

VECTOR
PRO LAUNCH SYSTEM



User Guide

V2.4.7

VFit, VTeach, and VRange

ACCUSPORT
KNOW THE GAME.

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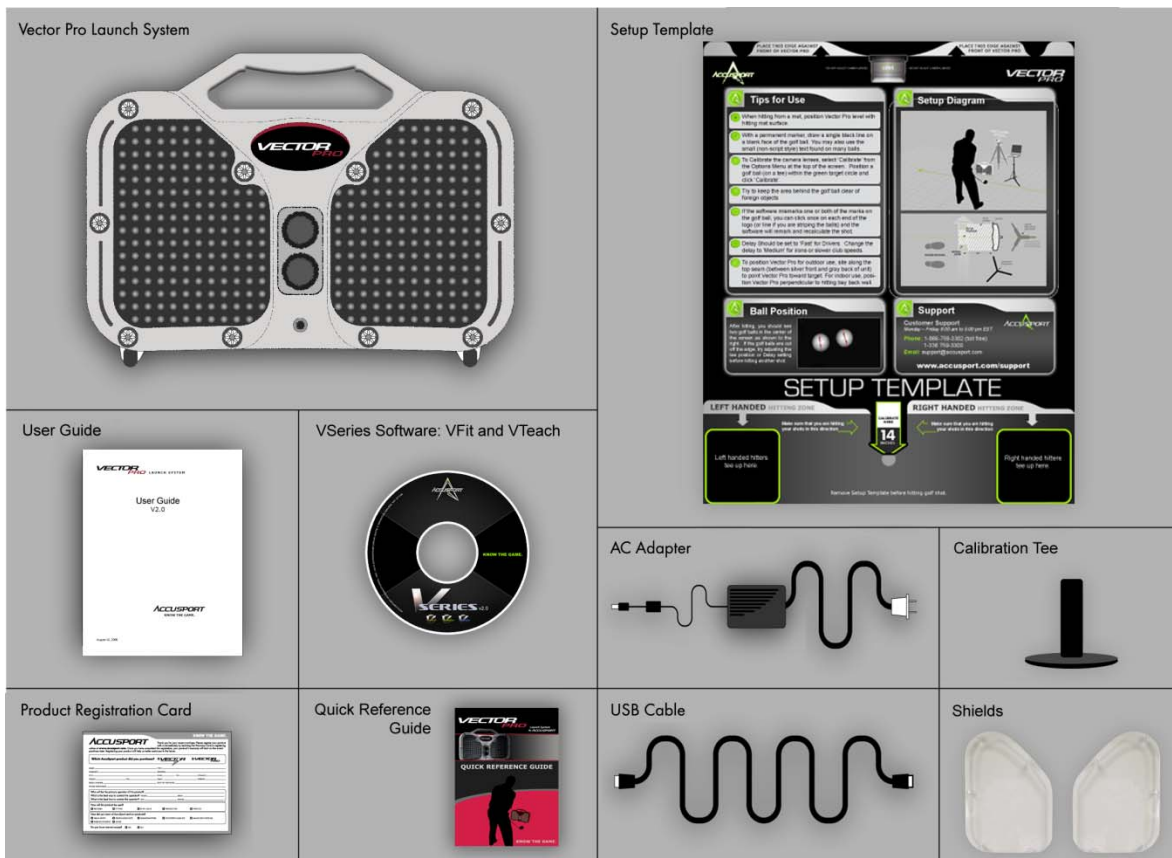
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GETTING STARTED

Congratulations on your AccuSport Vector Pro Launch System purchase. You have chosen to do business with the leader in launch system technology. To validate the AccuSport warranty, receive notification of software updates and gain access to free technical support, please register your product by filling out the enclosed warranty card, or by going to www.accusport.com to complete the online registration.

To ensure trouble-free, reliable operation, read this user guide before setting up and using your Vector Pro. Please visit the AccuSport web site at www.accusport.com for advanced topics and breaking news about AccuSport products.

Vector Pro Launch System Components



Note: VFit and VTeach software ships standard with each Vector Pro purchase. The VRange software is an add-on module that can be purchased for an additional cost.

About Computer Requirements

Warning:

This software is designed for computers running "Intel" Processors and Microsoft Windows Operating Systems (See Below)

- **AMD processors are not recommended**
- **USB 3.0 not supported**
- **Only Mini DV Cameras are supported in the VTeach Program. High Definition and Hard Disk Cameras are not supported**
- **Windows XP 64 bit is not supported**
- **Apple Macintosh products are not supported**
- **NetBooks are not recommended**
- **For further information call AccuSport Customer Support 336 759 3300 Ext 2**

The VSeries Software works with personal computers that meet the following computer requirements on page 6:

To check your computer's specifications, select the "Start" button (Win XP) or "Logo" (Win 7 or Vista). Right Click on the "My Computer" label (Win XP) or "Computer" label (Win 7 or Vista). A small context menu will appear. Left-Click on "Properties" this will display your computer specifications. Compare with the following to ensure the computer meets the requirement.

Computer Requirements (Windows XP, Vista, Windows 7):

CPU:

- Minimum - Intel (only) Core2 duo with 2.0 GHz processor;
- Recommended – Intel iSeries, i5 & i7, 2.4 GHz processor or above

Operating System (O/S):

- Minimum – Windows XP (32 bit only), Service Pack 3 (SP3)
- Recommended – Windows 7 (32 and 64 bit O/S)

Memory:

- Minimum 3 GB (2GB Windows XP)
- Recommended 4 GB (or above with 64 bit O/S)

Hard Disk:

- Minimum 80 GB
- Recommended 250+ GB

Drive:

- CD/DVD

Video Card:

- Minimum 32 bit color, 1024 x 768 resolution, Microsoft Direct x 9.0, 128Mb Onboard Memory, VGA/DVI/HDMI port (2 ports recommended for dual monitor support)

Ports:

- USB: One available USB 2.0 Port (for Vector Pro)

Video Camera Port (Optional):

- Connecting video camera via IEEE 1394A (FireWire)

Video Camera Specifications:

WARNING: Hard Disk and Hi Definition cameras are not supported. For Video instruction, only Professional (Firewire) and Mini- DV (tape) live-streaming cameras are recommended.

- Microsoft Windows (Windows Driver Model (WDM)) Compliant
- Digital - not analog
- FireWire connection to computer
- 30 frames per second minimum
- Resolution: x 480 pixels minimum; 720x480 maximum
- Ability to manually adjust shutter speed
- Gain adjustment (light amplifier)
- Wide Angle Lens (optional)

