Radar Recorder

Automatic Traffic Data Recorder

JAMAR Technologies, Inc.

User's Manual

LIMITED WARRANTY

JAMAR Technologies, Inc. warrants the Radar Recorder against defects in material and workmanship for a period of one (1) year limited warranty on parts and one (1) year limited warranty on labor from the date of purchase. For information on extended warranty call 1-800-776-0940.

JAMAR Technologies, Inc. warrants each new instrument manufactured by the company to be free from defective material and workmanship and agrees to remedy any such defect. At its option, it may furnish a new part in exchange for any part of any instrument of its manufacture which, under normal installation, use and service discloses such defect. The instrument must be returned to our factory or authorized service agent intact, for examination, with all transportation charges prepaid.

This warranty does not extend to any products which have been subject to misuse, neglect, accident, vandalism or incorrect wiring not our own. This warranty does not extend to damage caused by improper installation in disregard of the instructions furnished by us. This warranty does not extend to products which have been repaired or altered outside our factory or authorized service agent. There is a 90 day warranty on the rechargeable battery of the Radar Recorder.

In no event shall JAMAR Technologies, Inc. be liable for any damages arising from the use of this product including damages arising from the loss of information.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale or use of our products.

JAMAR Technologies, Inc. reserves the right to make improvements on the product and/or specifications at any time without notice.

Questions concerning this warranty or any JAMAR Technologies, Inc. product should be directed by mail or telephone to:

JAMAR Technologies, Inc.
1500 Industry Road, Suite C
Hatfield, PA 19440
215-361-2244

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If you have any questions about the Radar Recorder that you cannot find answers for in this manual, there are several ways to get additional information.

On the Hardware Support section of our web site at:

www.jamartech.com

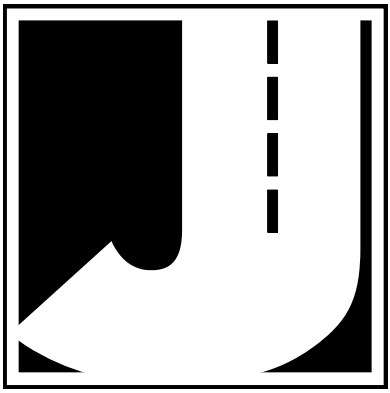
Contact us by e-mail at:

sales@jamartech.com

Contact us by phone at:

215-361-2244

Monday - Friday 8:00 AM to 5:00 PM Eastern time



Volume 1.10 April 2009

Table of Contents

Quick Setup Guide for the Radar Recorder

1. Install the Pocket Collect PDA software for use with the Radar Recorder, following the instructions that came with the software.

2. Check the battery voltage of the battery to be used for your study. If the charge is sufficient (6.3 or higher), connect the battery to the Radar Recorder.

3. Install the Recorder in the field, following the directions in Chapter 1.

For the best results, the Radar Recorder should be installed:

- Six to ten feet back from the road.
- At least six feet above the ground.
- At a 45 degree angle to the flow of traffic.
- Where the far side lane is no greater than 50 feet away.
- Where traffic is free flowing.

The unit should not be installed:

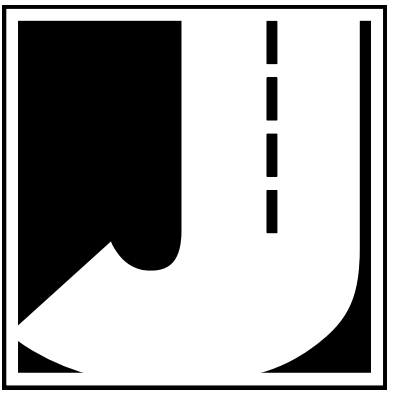
- At an intersection.
- Near where vehicles are likely to park.
- In a position that causes the radar head to be at an extreme angle.
- Near where pedestrians are likely to be crossing.
- Where the Radar's "view" is obstructed.

4. Use the *Collect* software on the PDA to setup the Radar Recorder as described in Chapter 2. Use the LiveView feature of the software to check that data is being recorded properly.

5. Leave the Radar Recorder to record data for the time period you would like. A fully charged battery will record data for up to 7 days. If two fully charged batteries are installed, recording time is up to 14 days.

6. Retrieve the data using the Collect software.

7. Transfer the data file from the PDA to your desktop using either the TRAXPro software and process the data.



Chapter 1

Introduction and Installation

What is the Radar Recorder?

The Radar Recorder is an automatic traffic data collector distributed by JAMAR Technologies, Inc. It is designed for ease of use, but contains many options and features to provide comprehensive traffic data collection. This device is a non-invasive data collector that uses radar to gather highly accurate traffic data, which means there is no need to install any road tubes, loops or other type of sensor in the road.

With the Radar Recorder, you can gather data in three separate formats: Volume Only, Binning or Per Vehicle. Both the Binning and Per Vehicle formats allow you to get speed and length classification in addition to volume data. At any convenient time, you can transfer the data from the Radar Recorder to a PDA and bring the data back to your office for processing.

