

SureShot Users Manual

SureShot is a Pocket PC application that calculates ballistics solutions to real world shot opportunities. It is designed for the hunter or target shooter to use in the field in lieu of the various and sundry hard copy items that we have used previously. The Pocket PC, weighing only a few ounces and small enough to fit in a coat pocket, is now capable of replacing notebooks full of trajectory tables and providing a more accurate solution.

It is designed to be used in conjunction with the online ballistics calculator at BigGameInfo.com. It relies on a web service to provide the base load data, which has previously been created and saved in a database for future reference, or download for use by SureShot. A file containing load data from another source may be manually created if necessary.

The ballistics calculation engine in both SureShot and the online tool is based on the work of James B. Millard (JBM), which actually calculates drag factors rather than using a table lookup method. Historically these calculations have proven to be more accurate than the simpler table lookup methods. The calculation methods used are extremely accurate but they rely on the accuracy of the input data, which presents perhaps the most challenging aspect of the solution. The results the program yields can be no better than the input provided.

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Installation

The software package installation is a multi-step task, which requires that the installation package be downloaded to a hosting Windows PC, executed on the PC for basic file extraction/copy operations and finally installed on the Pocket PC by the Application Manager. This sounds more complex than it really is. The whole operation is automated to the extent that in most cases you simply need to click “Next” and “Finish” to accept the defaults and have it up and running on the Pocket PC.

System Requirements

- [Microsoft .Net Compact Framework](#) – This is available for download free of charge from the Microsoft Windows Mobile web site. It is a rather large download (14+MB) but only requires +- 2.5 MB on the Pocket PC. It is included in Pocket PC 2003. **Please review the System requirements on this download page.** The same technologies used to install the Framework are used to install the application.
- Approximately 64KB of free ram for the application and data on the Pocket PC.
- Internet connection from the Pocket PC to download load data from the web site. This connection need not be available continuously, just to sync the load data when desired.

System Setup

- 1) Setup an login account for the [Advanced Ballistics Calculator](#) and save at least one load if you have not already done so.
- 2) Verify whether that you have the .Net Compact Framework installed on your Pocket PC. (It should be displayed as a removable program if it has been previously installed.) Download and install the .Net Compact Framework, if required, by following the instructions on this page: [Microsoft .Net Compact Framework Download](#)
- 3) Download and install the Pocket PC application. If you elect to save SureShotSetup.exe to disk be sure to note where it was saved so it may be executed. A simpler alternative is to select open, in this case it is downloaded and immediately executed. It may be downloaded from here: [SureShotSetup.exe](#)
- 4) The program will start on the pocket PC following a successful installation.

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When the program starts immediately following the successful install of the application your screen should look like the figure above. Note the load selection control is displaying “Tap the Sync button” to prompt you to perform the initial download of load data. When you tap the Sync button you should see the screen change to the image shown on the next page.



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Enter your user name and password then tap “Sync”. This will initiate communication with a web service at BigGameInfo.com to retrieve your entire store of load data. A progress bar will display and be updated as the various operations proceed.



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On successful completion of the operation you should be presented with a messagebox confirming download.

This concludes the installation process. You will have successfully completed the installation and can now put it to work



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The screen image on the right provides the means to define your shot setup. The first thing to be done is to select the load you wish to work with. All the loads that you have saved on the web site will be displayed in the selection box at the top of the screen. Tapping the up and down arrows will scroll through them all sequentially. Which ever one is displayed is the one that is used in all calculations. With the initial default values the only required value to perform a calculation is to enter a range value between 100 and 2500 yards and then tap the calculate button. We'll get to the display screen later but for the moment we'll discuss each of the input fields and there effect on the calculations.



Incline is expressed in degrees and will accept value between 90 and -90, negative indicate downhill. Positive indicates uphill. This value is used to account for the effects sometimes encountered in the mountains of extreme up or down Line of Sight angles. The accuracy of the angle supplied will have a major impact on the accuracy of the calculation, particularly as the range starts getting a little longer. This link will show you how to make a [poor mans iclinometer](#) that can be taped to your stock and used to get much more accurate than most people's "guestimate". You can also just spend \$20 and buy one [here](#) among other places.

Wind conditions are defined by two values **Direction** expressed in degrees in the range of 0 – 360. To determine the appropriate value envision that you are standing in the center of a compass, your target is a 0 (due north) and the wind direction is expressed relative to these points of reference. A right to left crosswind would then be 90; left to right would be 270 and so forth. **Velocity** is the wind speed expressed in miles per hour. The program uses the input values to construct the appropriate wind vector value.

Atmospheric conditions may also be defined. The program will set the atmosphere to **standard conditions** when the checkbox is checked based on the **Altitude** value that is the

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altitude above sea level between -1000 and 15000 feet. A more accurate method is to enter the **Temperature** and **Pressure** directly. Valid temperature values are between -40 and +140 in degrees Fahrenheit. Pressure is valid between 15 and 40 inches of mercury. Relative **Humidity** may also be entered (0-100%) but has an almost negligible effect on the trajectory. There are several potential devices available to acquire accurate atmospheric input data. I'm not personally familiar with any of them so I hesitate to make a recommendation.

The screen image at right depicts the calculation results. In addition to the path and windage values it shows the remaining velocity, energy and momentum.