Safety Instructions

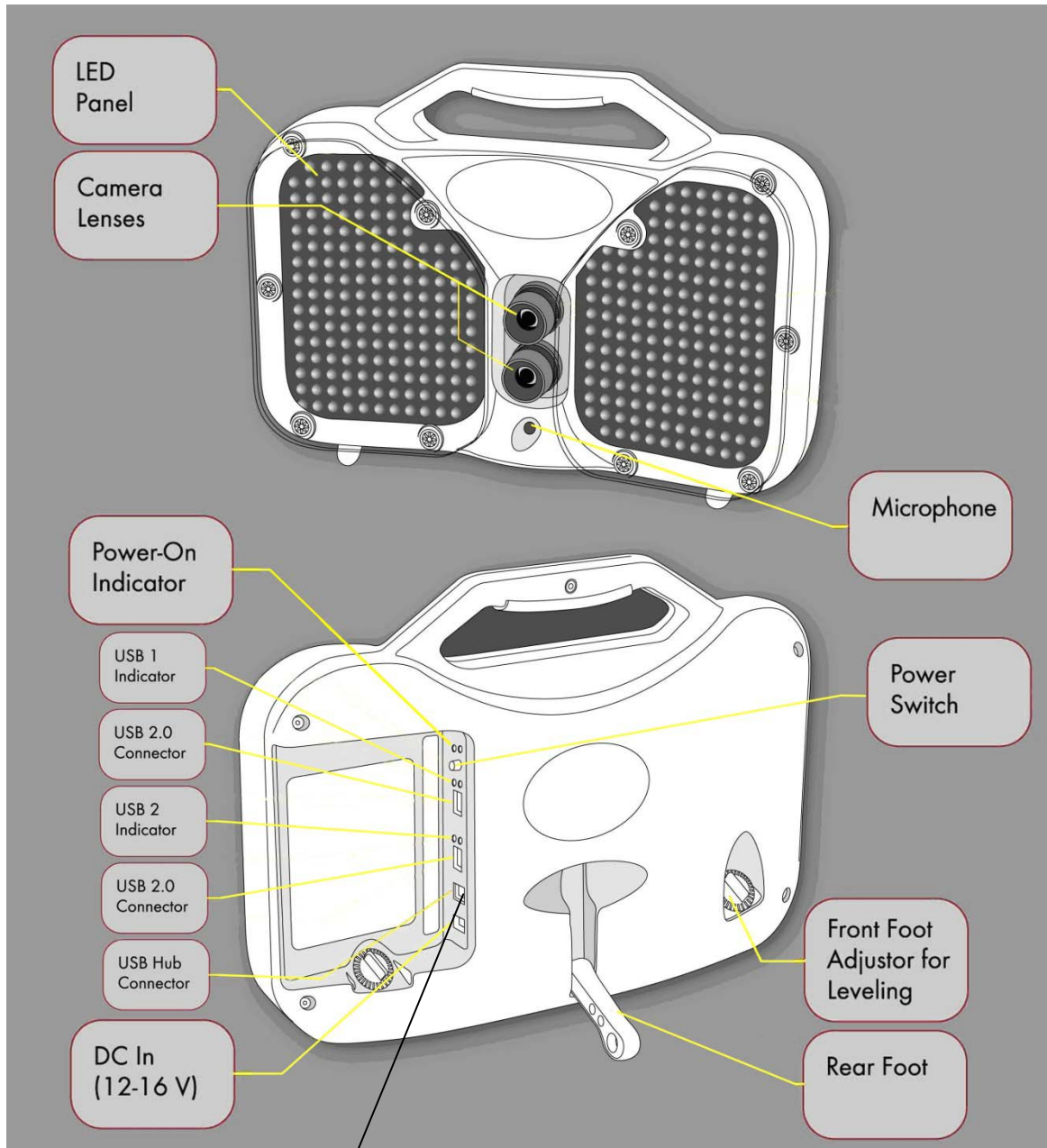
- Follow all warnings and instructions marked on the product.
- Do not drop the Vector Pro or subject it to mechanical shocks.
- When taking a swing, do not hit the Vector Pro.
- Install the protective shields before first use, and always use the protective shields to avoid damage to the Vector Pro.
- Do not open the Vector Pro unit. It contains high voltages and delicate components. Opening the Vector Pro could result in personal injury or harm to the unit, and will void the warranty.
- Do not allow moisture to enter the Vector Pro.
- Use only approved accessories. To prevent harm to the Vector Pro or the computer system, use only the supplied cables and power adapters.

Care and Handling

- The Vector Pro unit contains a rechargeable battery. To recharge the Vector Pro, turn off the unit, connect the supplied AC adapter and plug it into an AC outlet overnight or for at least 6 hours.
- When necessary clean the Vector Pro lenses using any photographic or eyeglass cleaning kit. Paper towels or tissue are not recommended.

The outside of the Vector Pro case can be cleaned using a damp cloth. Turn off and disconnect the Vector Pro before cleaning. Do not allow liquid to enter the case.

AccuSport Vector Pro Illustration



Plug USB Cable here to connect to computer.

Prior to Software Installation – Windows XP

The following steps should be taken to prevent the Windows XP Operating System from shutting down the computer's USB ports, and to prevent the Computer from slowing down its processor speed, while the VSeries software is in use.

Power Options Settings

- 1) Select the Windows XP **Start** Button
- 2) Select the **Control Panel**
- 3) Select **Power Options**
- 4) Under **Power Schemes**, use the drop down to select **Always On**.
- 5) Click **Apply**, then **OK** at the bottom right side of this window.

USB Power Saving Settings

- 1) Select the Windows XP **Start** Button
- 2) Right-Click on **My Computer**
- 3) Select **Manage**
- 4) When the 'Computer Management' window opens, select **Device Manager**
- 5) Scroll down the hardware list on the right until 'Universal Serial Bus Controllers' is visible
- 6) Select the Plus (+) sign next to 'Universal Serial Bus Controllers' and the USB devices will be revealed.
- 7) Right-click on the first 'Root Hub' listed and select **Properties**
- 8) From the 'USB Root Hub Properties' window, select the **Power Management** tab
- 9) **Uncheck** the box labeled "Allow the computer to turn off this device to save power"
- 10) Click **OK** at the bottom of this window.
- 11) Repeat steps 8 through 11 for all the remaining 'Root Hubs' listed under the 'Universal Serial Bus Controller' heading

Prior to Software Installation – Windows Vista and Windows 7

The following steps should be taken to ensure the Power Options on a Windows Vista or Windows 7 based computer are set correctly in order to work with the VSeries Software.

Power Options Settings

- 1) Select the Windows **Start** Button
- 2) Select the **Control Panel**
- 3) Select **Power Options** (You may have to Select the “Classic View” link in the top right corner of the window in order to view the ‘Power Options’ icon)
- 4) Select **High Performance** (*you may need to click ‘Show Additional Plans’ for Windows 7*)
- 5) Next, select **Change Plan Settings**

Note: For the following procedure the “On Battery” setting is only available on laptop computers. For Desktop computers the “On battery” and “Plugged In” labels are not present but the layout is similar. This procedure can still be used to ensure Desktop Computers with power saving features are set-up correctly for the Vector Pro.

- 6) Select the **Put the Computer to Sleep** option
 - o Set “On Battery” to **Never** by clicking on the down pointing arrow next to the “minute” numerals and selecting ‘Never’.
 - o Set “Plugged In” to **Never** by clicking on the down pointing arrow next to the “minute” numerals and selecting ‘Never’.
- 7) Select the **Change Advanced Plan Settings** link. (A new window will be displayed)
 - o Select the plus (+) sign next to the Hard Disks label and set all displayed “Minutes” to read **Never** by holding down the left mouse button on the down pointing arrow next to the minute numerals until the “Minutes” display reads ‘Never’.
 - o Select the plus (+) sign next to the “Turn off Hard Disks After” label Set all displayed “Minutes” to read **Never** by holding down the left mouse button on the down pointing arrow next to the minute numerals until the “Minutes” display reads ‘Never’.
 - o Select the plus (+) sign next to the **Sleep** label

- Select the plus (+) signs next to “Sleep After,” and set all displayed “Minute” fields to read **Never** or **Off** by holding down the left mouse button on the down pointing arrow next to the minute numerals until the “Minutes” display reads “Never” or “Off”
 - Select the plus (+) sign next to “Allow Hybrid Sleep,” and set all displayed “Minute” fields to read **Never** or **Off** by holding down the left mouse button on the down pointing arrow next to the minute numerals until the “Minutes” display reads “Never” or “Off”
 - Select the plus (+) sign next to “Hibernate After”, and set all displayed “Minute” fields to read **Never** or **Off** by holding down the left mouse button on the down pointing arrow next to the minute numerals until the “Minutes” display reads “Never” or “Off”
- 8) Select the plus (+) sign next to the **USB settings** label.
- Then, select the plus (+) sign next to the “USB selective suspend setting” label.
 - Ensure both fields read **Disabled**. If they do not, select the down pointing arrow for each field , in turn, and select “Disabled”
- 9) Select the plus (+) sign next to the **Processor Management** label
- Then, select the plus (+) sign next to the “Minimum Processor State” label
 - Change settings for the “On Battery” and “Plugged In” labels to 100 percent (%) by holding down the left mouse button on the up pointing arrow next to the percentage (%) display till it reads 100 percent (%)
 - Then select the plus (+) sign next to the “Maximum Processor State”
 - Change settings for the “On Battery” and “Plugged In” labels to 100 percent (%) by holding down the left mouse button on the up pointing arrow next to the percentage (%) display till it reads 100 percent (%)

- 10) In the bottom right corner of the page select **Apply** and then **OK**.
- 11) The previous Power Options Settings page is now displayed, select the **Save Changes** key.
- 12) Exit the final Power Options window by clicking the Red –“X” button to complete your set-up.
- 13) Turn Vector Pro **Off**
- 14) **Restart** the Computer

Disabling User Account Control (Windows Vista and 7)

We recommend disabling the User Account Control to prevent the Windows Vista or 7 Operating System from blocking the VSeries installation or causing an error message on opening the application.