The Radar Recorder contains 4 MB of memory, allowing you to record up to 500,000 vehicles in Per Vehicle mode or up to 1 year of data in Volume Only or Binning mode.

How is the Radar Recorder powered?

The Radar Recorder is powered by a rechargeable lead gel battery. In general, a fully charged battery (6.5 volts or higher) will record data for 7 days before needing to be recharged. An optional solar panel is also available for long-term installations. Refer to the Appendix for more details on this.

Note that when the Radar Recorder is first shipped to you the battery is disconnected and will need to be connected before first use. We recommend that you check the voltage level of the battery when it is first connected. A fully charged battery should register at 6.5 or higher. If your battery is lower than this, we recommend that you charge it before the first use.

Also note that the Radar Recorder will be in running mode whenever the battery is connected. We recommend that you disconnect the battery whenever the Radar Recorder is not in the field collecting data.

Keeping your battery properly charged is very important. The rechargeable battery will begin to decay and become less effective if it is allowed to fall below 5.7 volts. To avoid having to replace your battery prematurely, keep it consistently charged. A well-maintained battery will last for years without having to be replaced. Refer to Chapter 3 *Battery Care* for more information on battery maintenance.

Before You Begin

Before you attempt to collect important data with the Radar Recorder we strongly recommend that you familiarize yourself with both the operation of the Radar Recorder, and the software that is used with it, by reading all the documentation that came with the equipment.

Important Note: A detailed video demonstration on the installation and use of the Radar Recorder is available for viewing on the JAMAR website (www.jamartech.com). We recommend that you view this demonstration at least once if you are new to the Radar Recorder.

Whenever possible, we recommend that you perform a test study if you are new to the Radar Recorder. This will help you become comfortable with the operation of the equipment and how the data is both collected and analyzed. This should make things easier for you when you have to do your first real study.

Few things are more frustrating than trying to figure out new equipment, or resolve problems, when working on a tight deadline or with critical data. The more familiar you are with the equipment before having to use it for important studies, the better off you will be.

Installation

Before going to the site to install the Radar Recorder, check that you have the following items from the installation kit:

Pole mounting bracket with mounting cables

Two cable clips for securing the cables

Four locks with keys

Optional chain for added security

Nut driver

Allen wrench

Also check that your PDA is fully charged, has the latest version of the *Pocket Collect* software installed, and that the date and time on the PDA are correct. The Radar Recorder will synchronize its time and date to that of the PDA during setup. Note that the time and date of a Pocket PC can be set by going to Start, Settings, System, Clock & Alarms.

Selecting a Site

When choosing a location to install the Radar Recorder, keep in mind that it will need to be mounted to a pole (typically a utility pole) or tree, so the site will need to have one of these available for use.

For the best results, the Radar Recorder should be installed:

- At a 45 degree angle to the flow of traffic.
- Six to ten feet back from the road.
- At least six feet above the ground.
- Where the far side lane is no greater than 50 feet away.
- Where traffic is free flowing.

The unit should not be installed:

- At an intersection.
- Near where vehicles are likely to park.
- In a position that causes the radar head to be at an extreme angle.
- Near where pedestrians are likely to be crossing.
- Where the Radar's "view" is obstructed.

Mounting the Radar Recorder

Once a site has been selected, the Radar Recorder can be easily mounted using the installation kit.

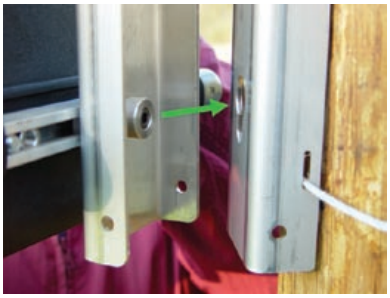
Step #1 - Prepare the mounting bracket for installation.

Step #2 - For the most accurate results, the bracket should be installed so the Radar Recorder is facing traffic on a 45 degree angle. Once you have determined this position, place the bracket.

IMPORTANT: Note that the area of the Radar Recorder that you are aiming toward the road are the crosshairs printed on the face of the Radar head, as shown in the picture here.

Step #3 - Wrap the mounting cables around the pole and thread through the cable clips. Tighten the clips using the nut driver to secure the bracket in place.

Step #4 - Insert the pegs on the back of the Radar Recorder's mounting bracket into the large holes of the pole mounting bracket and slide the Radar Recorder down to secure it in place.



Again, note that it is the front of the Radar Recorder that you are aiming toward the road at a 45 degree angle.

Also note that the position of the bracket on the back of the Radar Recorder can be slid to the left or right by loosening the center screws. This can be done with the allen wrench included with the installation kit. Moving the bracket's position can help if you need to aim the recorder around obstacles.

Step #5 - Lock the unit into the mounting bracket. If you wish to add further security to the installation, the chain that was provided with the recorder can be wrapped around the pole through the bracket area, then locked in place.

