



Quick Start
Users Guide

Shadow Tracker™
2000 Base



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Federal Communications Commission (FCC) Notification

This device contains Transmitter Module FCC ID: PHO-CDR915 and complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC RF Exposure Statement

This device complies with FCC radiation exposure limits as set forth for an uncontrolled environment.

This device should be installed and operated with a minimum separation distance of 20 cm between the radiator and your body.

FCC Compliance Warning

Changes or modifications to the **2000 Base** not expressly approved by Advanced Tracking Technologies, Inc. could void the user's authority to operate this product.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Minimum System Requirements

Windows® 95, 98, NT (Service Pack 6 or higher), 2000 (Service Pack 3 or higher), ME

PentiumII® – 350 Mhz (or higher recommended)

32 MB min. (64 MB recommended)

850 MB of free Hard Drive space

CD ROM

SVGA Monitor

Windows® compatible printer (color recommended)

Open 9 pin Com port

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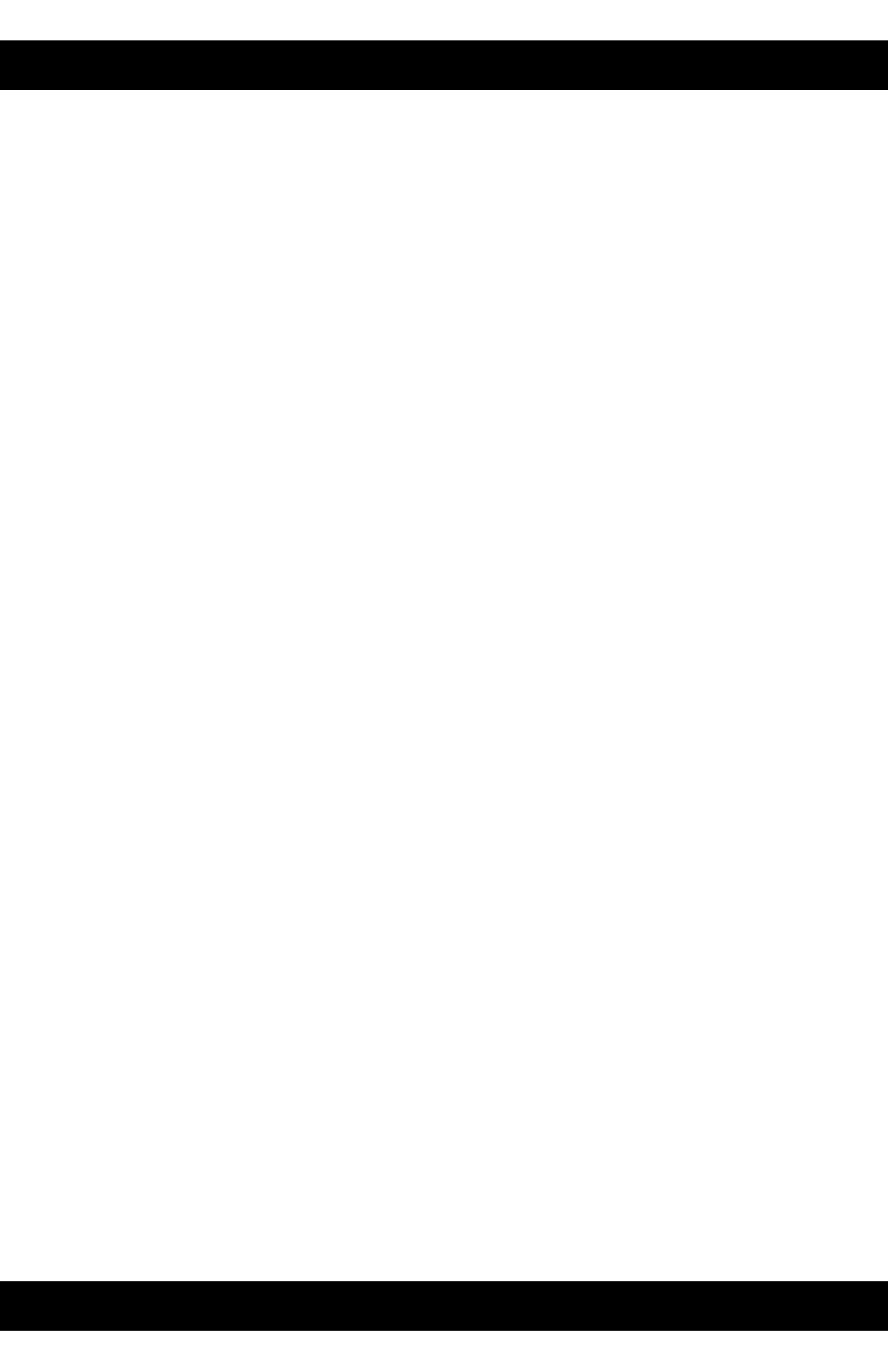
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GETTING STARTED