****Changing UAC settings after installation may cause software to become unstable. Do NOT change UAC settings after installation.***

- 1) Left Click on **Start**
- 2) Left Click on **Control Panel**
- 3) Left Click on **User Accounts** (If you cannot see a "User Accounts" Icon click on the "Classic View" link in the left hand column of the window, then repeat the first part of step 3)
- 4) Left Click on **Turn User Account Control On or Off (Vista);
Change User Account Control Settings (Windows 7)**
- 5) Uncheck the **User Account Protection** checkbox (Vista);
Position slider at bottom to **Never Notify (Windows 7)**
- 6) Click on **OK**
- 7) Left Click on **Yes** to Restart the computer

Please call AccuSport Customer Support (336) 759 3300 x2, or e-mail support@accusport.com, if any problems are encountered while following this procedure. Note: Some versions of Vista and 7 do not allow for users to disable the User Account Control.

Software Installation (Windows XP, Vista, and 7)

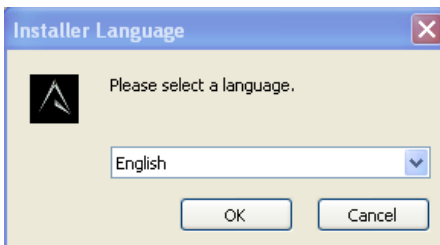
Install and configure the VSeries Software before connecting a Vector Pro to the computer.

If the software does not run automatically, go to the "Start" button (Win XP) or "Logo" (Win 7 or Vista). Left-Click on the "My Computer" label (Win XP) or "Computer" label (Win 7 or Vista) and double-click the Setup.exe file.

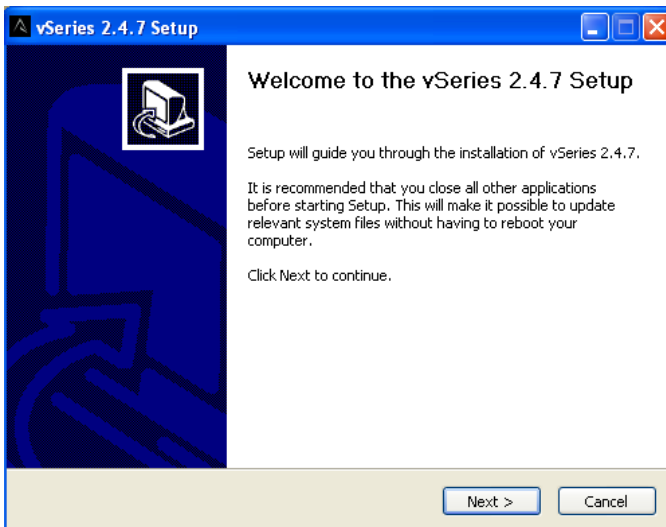
The following steps are for Windows XP. Though cosmetically different, the Windows Vista and Windows 7 installations follow the same procedure.

Software Installation:

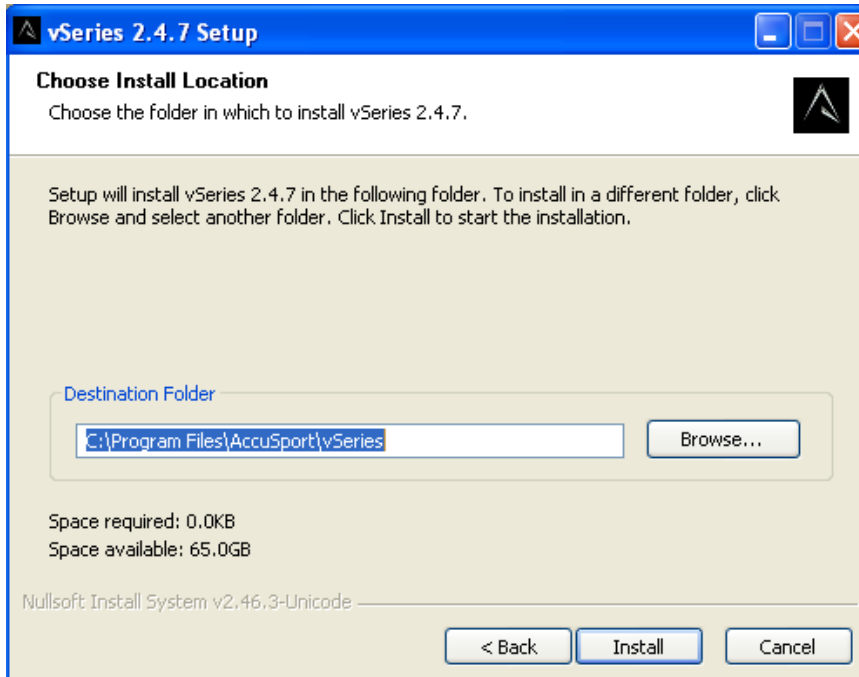
1. Select **OK** to start the software installation.



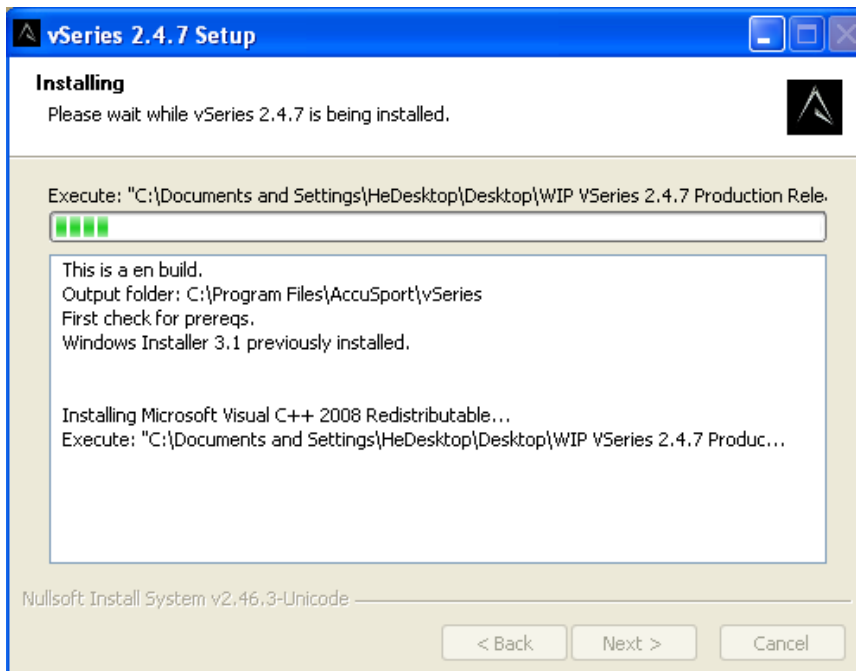
2. When the VSeries Setup Wizard displays, Select **Next**.



3. The “Choose Install Location” window will display, click **Install**. Always install the software to the default location C:\Program Files\AccuSport\vSeries.