Step #6 - Once the Radar Recorder has been setup using the *Collect* software (refer to the next chapter), close the lid and lock it.

Note that the mounting bracket is a relatively inexpensive item, so it may be left onsite to ease future installations at the same locations. Additional brackets can be purchased directly from JAMAR.

Chapter 2

Programming the Radar Head & Retrieving Data

Setting Your Preferences

There are several default settings for the program that you can configure before you begin using the Pocket Collect software with your Radar Recorder. To access these, start the program then click on the *Setup* menu and select *Preferences*.

The options let you select to always save data to a memory card, always synchronize the recorder's time with the PDA, and to use US measurements (feet & inches) rather than metric.

Connecting to the Radar Recorder

Once you have the Radar Recorder installed, it needs to be programmed to record the data that you want. To do this, open the case of the Radar Recorder and connect your PDA to the serial port of the Radar Recorder Head unit.

Start the *Pocket Collect* software on your PDA. If the program is able to properly connect to the Radar Recorder, the Radar Recorder Connected Screen will appear.

The **Radar Recorder Connected** screen provides details on the current status of the Radar Recorder. This screen lists the currently entered Site Code, what format of data is being collected (Volume, Binned or Per Vehicle), the start and end date of any data currently in the recorder, the time interval being used to store the data, the current firmware version of the Radar Recorder and the battery voltage level.

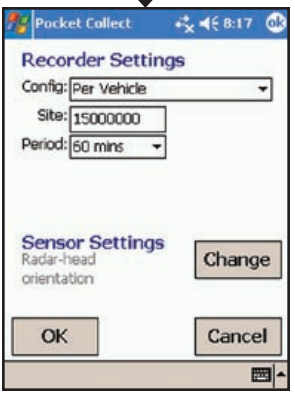
The buttons along the bottom of the screen are used to access other features of the program, which are discussed on the next few pages.

Setting Up a Study

To setup a study, tap the *Setup* button at the lower right of the Radar Recorder Connected screen. This will bring up the Recorder Settings screen.

Important Note: Any data currently stored on the Radar Recorder must be downloaded to the PDA before the Setup screen can be accessed. Refer to page 2-9 for information on downloading data.

The **Recorder Setting** screen allows you to set up the type of data you want to collect.



The *Config* field is used to select the type of data. The options are: Volume, Binning, and Per Vehicle. The *Site* field is used to enter a site code, while the *Period* field is used to enter the interval length for the study.

Study Config - Volume

As the name implies, a Volume study will only provide volume information. This format does not provide speed or length data. *This selection is only recommended if you want just volume information, with no speed or length data.*

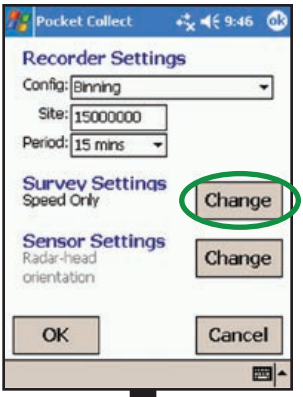
The Period field can be used to select an interval of either 1, 5, 15, 30 or 60 minutes. Setting the Site Code is described on page 2-5.

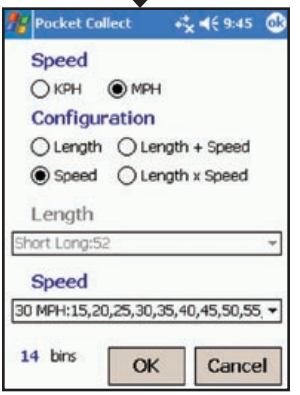
Study Config - Per Vehicle RECOMMENDED

As the name implies, a Per Vehicle study will record and store the speed and length details of each vehicle on a vehicle by vehicle basis, and in doing so provide volume data. *This selection is recommended for most data collection as it provides the greatest flexibility when working with your data.*

The Period field does not apply when data is being recorded in this format. Setting the Site Code is described on page 2-5.

Study Config - Binning





A Binning study allows you to record Speed and/or Length data, in addition to getting volume data. *This selection is most commonly used if you are only interested in speed and volume data and will be collecting data for long periods of time, like a month or more.*

When you select Binning in the Config field, a new field will appear on the screen, labelled *Survey Settings*. Clicking the Change button for this field will open a screen that allows you to select how the binned data should be recorded.

At the top of this screen you can select whether speed data should be recorded as mph or kph.

Below this, the Configuration field allows you to select what data you want recorded in the binning mode. The options are:

Speed Only: Accurate to 1 mph
Length Only: Accurate to 4 inches
Length + Speed: Both recorded
Speed x Length: Speed stats can be viewed for each length bin and vice versa. (Note that it is more common to use a Per Vehicle study for this type of data.)

Note that there are only a maximum of 18 bins that can be recorded at one time. So, for example, if you select Speed + Length and you are using 14 bins for speed, only up to 4 bins can be used for length.