This Users Guide has been designed to provide you with a clear and comprehensive overview of the following:

1. How to connect and setup your Base Computer.
2. How to connect and setup your ***Shadow Tracker™2000 Base.***
3. How to install and configure your ***Shadow Tracker™Professional*** Client software.
4. How to add the necessary Driver/Employee and Vehicle information to the ***Shadow Tracker™Professional*** software.

When these four steps are completed and the ***Shadow Tracker™2000*** unit(s) have been installed in the vehicles, you will be ready to begin collecting and processing the GPS data for your

HARDWARE INSTALLATION

vehicles.

HARDWARE COMPONENTS

You should have the following items before you begin Setup.

Base Computer

Base Computer w/ power cord	PN# H-80163
15" Color monitor w/ power cord	PN# H-80130
Keyboard	PN# H-80140
Mouse	PN# H-80145

Shadow Tracker™ 2000 Base

2000 Base radio	PN# H-93110
A/C power supply 12v	PN# A-40103
6 ft. RS-232 cable	PN# G-40120



6 ft. RS-232 cable
G-40120

A/C power supply 12v
A-40103



2000 Base radio
H-93110



5.0 dbd gain radio antenna
G-39212

HARDWARE INSTALLATION



**Color monitor
H-80130**



**Base Computer
H-80163**



**Mouse
H-80145**




**Keyboard
H-80140**

5.0 dbd gain radio antenna

PN# G-39212

CONNECTING THE BASE COMPUTER

To connect and power On the Base Computer:

1. Connect the Keyboard, Mouse and Monitor to the back of the Base Computer.
(upper right)
2. Connect the appropriate end of the Monitor Power cord to the back of the Monitor. Plug the other end into a 120V wall socket.
3. Connect the appropriate end of the Base Computer Power cord to the back of the computer. Plug the other end into a 120V wall socket.
4. Connect your network cable into the Network adapter connection.
5.  Flip the Power switch on the back panel of the computer to the ON position. Press the power button on the front panel to turn on the Base Computer.

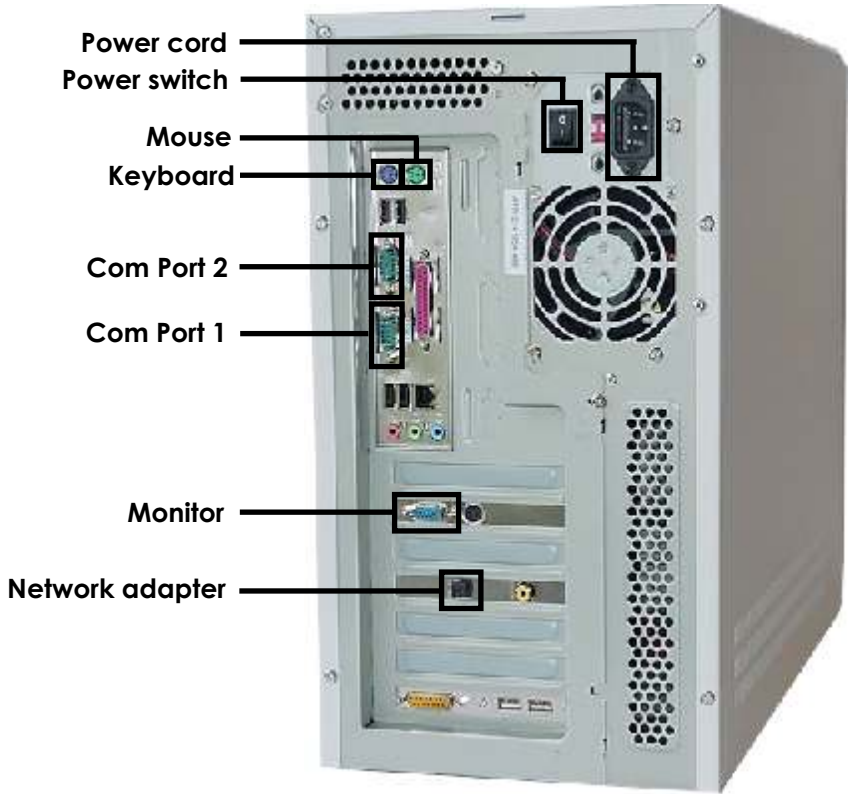
Note: The Base Computers Network adapter comes pre-configured to TCP/IP protocol and has a static IP address. These settings can be modified to accommodate your network needs.

