to allow the operator to **Read** another TransPondIT without losing the settings from the previous TransPondIT.

The **Revert** button becomes active (not grayed out) after the operator performs a **Read** on a TransPondIT containing different values. The **Revert** button changes the settings back to what was configured before the Read occurred.



Figure 3-9
ConFigIT Revert Button

Example 3-3 ConFigIT Revert Button

The software settings show the following:

Table 3-4 Settings in ConFigIT

Meter Interface	Pre Scale	Tamper / Status	Reading	Utility	ID	TX Interval (sec)
Pulse	1	0	1202	29	2345	5

A read is performed on a TransPondIT which displays the following values:

Table 3-5 ConFigIT Settings after Read

Meter Interface	Read Interval	Tamper / Status	Reading	Utility	ID	TX Interval (sec)
ECR TM	2.5	64	0	14	16777215	Off

Notice now that the **Revert** button is active. Clicking the **Revert** button will change the settings back to those in **Table 3-4 Settings in ConFigIT**.

4 CHAPTER – PROFILE EDITOR OPERATION

Overview – Profiles eliminate the possibility of making a mistake such as programming the wrong meter interface. This is accomplished by providing the default values that can be programmed into a profile.

4.1. Opening the Profile Editor

To open the Profile Editor go to Start – Programs – RAMAR and click ConFigIT Profile Editor.

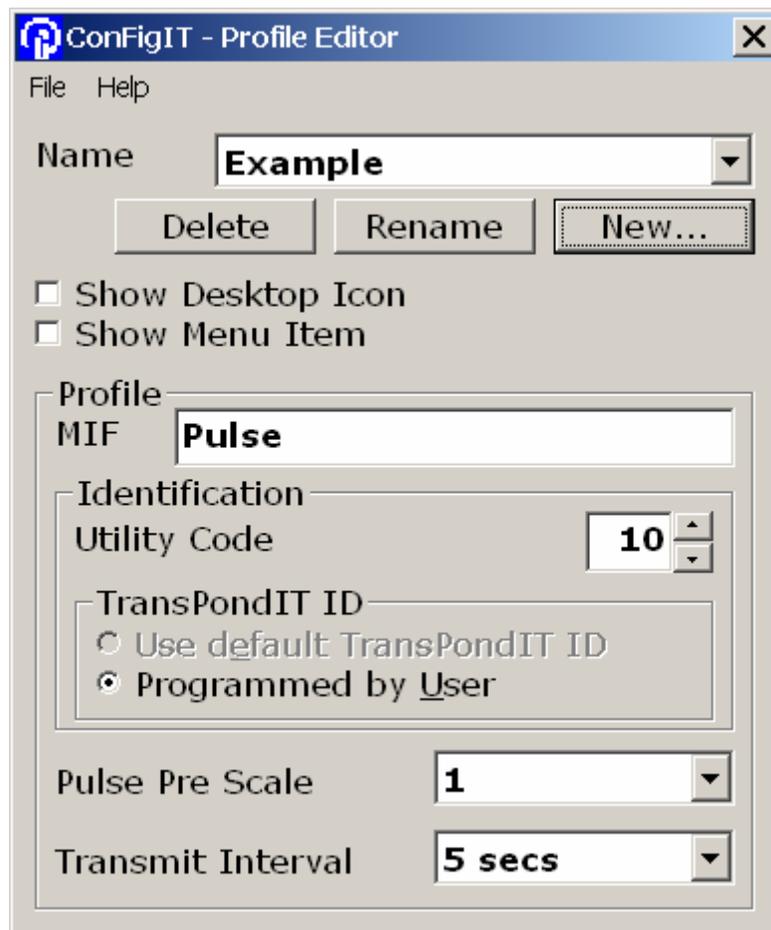


Figure 4-1
ConFigIT Profile Editor

4.2. Profile Editor Operation

Profile Editor locks certain settings that will be configured into the TransPondIT. The Profile Editor interface consists of two areas: **Name** and **Profile**.

4.2.1. Name

This area allows profiles to be created, renamed and edited. To create a profile click on the **New** button and enter the profile name. The name can be anything relevant.