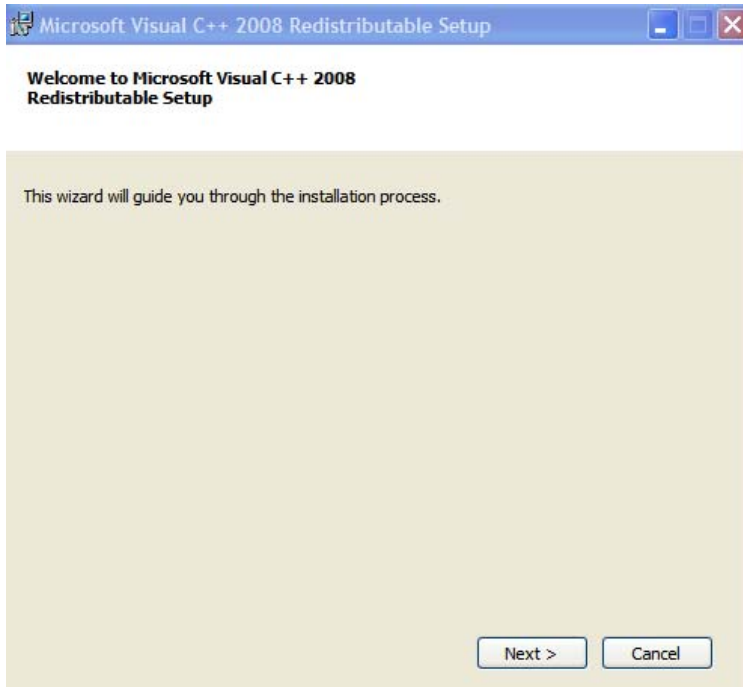


4. The software will begin to check your system for required updates and install the software



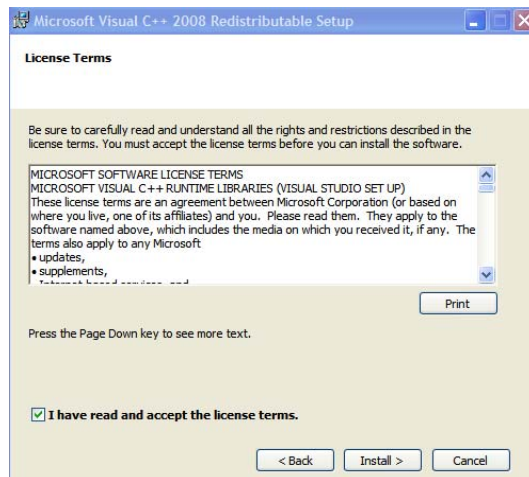
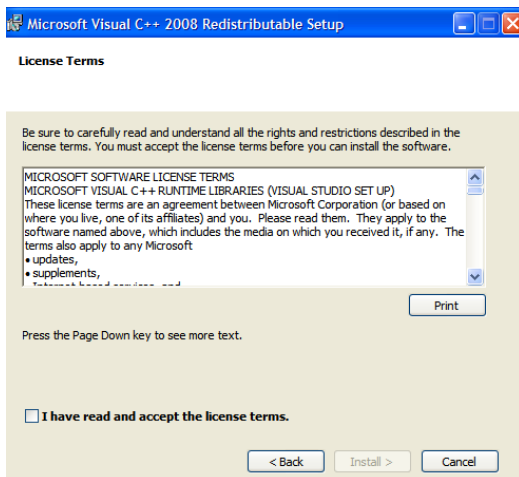
5. The Microsoft Visual C++ Setup window* may appear. Select **Next** to continue the installation.

*This window may not appear if the update is already on your system.

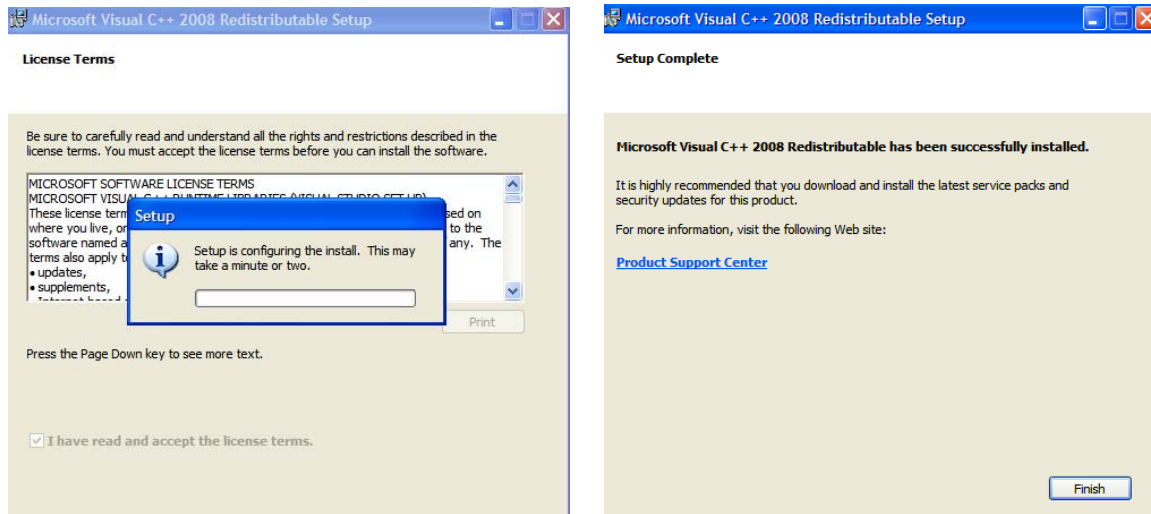


6. **Check** the “I have read and accept the license terms” checkbox, the install button will no longer be grayed out, then select **Install** to continue the installation.

*These windows may not appear if the update is already on your system.