CONNECTING THE **2000 Base**

To connect the **Shadow Tracker™ 2000 Base**:

1. Connect the Radio antenna (G-39215) into the back fo the **2000 Base** at the connection marked “Ant”. (lower right) Tighten securely.
2. Connect the appropriate end of the 6 ft. RS-232 cable (G-40120) to the back panel of the Base Computer at the connection marked “Com2”.
Connect the other end to the connection marked “Data Connector”

HARDWARE INSTALLATION



SOFTWARE INSTALLATION

on the back panel of the **2000 Base**. Tighten securely.


3. Connect the appropriate end of the A/C power supply (A-40103) to the connection marked "Power" on the back panel of the **2000 Base**.

Plug the other end into a 120V wall socket.

BEFORE YOU BEGIN

BASE/SERVER

The Base Computer comes with the **Shadow Tracker™ Professional** Base / Server software pre-installed. The **Shadow Tracker™ 2000** tracking units that you received with the Base Computer have already been validated to this software. This software consists of the

 Administrator, Extractor, Wireless Grabber and Data Processor programs. The Base Computer is where all wireless communications are maintained and all data processing occurs and is stored. For a more detailed explanation regarding these programs and their functions please refer to the Shadow Tracker™ Professional Administrators manual.


WARNING: DO NOT install any software on the Base Computer unless directed to do so by ATTI Technical Support.

CLIENT

The **Shadow Tracker™ Professional** Client software can be installed on any computer that meets the Minimum System Requirements listed in the front of this manual.

The **Shadow Tracker™ Professional** Client is where you will view and manipulate the GPS data collected by your tracking units. This is where all Mapping is displayed and all Reports are created.

Before you install the **Shadow Tracker™ Professional** Client system:

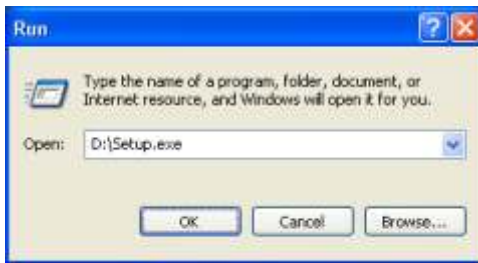
-  1. Connect the computer that will be used as the Client Computer to the Base Computer.
2. On the Client Computer map a drive letter to the **Shadow**



Tracker™ Professional STRT program folder located on the Base Computer.
(above right) This STRT program folder has already been enabled as a shared network resource.

Note: If you are not sure how to perform this step, contact your Network Administrator.

Begin the Client System installation.
CLIENT SYSTEM INSTALLATION



1. Insert the **Shadow Tracker™ Professional** software CD into the CD-ROM drive on the Client Computer.
2. From the Windows Desktop click **Start**, then click **Run...**

SOFTWARE INSTALLATION

3. In **Open**: type the drive letter of your CD-ROM drive and ":\Setup.exe"
(example - D:\Setup.exe.)
Or click **Browse** and navigate to the Setup.exe. (below)
4. Click **OK** to begin the installation and follow the instructions on your screen.
5. Click **Next** at the Welcome screen.
6. Click **Yes** to accept the License Agreement.
7. At the Registration screen enter your Name, Company and the Product



CD-Key (located on the rear of the CD case) in the space provided.
Click **Next**.

-
8. Select Client System as the type of Setup you prefer, click **Next**.
 9. Click **Next** to accept the default location for the **Shadow Tracker™ Professional** program (recommended) or click **Browse** and select another folder. Setup will begin.
 10. When prompted to set the “Server System program files data path”, click **Browse** and navigate to the mapped drive that points to the STRT program folder on the Base Computer. Click **Next**. (below)
 11. Click **OK** to reboot your computer. On reboot the software installation will be complete.

DEFAULT LOGIN AND PASSWORD

SOFTWARE CONFIGURATION

To open a **Shadow Track™ Professional** program:

From the Windows Desktop click **Start**, point to **Programs**, point to **Shadow Tracker™ Professional** and click the program you wish to open.