The **Length** and **Speed** dropdown fields allow you to select the bin format for your data. For speed, we recommend the bin *30 MPH:15,20,25, 30,35,40,45,50,...* for most locations.

Like with Volume studies, the Period field can be used to select an interval of either 1, 5, 15, 30 or 60 minutes. Setting the Site Code is described on page 2-5.

Entering a Site Code

The data in the Radar Recorder includes the date and time that the study was done, but no direct information on *where* the study was done. Use of the Site Code is a way for you to identify the assigned study location, and will make data processing with the software easier.

To enter a site code, tap the Site field and the keyboard screen of the PDA will pop up. The keyboard can be used to enter the site code you want. Note that the site code is restricted to numerals only (do not use letters), and can be a maximum of eight digits.

We recommend that you create a unique site code for every location that you use to collect data.

For example, if you decide to record your first set of data at a specific location on Main St., you might create the site code 00000001 (or any combination of eight numbers that you want) for this location and enter this into the Radar Recorder whenever you are recording data at this location.

Later, if you decide to record your second set of data at a specific location on Elm St., you might create the site code 00000002 for this location and enter this into the Radar Recorder whenever you are recording data at this location.

If, at some point, you return to collect data once again at your first location on Main St., you would re-enter the Main St. site code of 00000001.

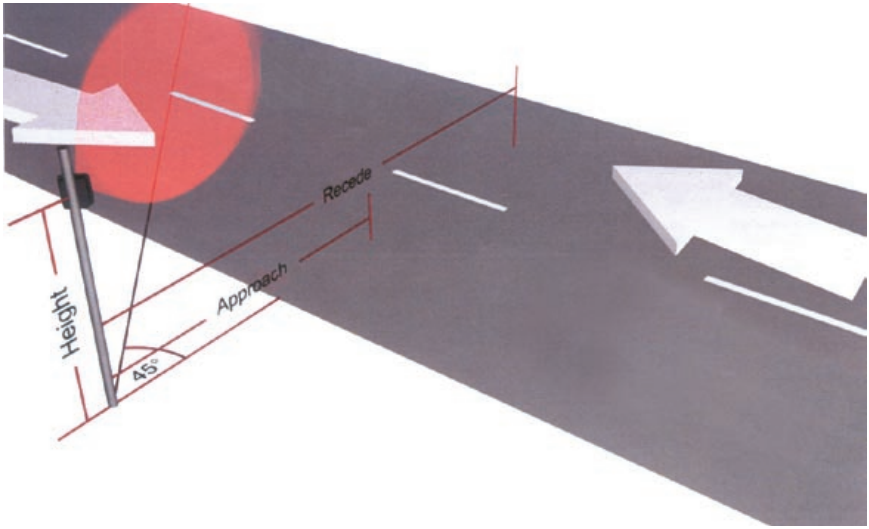
Later in this chapter we'll see how using site codes will make the processing of your data in the software easier.

Setting the Lane Configuration

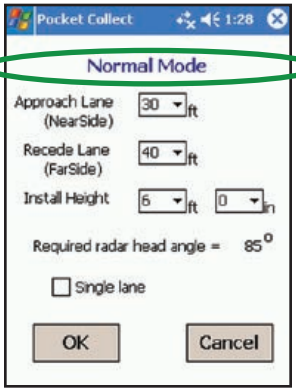
There are three lane configurations that are available for data collection: Normal Bidirectional mode, Reverse Bidirectional mode and Single Lane mode. To access the setup screen for these different modes, click the *Setup* button on the Radar Recorder Connected screen then click the *Change* button for Sensor Settings.

Normal Bidirectional Mode

Normal bidirectional mode is the most commonly used lane configuration. This refers to a two lane road where the Radar Recorder has been mounted with traffic approaching the unit in the near side lane, as shown below.



The distance from the Radar Recorder to the middle of the Approach Lane (near side) and the middle of the Recede Lane (far side), should be entered here, as well as the installed height of the Radar Recorder. Note that the lane distances should be measured directly from the pole to the road, as shown above.