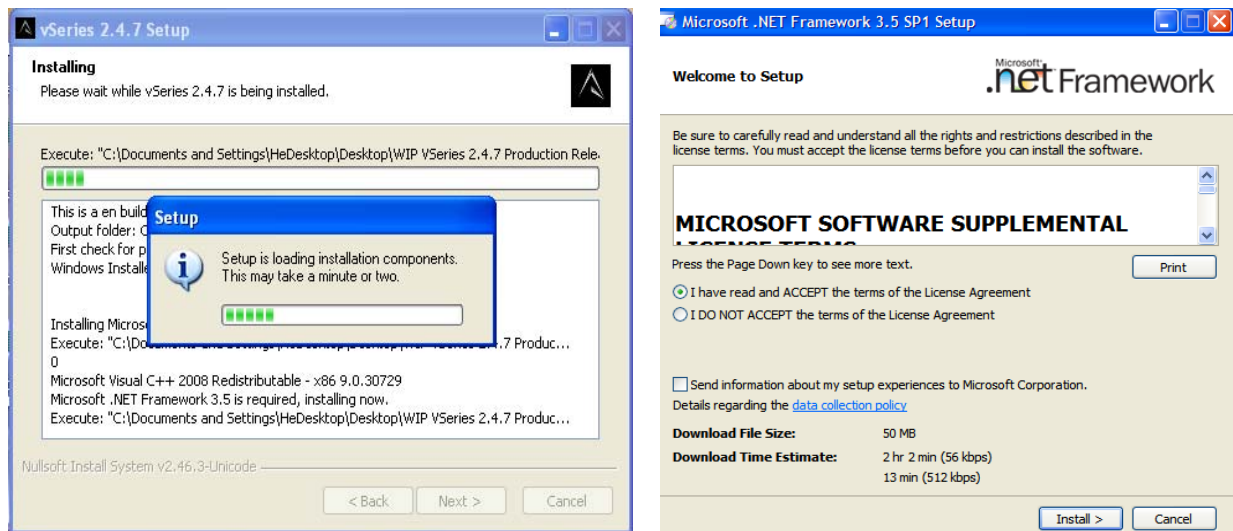


7. The update will install. Select **Finish** once complete.



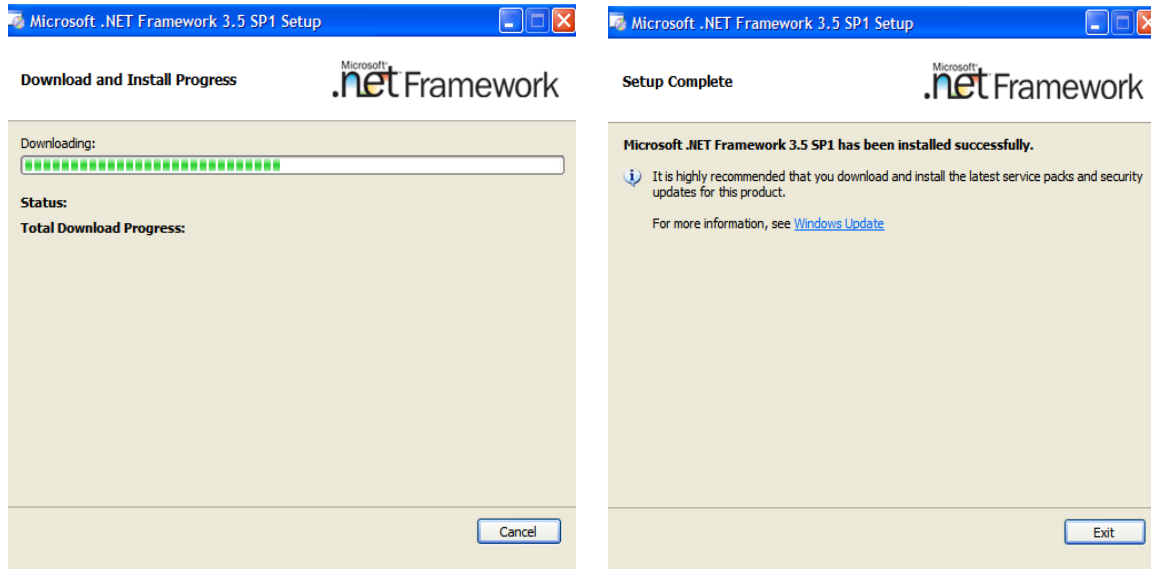
8. The VSeries software will now install the Microsoft Net Framework 3.5 SP1 Update*. **Check** the "I have Read and "Accept the terms of the License Agreement" checkbox and click **Install**.

*This window may not appear if the update is already on your system.



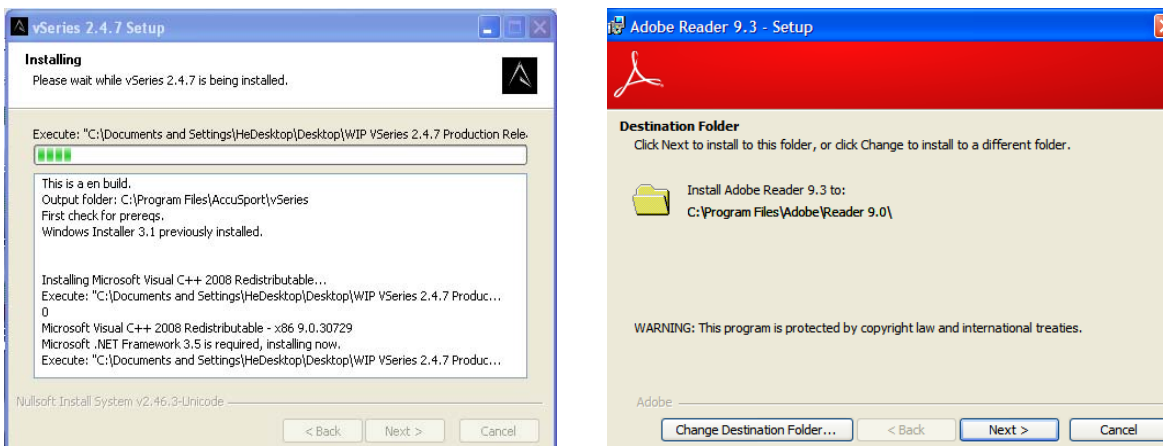
9. The Microsoft Net Framework 3.5 SP1 Update may take some time to install. Once completed, click **Exit**.

*These windows may not appear if the update is already on your system.



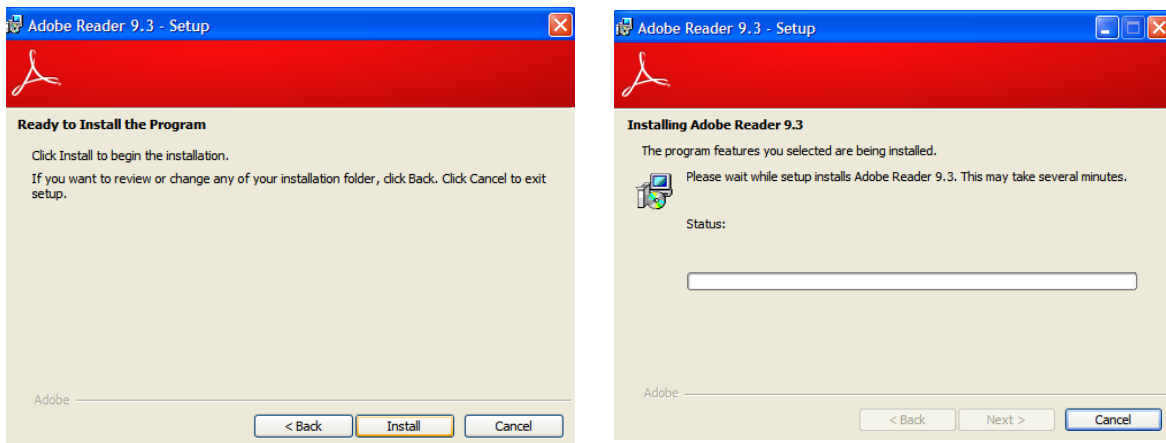
10. The VSeries software will now launch the Adobe Reader Setup*. Select **Next** to install the software.

*This window may not appear if the update is already on your system.



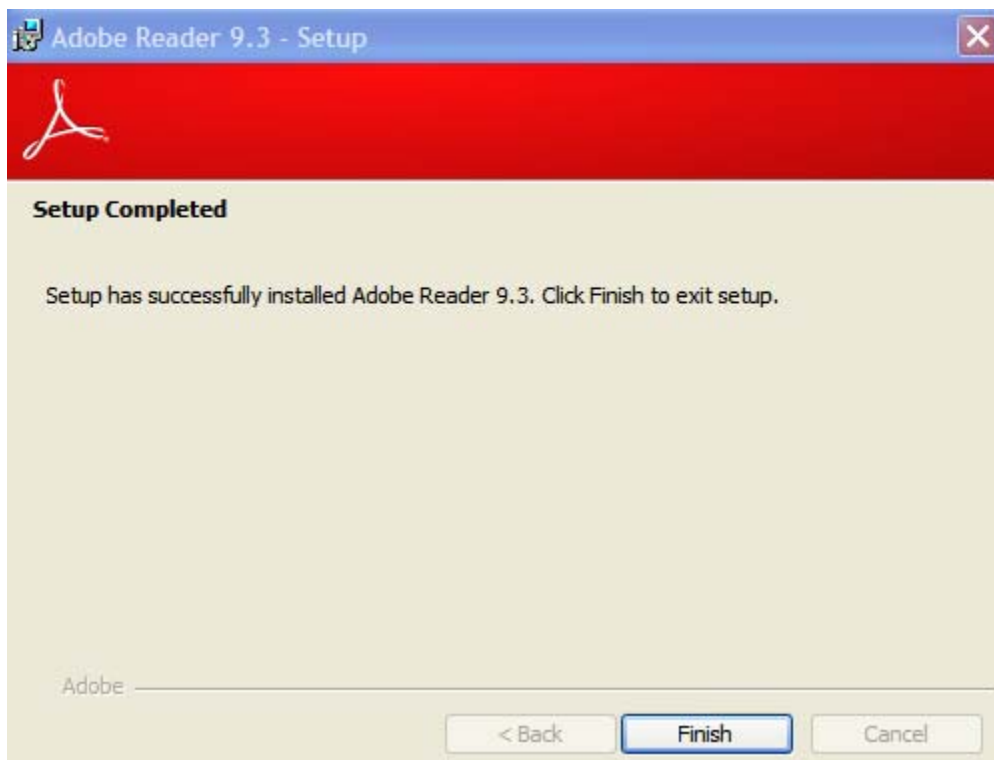
11. Select **Install** to install the Adobe Reader software.