Next, choose the desired meter interface from the drop down menu labeled '**Profile applies to Meter Interface**'. Click **OK**.

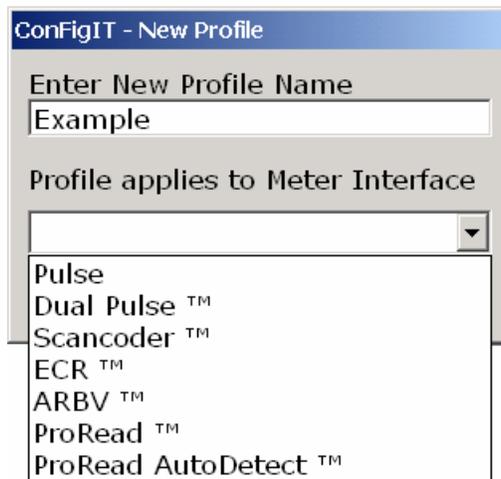


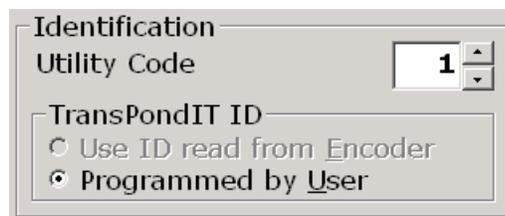
Figure 4-2
Profile Editor Creating a Profile

Now the profile has been given a name and assigned a meter interface. Click the check box for '**Show Desktop Icon**'. After a few seconds a RAMAR ConFigIT logo appears on the desktop with the name of the profile.

The option '**Show Menu Item**' may be also be checked to put a shortcut in Start – Programs – RAMAR.

4.2.2. Profile

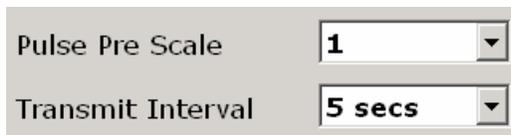
The Profile area is where the utility code, TransPondIT ID and timing intervals are selected. Enter the Utility Code provided by your distributor. RAMAR assigns unique codes to each Business Partner.



Example 4-1
Profile Editor Utility Code

Note only one meter interface and utility code can be selected for a profile. If the meter interface is encoded then the Meter Read Interval is programmed here. If the meter interface is pulse then the Pulse Pre Scale is programmed here.

Enter the Pulse Pre Scale value or Read Interval, for details on this see 3.4 Overview - Setting a TransPondIT in Chapter 3.



Example 4-2
Profile Editor Pre Scale and Transmit

Select the Transmit Interval from the drop down menu. 5 seconds is the recommended transmit interval.

4.2.3. Using Profiles in ConFigIT

The recommended method for using a profile in ConFigIT is to create a shortcut of the profile on the desktop using the checkbox option in the Profile Editor.

Alternatively, a shortcut can also be created to the profile in the program menu using the checkbox option in the Profile Editor.

The last method for using a profile is to open ConFigIT and choose the profile from the File menu.

Once a profile has been selected in ConFigIT from the **File – Profile** menu, the only way to exit the profile is to exit and re-open ConFigIT.

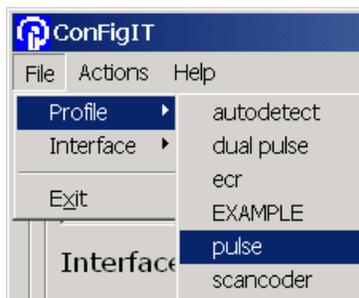


Figure 4-6
ConFigIT Opening a Profile



TIP - Remember that TransPondIT IDs are not recorded by ConFigIT. Therefore, it is possible to generate duplicate IDs. It is up to the user to control ID allocation.

A APPENDIX – TROUBLESHOOTING

Overview – This section describes how to determine the cause of failure with the ConFigIT software and hardware.

1. Error Messages

1.1. No TransPondIT Detected

ConFigIT communicates with the TransPondIT using an electro-magnetic coil to open and close a switch inside the TransPondIT.

If an error occurs that states ‘No TransPondIT detected in ConFigIT’ ensure that the TransPondIT is fully inserted into the ConFigIT. If the TransPondIT still is not detected by ConFigIT try flipping it over.