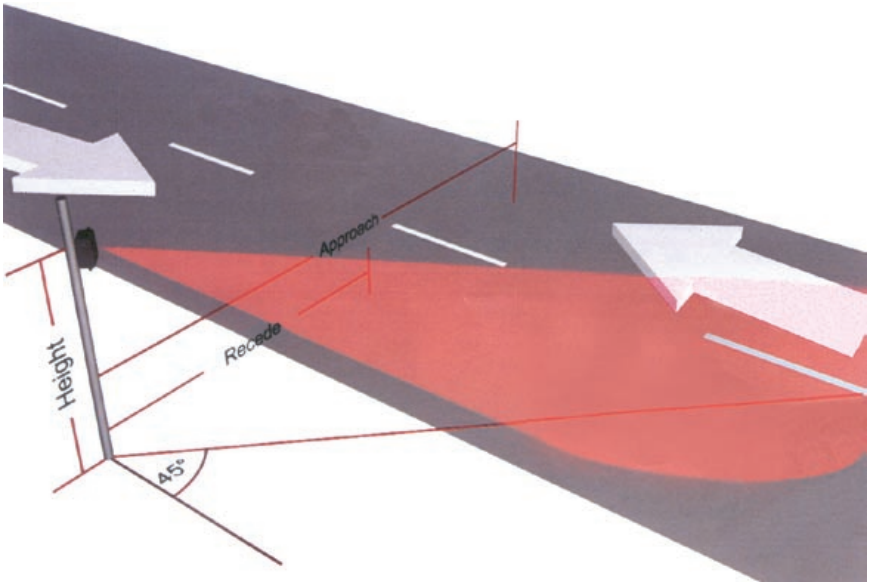


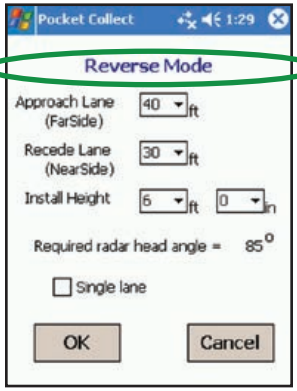
The distances can be estimates, but should be reasonably accurate to ensure good results.

The Radar Head angle is set by rotating the Radar Head in the cabinet, which is discussed on page 2-9.

Reverse Bidirectional Mode

Reverse bidirectional mode refers to a two lane road where the Radar Recorder has been mounted with traffic approaching the unit in the far side lane, as shown below. Note that while the Recorder does work well when mounted backwards, we recommend mounting it forwards whenever possible as it has been optimized to work this way.





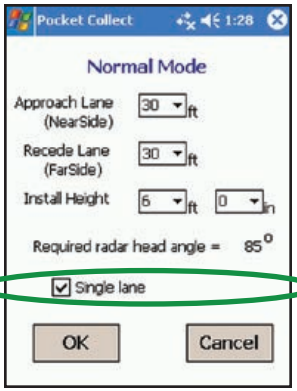
The distance from the Radar Recorder to the middle of the Approach Lane (far side) and the middle of the Recede Lane (near side), should be entered here, as well as the installed height of the Radar Recorder. Note that the lane distances should be measured directly from the pole to the road, as shown above. The distances can be estimates, but should be reasonably accurate to ensure good results.

The screen label will automatically change from 'Normal Mode' to 'Reverse Mode' once the Approach lane value is greater than the Recede lane value.

The Radar Head angle is set by rotating the Radar Head in the cabinet, which is discussed on page 2-9.

Single Lane Mode

As the name implies, single lane mode is for use when you want to record just one lane of a road.



This can be achieved by setting the Approach and Recede lanes to equal distances.

If you check off the Single Lane box, the Approach and Recede distances are locked together, so increasing one automatically increases the other.

The Radar Head angle is set by rotating the Radar Head in the cabinet, which is discussed below.

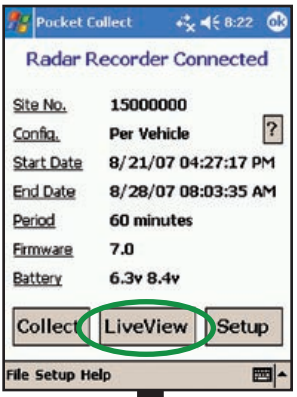
Setting the Radar Head Angle

When you enter the lane configuration distances for the approach lane, recede lane and install height, Pocket Collect determines what the angle of the radar head should be to provide the most accurate results. It then displays this recommended angle, as shown in the picture to the right.

To set the angle, simply rotate the radar head up or down, as shown in the picture to the right.

IMPORTANT: Note that the area of the Radar Recorder that you are aiming toward the road are the crosshairs printed on the face of the Radar head, as shown in the picture here.

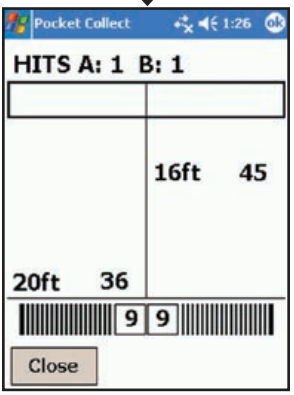
Checking the Installation with LiveView



Once you have installed the Radar Recorder and set it up to record the data you want, you can check your installation to be sure data is being accurately recorded.

To do this, click the LiveView button on the Radar Recorder Connected screen.

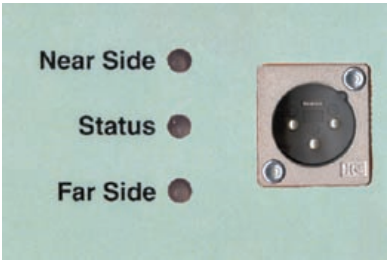
The LiveView screen will display the data in real time, as it is recorded, including vehicle length and speed.