*These windows may not appear if the update is already on your system.

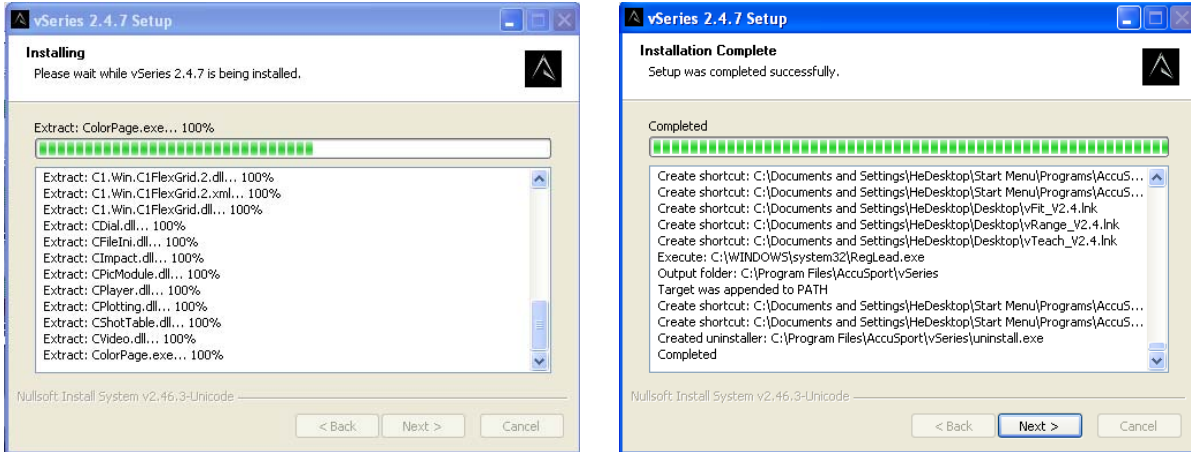


12. Once the Adobe Reader software has completed its installation, click **Finish**.

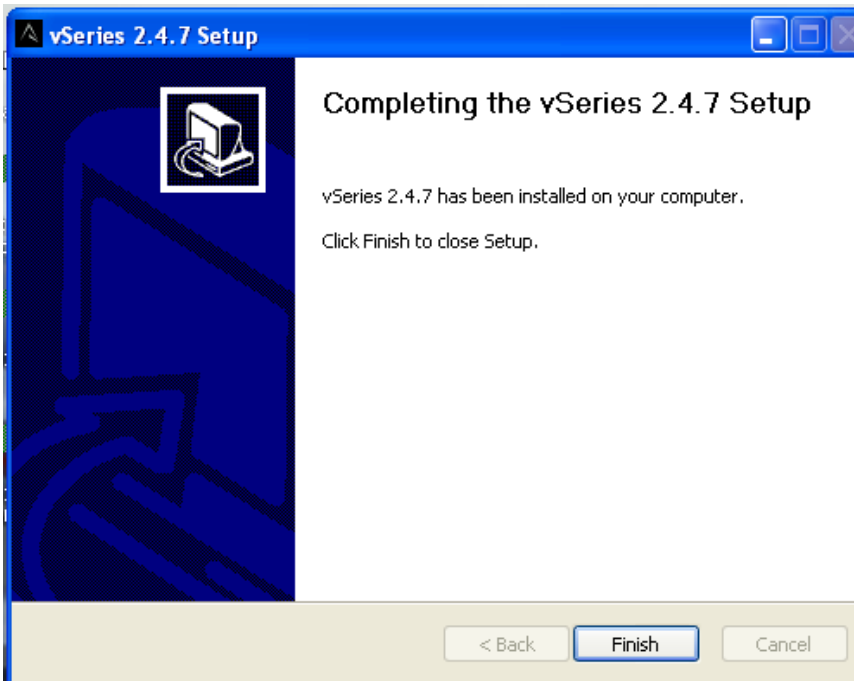
*This window may not appear if the update is already on your system.



13. The VSeries Software will now install. Click **Next** to continue.



14. Select **Finish** to complete the installation of the VSeries Software.



Once the software is installed, complete the relevant Vector Pro Hardware installation procedure.

***After installing the software, you can access the User Guide at any time by clicking 'Help' in the toolbar of the Software.**

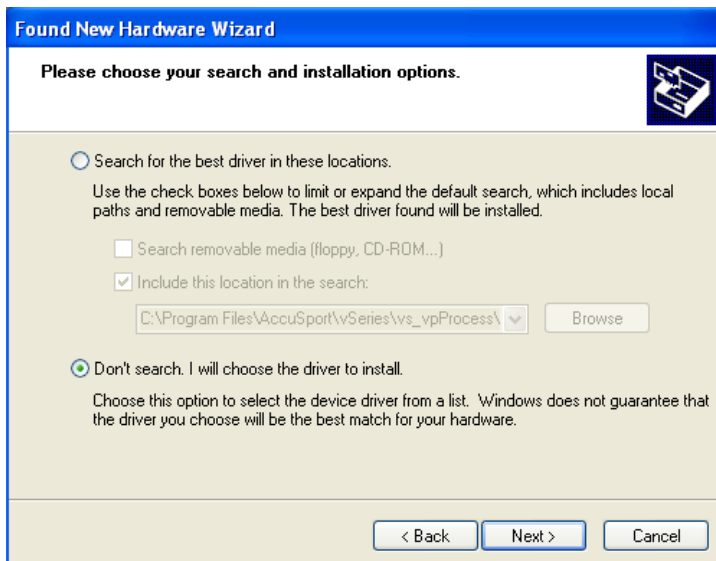
Hardware Installation (Windows XP)

Driver Installation procedure

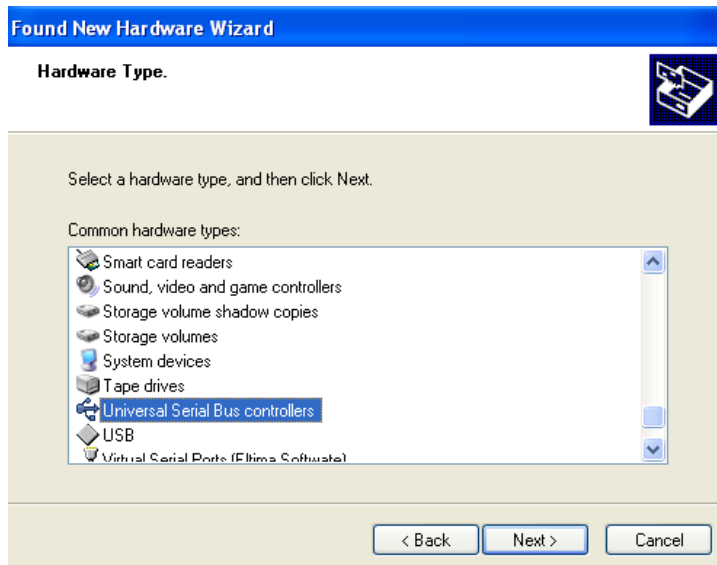
1. Ensure the VSeries Software is installed before starting this procedure.
2. Install the two Vector Pro protective shields. The product warranty will not cover the damages to the unit during use without shields.
3. Use the AC adapter to connect the Vector Pro to a power source.
4. Use the USB cable to connect the Vector Pro to the USB port on the computer.
5. Fold down the rear foot on the Vector Pro and set the unit on the ground.
6. Power on the Vector Pro and two High pitched beeps will sound.
7. The “Welcome to the Found New Hardware Wizard” page will appear select “Install From a Specific Location” and click “Next”