To gain access to the Administrator (Base Computer) or Shadow Tracker™ (Client Computer) programs you will need a user name and password.

The default login is:

Login name: **Administrator**

Login password: **root** (lower case)

These settings can be changed later at any time.

The last step to complete your system is to setup your Driver/Employee and Vehicle information in the **Shadow Tracker™**



Professional software.

When the GPS data from the **Shadow Tracker™ 2000** is extracted, the Driver/Vehicle relationships you define here will be used to display the GPS tracking data on the map and in reports. For more detailed information regarding this section, refer to the **Shadow Tracker™ Professional** software manual.

Add A New Employee

ID Number: 1
Accounting System ID: 454-16-9875

Last Name: Gilmour First Name: D MI: Active?: True False

Address Information
5984 Main Street
Apt 197
Spring TX 77373

Home Phone: (281) 654-8942 Mobile Phone: (281) 659-4213
Work Phone: (713) 956-8478

Save Cancel

ADDING DRIVER/EMPLOYEE INFORMATION

1. On the Client Computer and from the Windows Desktop click **Start**, point to **Programs**, point to **Shadow Tracker™ Professional**, click **Shadow Tracker™**.
2. Log into the program using the default username and password. Click **Start**.
(below)
3. From the program menu bar click **File**, point to **Open** and click **Employee Records**.
4. Click **File** and then click **New Employee**.

Add A Group

Group Name: Group ID: Description of the Group:

Save Close

SOFTWARE CONFIGURATION

5. Add the appropriate information for the Driver/Employee. (above right)
Click **Save**.

New Vehicle

Vehicle: 1 Year: 2003 Group: Commercial

License: T5Y A46 Make: Chevrolet

VIN #: C4351321XJL84689 Model: Tahoe

Vehicle Description: Blue 4-door

Tracker #: None Assigned EVM Unit?

Active? True False

Port	Name	Date	State1	State2

Buttons: Edit Ports, Save Ports, History, Report, Trackers, Issue, **Save**, Close

Repeat this process for each Driver/Employee. When you are finished click **File** and **Exit** to close Employee Records.

ADDING VEHICLE INFORMATION

Each vehicle must be assigned to a group. You can have multiple

Vehicle Records

License	Group	Group Name	Active	Description
T5Y A46		Commercial	True	Blue 4-door

Groups

- Commercial
- Residential

groups of vehicles or just one.

1. From the program menu bar click **File**, point to **Open** and click

Edit A Vehicle

Vehicle: 1 Year: 2003 Group: Commercial
License: TSY A46 Make: Chevrolet
VIN #: C4351321XJL84689 Model: Tahoe Branch:
Vehicle Description: Blue 4-door
Tracker #: None Assigned EVM Unit?:
Active?: True False
Buttons: Trackers, Issue, Save, Close

EVM Ports:

Port	Name	State1	State2
1	P-100500		
2	P-100900		
3	P-102387		

Buttons: Edit Ports, Save Ports, History, Report

Vehicle Records.

2. To create a Group, click **File** and then click **New Group**. Indicate a Group Name, Description and select a color to display on the map for the group. Click **Save**. (below)
3. Once you have all of the groups you need, you may begin adding the vehicles. Click **File** and then click **New Vehicle/Equipment** from the menu bar. In the New Vehicle window fill in the

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Service Experts of Texas
28 Units

Base Radio Address: 907-3841
Computer S/N: 12541084
OS: Windows 2000 Professional SP3

User License Code: 66963B4Q653G74133945
CD Key: 6W93-543P76CD9-4979803936

Rev: JV41D022702

Unit S/N	Radio ID	Installed in Vehicle	Driver/Employee
P-100500	907-8891	License # TSY A46	D. Gilmour
P-100431	907-8463	License # JFS L26	R. Wilens
P-100900	907-8511	License # 85X K72	M. Mason
P-102387	907-8796	License # K78 356	R. Wright

SOFTWARE CONFIGURATION

necessary information regarding each vehicle. Click **Save**. (below)
ASSIGNING THE TRACKER TO A VEHICLE

Once the Vehicle record has been saved it must be assigned to a **Shadow Tracker™ 2000** unit.