The signal strength is displayed as two sets of bars below each lane's details. The maximum signal strength is 9. If the signal strength for a lane is low, try slightly rotating the Radar Head toward that lane.

Note that if you have just installed the Radar Recorder, it can take up to 5 vehicles in each lane to fully configure the Radar head.

On the Radar Recorder itself, the Status light should flash every few seconds, to let you know the unit is operating correctly. The Near Side light should flash any time a vehicle passes in the near lane. Similarly, the Far Side light should flash any time a vehicle passes in the far side lane.



IMPORTANT: We highly recommend that you use the LiveView to verify that the Radar Recorder is correctly recording vehicles before you leave the site. If the LiveView is not showing vehicles as they pass, the recorder is not getting good data. Double check all setup settings and refer to the Troubleshooting chapter for more items to check.

Data Memory

The Radar Recorder contains 4 MB of internal memory. With this memory, it will record up to a full year of data when using either the volume or binning mode, or up to 500,000 vehicles when using the Per Vehicle mode.

Retrieving Data

Once you have recorded all the data you want, it can be retrieved from the Radar Recorder using your PDA and the *Pocket Collect* software.

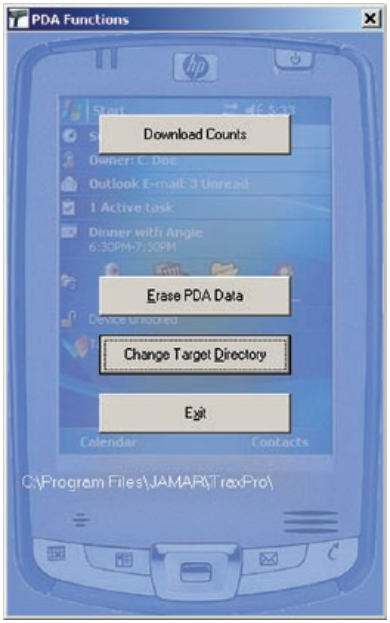
********** IMPORTANT **********

When you retrieve data from the Radar Recorder with the Collect software, the data is cleared from the memory of the Radar Recorder. Do not clear the data from the memory of your PDA until you are sure it has been properly transferred to your desktop.

Connect your PDA to the Radar Recorder and then start the Pocket Collect software. Once the program connects to the Radar Recorder, tap the **Collect** button. The program will then begin collecting the data. Once it has finished collecting the data, you will see a confirmation screen with details of where the file has been saved. This process is shown below.

Transferring Data from the PDA to TRAXPro

Transferring the data from your PDA to the TRAXPro software for processing is a fairly easy process. First, connect your PDA to your desktop computer, then run TRAXPro. To retrieve the data, go to the *File* menu then select *Acquire*, *Radar Recorder*, *PDA with Radar Collect*. The **PDA Functions** screen will then appear, as shown to the left.



There are several things that can be done with this screen, the most important of which is retrieving data from the PDA. To do this, click the *Download Counts* button. TRAXPro will connect to the PDA using the Active Sync connection and copy all the data in Pocket Collect to your computer. You will then see each study appears in its own window in TRAXPro.

Note that the transfer does not automatically remove the data from your PDA. Once you are sure the data has been successfully moved to TRAXPro, you can delete the files from the PDA by using the *Erase PDA Data* button.

If you do not erase the processed files from the PDA, these older files will get transferred to TRAXPro again the next time you retrieve new files from the PDA.

Refer to the TRAXPro manual for more information on how to process your data once you have it in the program.

Chapter 3

Battery Care

Maintaining Your Battery

The following information regarding battery care is furnished to assist you in the use and maintenance of rechargeable batteries. Battery life is dependent on the user's preventative maintenance procedures. Establish regular routines for all of your batteries regardless of their usage.

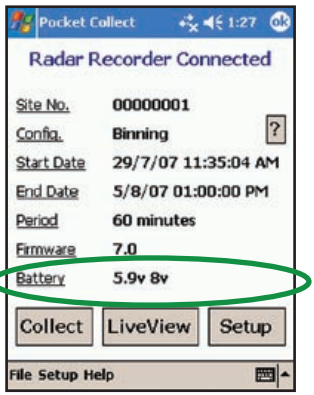
Charging a battery is very important for obvious reasons. Your Radar Recorder depends on a fully charged battery to operate efficiently and to produce reliable and correct data. Batteries should not be allowed to sit in a discharged state for any length of time. Once the battery discharges below 5.7 volts, damage to the cells has already begun. Symptoms of a damaged battery are:

1. The battery will not charge to its full capacity of 6.4 volts or higher.
2. The battery will only hold a charge for a short time under load conditions.
3. The battery will discharge faster than normal during storage under no load.

With this in mind, recharge the battery to its highest potential (normally from 6.4 volts and up) once it has fallen between 5.9 and 5.7 volts. The battery can be charged using the Radar Recorder Battery Charger that came with the unit.