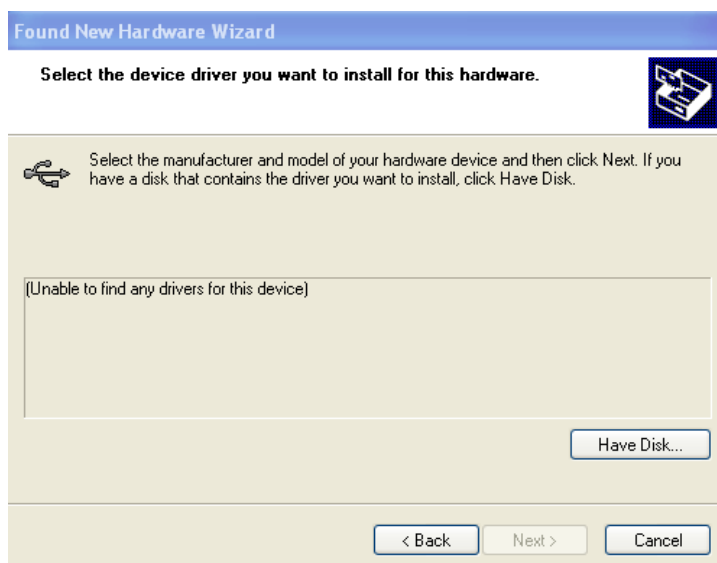
8. The “Please choose your search and Installation options” page will appear. Select “Don’t Search I will choose the driver to install.” Click “Next.”



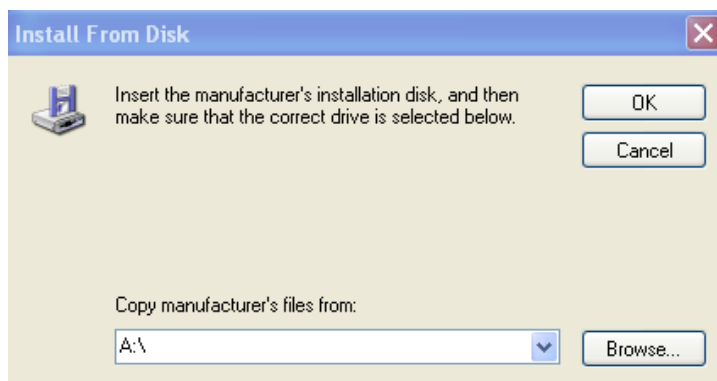
9. The “Hardware type” page will appear. Scroll down and Select the “Universal Serial Bus Controllers” label. Click “Next”



10. The “Select the device driver you want to install for this hardware” page will appear. Click “Have Disk”

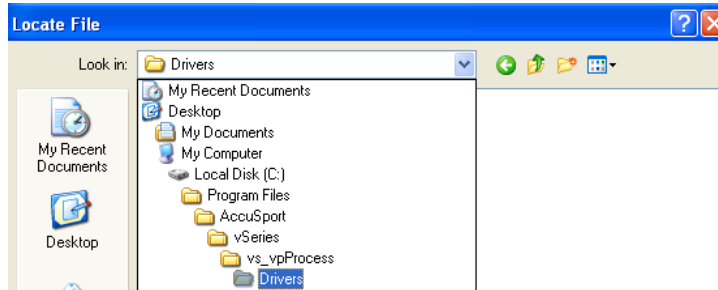


11. The “Install From Disk” page will appear. Click “Browse”

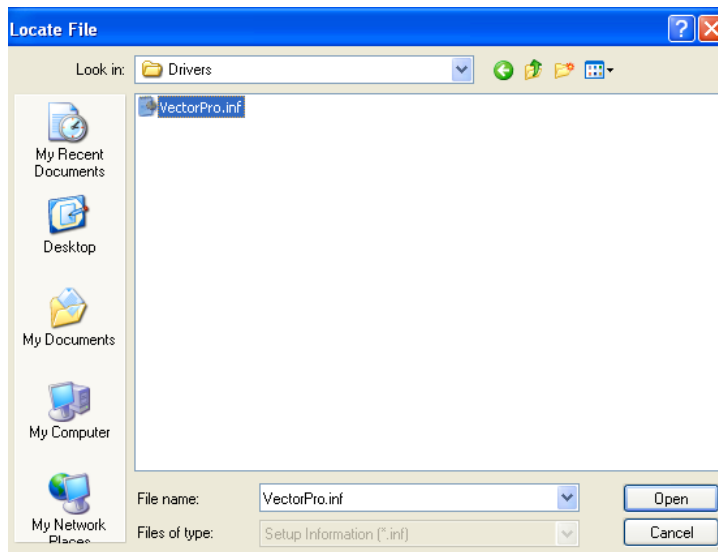


12. The “Locate File” page will appear. Click inside the “Look in” narrow drop down box.

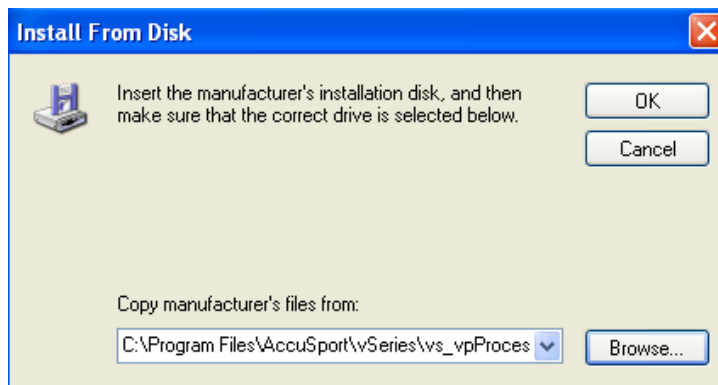
Navigate to the “C:\Program Files\AccuSport\vSeries\vs_vpProcess\Drivers” folder



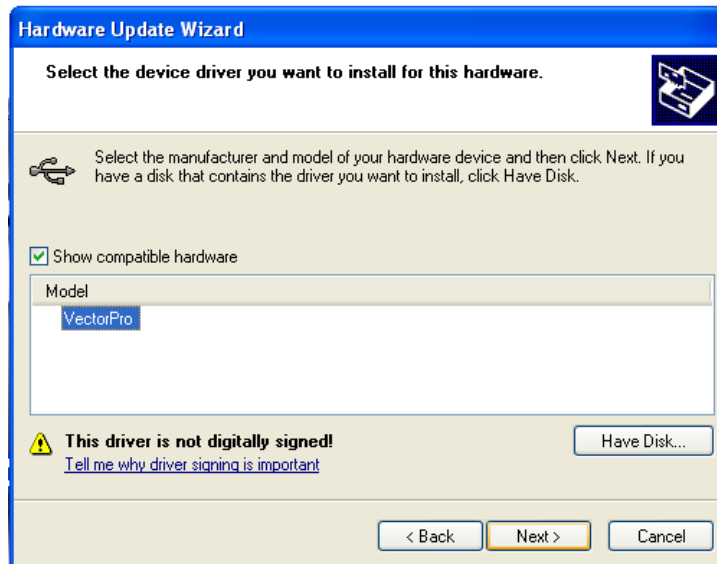
13. In the “Locate File” page Select the “VectorPro” file and click “Open”



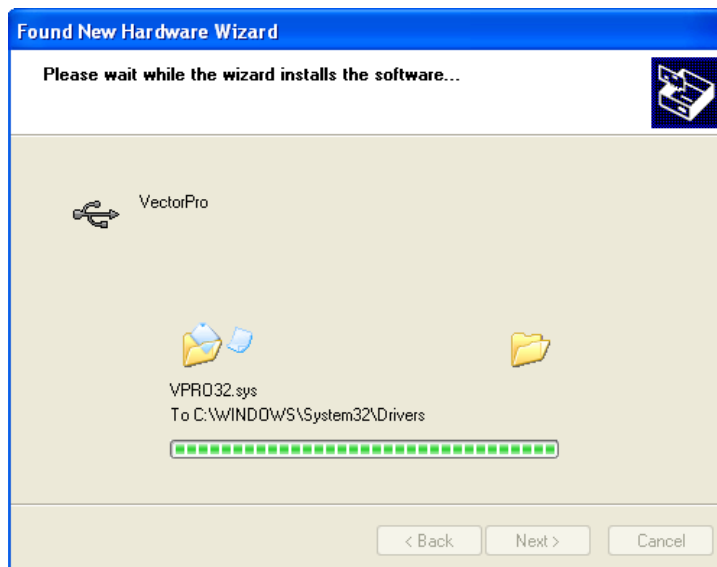
14. The “Install From Disk” page will appear again. Click “OK”