1. Open the vehicle record you just created by clicking the License number in the Vehicle Records window. (below)
2. In the Edit A Vehicle window select the Tracker serial number to be assigned to this vehicle. Click the down arrow (see below) beside the **Tracker #** box and click the correct serial number. Click **Save** and then click **Close**.
3. Repeat this process until a Vehicle Record has been created for each vehicle and each Vehicle Record has been assigned to the

The screenshot shows a software window titled "Vehicle Issue" with a sub-header "Issue by License". It contains a table with the following data:

#	License	Driver	Date	Issued	Time	Issued
1	157 A46	Ginsou, D	01/01/2003	01/01/2010	00:00:00	23:59:00
2	JP5 L26	Waters, R	01/01/2003	01/01/2010	00:00:00	23:59:00
3	95X K72	Mason, M	01/01/2003	01/01/2010	00:00:00	23:59:00

Below the table are input fields for "License" (K7B 356), "Driver" (Wight, R), "Date" (from 01/01/2003 to 01/01/2010), and "Time" (from 00:00 to 23:59). At the bottom are buttons for "Add", "Edit", "Save", "Cancel", and "Close".

appropriate **Shadow Tracker™ 2000**.

Note: Use the **2000 Base** System documentation (below) included with your **2000 Base** System to organize and track which tracking unit you assign to each particular Vehicle Record. You can also use this to track which Driver/Employee record will be assigned to each particular Vehicle Record in the next step.

ASSIGNING THE DRIVER/EMPLOYEE TO A VEHICLE

In order to view historical tracks and create reports, it is necessary to create a record of which Driver/Employee will be assigned to which Vehicle for a given time frame. This is called Vehicle Issue.


1. From the Vehicle Records window click **File** and then click **Vehicle**

SPECIFICATIONS AND FEATURES

Issue

2. In the Vehicle Issue window click **Add**. Fill in the information to associate an employee with each vehicle. Select a vehicle **License** and a **Driver** from the drop down menus. In **Date from:** the date entered should be at least one day prior to when you began collecting data with the tracking unit. Usually the **Date thru:** setting is set for one year from **Date from:**. **Time from:** should be 00:00:00 and **Time thru** 23:59:00 to cover the entire day (below). Click **Save**.
3. Repeat this process until all of the Driver/Employees have been assigned to the appropriate Vehicle. Click **Close** to exit the Vehicle Issue window.

Note: A Driver/Employee can not be assigned to more that one Vehicle Record that falls into the same Date/Time range.

 Once the tracking units have been installed into the vehicles you will be ready to begin collecting and processing GPS data from your **Shadow Tracker™ 2000** units.

Refer to the **Shadow Tracker™ Professional** Software – User Guide and the **Shadow Tracker™ Professional** Administrator – User Guide for more information on how to fully utilize your **Shadow Tracker™ Professional** software programs.

2000 Base SPECIFICATIONS

Length	6.9 inches
Width	3.6 inches
Height	1.5 inches

TECHNICAL SUPPORT

Weight 11 ounces

Transmission Rate 902-908 mHZ

Peak Current 750mA

Wireless Data Download Rate 115200 baud

A/C Adapter
Input 120V AC 60Hz

9W

Output 12V DC 500mA

Note: Depending on your specific needs, ATTI offers a variety of antenna packages and options that may increase or improve your coverage area.

For more information contact ATTI Sales.

2000 Base FEATURES

Automatic Historical data download

Supports up to 200 vehicles

Real Time and Equipment Vehicle Monitoring (EVM) capable

Cost effective

Shadow Tracker™ Professional software supported

Technical Support is available Monday – Friday from 8AM – 5PM

Central Time*.

Please contact us at:



Main: (713) 353-6065

Tech: (713) 353-6020

Sales: (800) 279-0035

Fax: (713) 353-6050

E-Mail: Tech@AdvanTrack.com

*Hours subject to change without notification.

TROUBLESHOOTING CHECKLIST

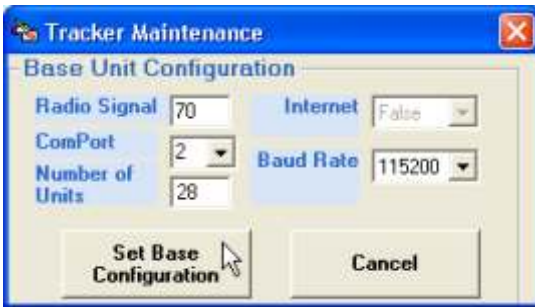
Minimum requirements for GPS Data collection by a *Shadow Tracker™ 2000* mobile unit in the vehicle

1. Constant 12 volt DC power to the RED wire. This can be verified by looking at the LED lights on the front of the unit, are any LED's lit?
2. GPS satellite signal acquisition. This can be verified by looking at the GPS LED. The LED will be RED when the unit has NOT acquired

APPENDIX 1

a signal and it will be GREEN when the unit HAS acquired a signal. If the GPS LED is RED check the location of the GPS antenna on the vehicle, try moving it to another location. Keep in mind that when first powered on the unit may take up to 15 minutes to acquire a GPS satellite signal.