Battery Charging

Monitor your battery voltage by checking the *Radar Recorder Connected* screen of the Collect software. We recommend that the battery be recharged to its highest charge level (usually 6.4 volts and above) once it discharges to between 5.9 & 5.7 volts. A good battery may charge as high as 6.8 volts or better. A defective battery may not charge any higher than 6.1 volts after a reasonable charge time. Charge time will vary with the level of the battery voltage. Usually, a battery of 6.0 volts can be charged to its highest potential in 12 hours or less.



To charge the battery, first remove it from the Radar Recorder. Plug the Radar Recorder Battery Charger (shown here) into an outlet, then connect it to the terminals of the battery.

**********CAUTION**********

Never plug a charger into a battery unless you are absolutely sure of the voltage output and polarity.

While the battery is charging, the light on the Radar Recorder Battery Charger will be amber/yellow in color. Once the charge is complete, the light will be green. If there is a problem with the charge, the light will be red.

After a battery has been charged, allow it to sit for several hours then check the voltage to determine if the battery kept its charge. Some reduction in voltage is acceptable. However, if the battery falls below 6.1 volts, recharge it for a longer period of time. If this does not improve the charge, the battery is most likely defective and should be replaced.

Monitor your battery voltages frequently, charging when necessary, and you will extend the life of your battery.

Additional Notes

• **Do not** expose the battery to moisture or rain.
• **Do not** drop, hit or abuse the battery — it may break and expose the contents, which are highly corrosive.
• **Do not** short circuit battery terminals. Some batteries are protected with self-resetting fuses, but short circuits may still cause severe damage to the battery.
• It is normal for a battery to become warm to the touch during charging.
• It is normal for a battery to "self discharge" during prolonged storage. Always fully charge a battery prior to storage. While in storage, periodically check the batteries with a voltmeter to ensure they have not discharged below a level that may cause permanent damage.
• Always store in a cool, dry location.

• Keep batteries away from fire and do not incinerate — they may explode.

• Under no circumstances should you attempt to open the battery case.

• Always observe polarity when connecting your battery to any electronic/electrical device. If your device is not protected for improper battery hookup, you may cause severe damage to the electronic circuitry. The positive terminal may be indicated by a plus (+) sign or red mark. The negative terminal may be indicated by a minus (-) sign or black mark.

• The effectiveness of the solar panel can be reduced if it is dirty or scratched up. For best results, try to keep the panel clean.

Chapter 4

Troubleshooting

Troubleshooting

The following are some frequently asked questions related to the Radar Recorder. The possible answers that are stated with them are not necessarily the only answer, but should be checked first. If you cannot find the answer to your question, do not hesitate to contact us. Contact information is listed on page iii of this manual.

The Status Light is not flashing at all. What's wrong?

The Status light should flash every few seconds if the Radar Recorder is running. If the light is not flashing at all, the unit has most likely lost power. First, check that the battery connections are secure. If they are, next check to see what the voltage level of the battery is. A fully charged battery should read 6. 4 volts or higher. The Radar Recorder will stop running if the battery falls to 5.5 volts.

The Status Light is flashing rapidly. What's wrong?

The Status light will flash rapidly if the time and date on the Radar Recorder have not been set up. This often indicates that the battery has drained (see above) and the unit's internal clock has reset itself. Connecting a PDA with the Collect software installed will synchronize the Recorder's clock to that of the PDA. We recommend that the main battery be left connected after resetting the time to allow the backup battery to recharge.

When using LiveView, no vehicles are displayed as they pass the site. What's wrong?

There may be a problem with either how the Radar Recorder was installed or one of the settings that was entered during set up.

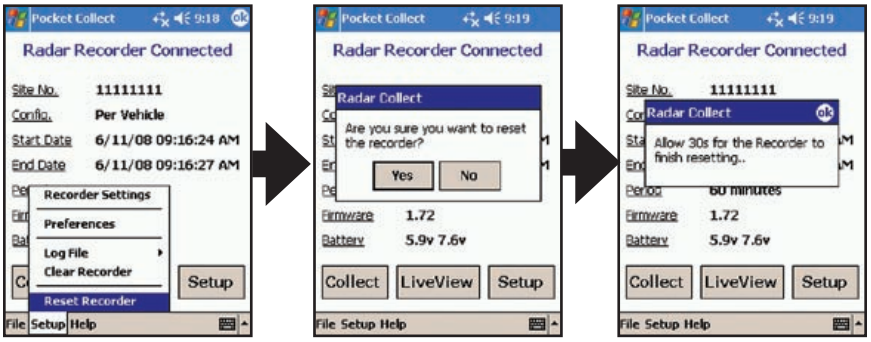
First, make sure that you are aiming the correct area of the Radar Recorder toward the road. You should be aiming the crosshairs printed on the radar head, as shown in the picture here, at a 45 degree angle toward the road you want to record.