1.2. ConFigIT Not Responding on Com Port

Read next sections.

2. Checking the Connectors and Power

Is ConFigIT plugged in?

Is the cable or connectors visibly damaged? Be sure to inspect the male serial connector on the PC and the LEMO connector on the cable. One of the most common causes of failure is twisting the LEMO connector.

Are there batteries in it or is it plugged into a working AC outlet? ConFigIT will not run off the power from the PC.

Are the batteries good? ConFigIT will issue a low battery warning within the software if the voltage drops too low but will continue to operate for some time. Once the batteries are too low to operate the ConFigIT the **OK** light will blink when ConFigIT is opened.

3. Checking the COM port

3.1. Is another program using the COM port?

Example 1: Modem connected to Internet Service Provider

Example 2: HotSync program for PDA device

3.2. **Select the correct COM port** – To choose the COM port click File – Interface then the COM port.



**Figure A-1
COM Port**

Once the correct COM port is selected perform a read. The Status light at the bottom of the ConFigIT software will change from Not Ready to Ready.



**Figure A-2
ConFigIT Status Not Ready**



**Figure A-3
ConFigIT Status Ready**

- 3.3. **Windows 98 & ME** – Right-click My Computer and choose Properties. Click the Device Manager tab. Double-click Ports and double-click the COM port that ConFigIT is plugged into.
- 3.4. **Windows 2K & XP** – Right-click My Computer and choose Properties. Click the Hardware tab. Click the Device Manger button. Double-click Ports and double-click the COM port that ConFigIT is plugged into.
4. **Use Module Substitution** – By substituting known good working parts for the suspect parts, it can be determined which piece of hardware is causing the failure.

4.1. Try a Different Cable

If there is a known good ConFigIT cable, try replacing the suspect cable.

For customers purchasing ConFigIT after August 2002, the new 9 pin connection will be provided instead of the LEMO connector.

For versions of ConFigIT purchased before August 2002 the PC to HandTrackIT cable (part number HNDPC02) can also be used with ConFigIT.

If the new cable works then the cable needs to be replaced. The cable pictured in Figure 1-3

ConFigIT RS232 Cable is a standard 9 pin serial data cable which may be purchased through your distributor or from any computer supply store.

4.2. Try a Different Computer

Is there another computer that works with ConFigIT? If the suspect ConFigIT does not work with this PC it may need to be replaced. Contact your distributor for a replacement.

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ConFigIT

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Entire Agreement. This Agreement sets forth the entire understanding between User and RAMAR with respect to the subject matter hereof. This Agreement may be amended only in a writing signed by both parties. No vendor, distributor, dealer, retailer, sales person or other person is authorized to modify this Agreement or to make any warranty, representation or promise which is different than, or in addition to, the representations or promises of this Agreement.

Export. Export of the Software and the Documentation outside of the United States is subject to the Export Administration Regulations of the Bureau of Export Affairs, United States Department of Commerce. In the event User desires to export the Software outside of the United States, User, at its own expense, shall comply with all applicable regulations governing such export. RAMAR makes no warranty relating to the exportability of the Software to any particular country.

Other. No waiver of any right under this Agreement shall be effective unless in writing, signed by a duly authorized representative of RAMAR. Failure to insist upon strict compliance with this Agreement shall not be deemed a waiver of any future right arising out of this Agreement. This Agreement shall be governed by and construed in accordance with the laws of the State of North Carolina. You agree that sole jurisdiction and venue for any dispute arising under this Agreement shall be in a state or federal court in Wake County, North Carolina. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, such provision shall be fully severable, and this Agreement shall be construed and enforced as if the illegal, invalid or unenforceable provision had never been a part of this Agreement. You may not assign or transfer this Agreement, and any such attempted assignment

or transfer shall be null and void. The prevailing party in any action to enforce this Agreement shall be entitled to recover its reasonable attorney's fees from the other party.

If you have any questions concerning this Agreement, please contact AT RAMAR LLC at (919) 991-9924, P.O. Box 110127, Research Triangle Park, North Carolina 27709-0127.