3. Switched ignition power to the blue reference wire. This can be verified by connecting the direct connect harness to the Harness Tester and verifying the RED LED is on when the vehicles ignition



is on and the vehicle is running.

Note: Some vehicle circuits are on timers meaning they will supply power for a time then remove power. We recommend on problem vehicles to actually drive the vehicle for at least two

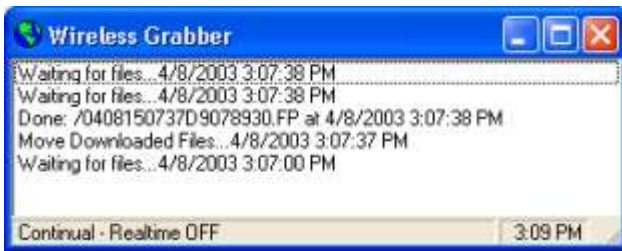


minutes monitoring the LED lights on the Harness tester.

4. Vehicle speed must be above 9 miles per hour. This minimum speed is adjustable, but this should only be a concern on vehicles such as street sweepers or other slow moving vehicles. Contact Tech Support for help if you must adjust this setting.

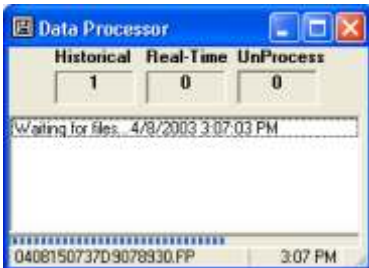
Minimum requirements for Data Transmission from the *Shadow Tracker™ 2000* mobile unit to the *2000 Base*

1. Mobile units must have minimum memory usage of 00.19% before they can transmit historical data to the *2000 Base*. This is about 10 minutes of actual driving. If you have purchased the RealTime feature the mobile unit will transmit a real-time packet every



minute even when empty.

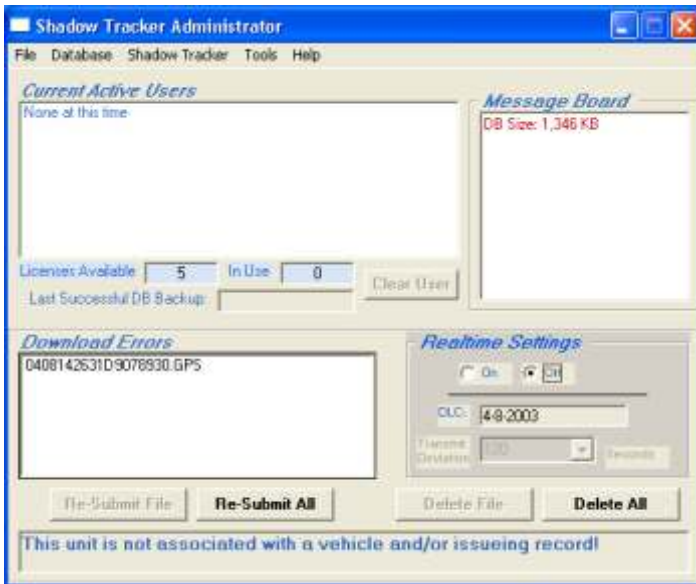
2. Radio signal strength must meet the minimum threshold set on



the Base Computer. Monitor the Extractor window on the Base Computer. Note the Radio ID and its current signal strength, if the current signal strength is below the configured minimum

APPENDIX 1

threshold only real-time data will be sent. Once the signal strength is above the configured minimum threshold then the mobile unit will begin to download historical data. The minimum threshold is set in the Administrator program. To access this setting, from the Administrator program click **Shadow Tracker™**, click **Maintenance**, and then click **Base Unit Configuration**, the current setting will be displayed there. (below)



Data flow through the system

In the Extractor window during a historical download you will see exclamation points running across the screen, each exclamation point represents 512 bytes of data transmitted. (below)

Download errors are normal and occur when the radio link is broken between the mobile unit and the Base radio. The Extractor program will attempt to download the same mobile unit again after a download error occurs and will pickup the download where it left off, it does not start over from the beginning.

2000 Base
Quick Start Users Guide
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