Second, check to see if there is anything between the Radar Recorder and the Road that may be obstructing the 'view' of the recorder.

Third, double checking the distance values entered during the installation and setup of the Radar Recorder.

I'm having trouble with the Radar Recorder and want to 'reboot' it. Can I do that?

Yes, you can reset the Radar Recorder to its factory default settings. To do this, connect your PDA to the Radar Recorder then start the Pocket Collect software. Once the PDA is connected, go to the *Setup* menu in Pocket Collect and select *Reset Recorder*. You'll then be asked if you are sure you want to reset the recorder. If you answer *Yes*, the recorder will begin the resetting process, which takes about 30 seconds. Note that resetting the recorder will remove any data from memory.



I want to clear the memory of the Radar Recorder. Can I do that?

Yes, you can clear the memory of the Radar Recorder. To do this, connect your PDA to the Radar Recorder then start the Pocket Collect software. Once the PDA is connected, go to the *Setup* menu in Pocket Collect and select *Clear Recorder*. You will then be prompted to enter a password – *911* can be used. Once the password is entered, you'll be asked if you are sure you want to clear the recorder. If you answer yes, all data in memory will be cleared.

When using LiveView to watch vehicles being recorded, the signal strength seems low. Is there anything I can do?
If the signal strength for a lane is low, try slightly rotating the Radar Head toward that lane and see if the strength improves.

When I mount the unit close to the road, it sometimes misses vehicles. Is there anything I can do?
It is recommended that the Radar Recorder be installed at least 6 feet from the road way. However, if you must install it close, the angle of the Radar Head is critical to ensuring that all vehicles are properly recorded.

Additional support information can also be found on our web site at www.jamartech.com. If you are unable to find a solution to your problem, contact us using the information located on the first page iii of this manual.

Appendix

Appendix #1 - Optional Solar Panel

Under normal use, the Radar Recorder can collect data for one to two weeks using battery power before you need to recharge. For many portable applications this is fine, as the recharging can be done once the short term data collection is finished.

However, if you want to use the Radar Recorder to collect data on a long term basis, such as at a permanent site, having to swap out and recharge the battery every week or two can become tedious. To eliminate this, the optional solar panel can be used. With the solar panel, the Radar Recorder can collect data almost indefinitely under one battery charge.

The solar panel kit consists of the solar panel and mounting bracket, shown in the picture here.

There are many possible ways to mount the Solar Panel for use with the Radar Recorder. One option is to use the mounting bracket that is included with your kit. This bracket can be used in many configurations – one possible configuration is shown to the right. Refer to the instruction sheet that comes with the mounting bracket for more details and additional options. For the best results, install the solar panel at a location free from daytime shadows.

Once the Solar Panel has been mounted, it can be connected to the Radar Recorder using the blue solar panel connection port located on the side of the Radar Recorder box.

Appendix #2 - Specifications

Sensor: Microwave 24.2 GHz, power output 5 Mw

Speed Range: 2-130 Mph

Radar Range: Up to 400 Feet

Setup Range: Up to 80 Feet

Size: 11.5" x 13" x 7"

Weight: 1 Battery Installed - 14 lbs.; 2 Batteries Installed - 19 lbs.

Power: Rechargeable lead gel battery

Approx. Accuracy: Near Lane > 98%; Far Lane > 96%

Battery Charge Life: 1 Installed - 7 Days; 2 Installed - 14 Days

Operating Temperature: Minus 40° F (-40°C) to 158° F (70°C)

Interface: RS-232 serial comm port, 3 pin XLR male socket

Memory: 4 MB Internal Memory. Will record up to 500,000 vehicles in Per Vehicle mode and up to 1 year of data in binned mode

Clock: Always active real-time clock

Data Collection Formats: Volume, Binned, Per Vehicle

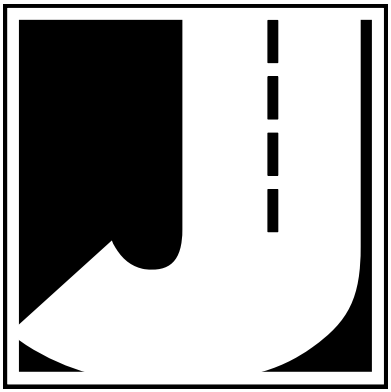
Recording Intervals: 1, 5, 15, 30, 60 minutes

Units: Speed - MPH or KPH; Length - Feet or Meters

Output: Binary file capable of being read by Collect software

We are pleased that you have chosen the Radar Recorder for your traffic data collection needs. We have strived to develop a unit that is easy to use and has the options that our customers require. The Radar Recorder has undergone extensive testing to verify the accuracy of its operations, and each unit is tested before it leaves our facility. However, just like other complex electronic devices, problems can occur. We always suggested that users verify the continuing accuracy of any device they use.

Should you detect any problems with any of our products, please notify JAMAR Technologies immediately and discontinue use of the unit until we have verified its operation.



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