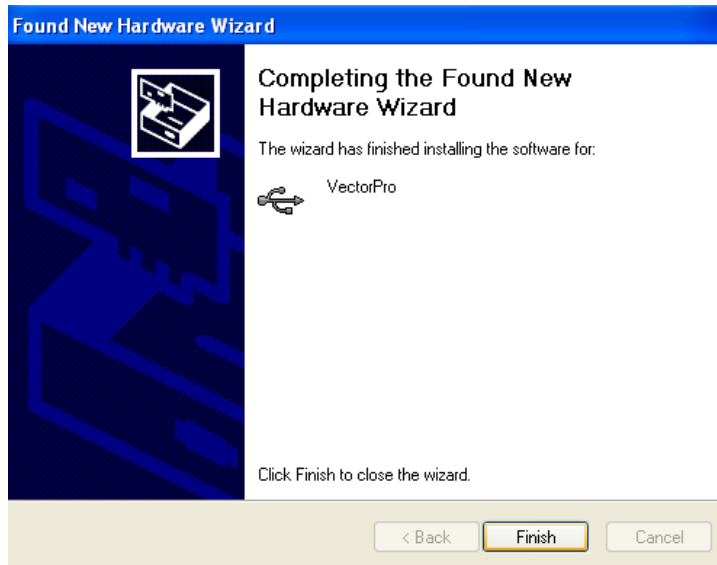
15. The “Select the device driver you want to install for this hardware” page will appear. Click “Next”



16. The first Vector Pro Driver will install.



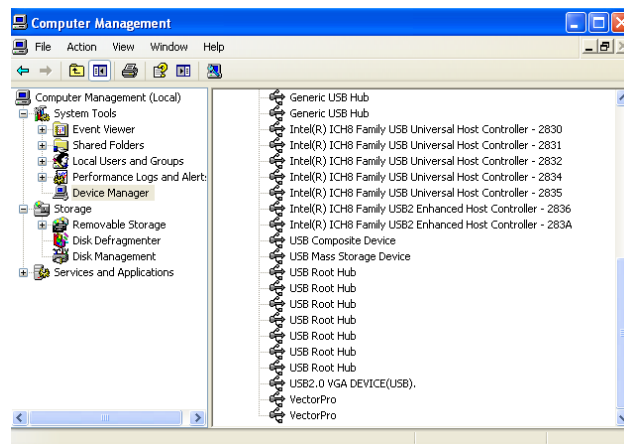
17. The “Found New Hardware Wizard page will appear. Click “Finish”



18. Once the first driver has installed a second found new hardware wizard should appear. Repeat steps 7 through 17 to install the second driver

19. To ensure both Vector Pro drivers have been installed:

- Left Click the Windows XP “Start” Button
- Right Click the “My Computer” label
- Left Click “Manage” in the context Menu
- In the “Computer Management” window select “Device Manager”
- On the right side of the “Computer Management” window scroll down to the “Universal Serial Bus Controller” label. Click on the plus (+) sign
- The Vector Pro drivers should both be listed and should have no exclamation or question marks over them, as shown below.



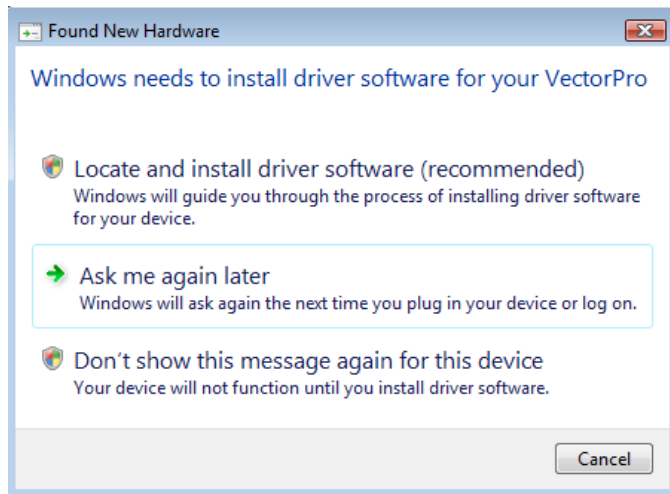
NOTE: If a driver is not installed, right-click on the driver and left-click on ‘Update Driver’ then repeat steps 7 through 16

NOTE: Always use the same USB port on the computer that the drivers were initially installed on. Otherwise, you may have to reinstall the drivers.

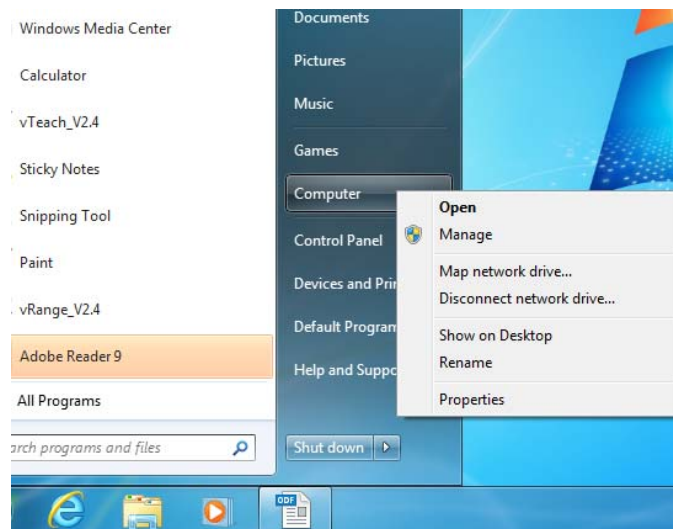
Hardware Installation (Windows Vista , Windows 7 (32/64 bit))

Driver Installation procedure

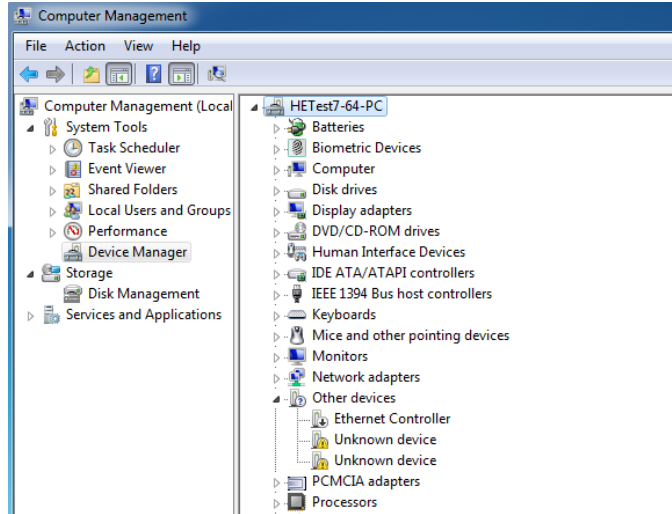
1. Ensure the VSeries Software is installed before starting this procedure.
2. Install the two Vector Pro protective shields. The product warranty will not cover the damages to the unit during use without shields.
3. Use the AC adapter to connect the Vector Pro to a power source.
4. Use the USB cable to connect the Vector Pro to the USB port on the computer.
5. Fold down the rear foot on the Vector Pro and set the unit on the ground.
6. Power on the Vector Pro and two High pitched beeps will sound.
7. If the “Found New Hardware” window appears, click **Don't show this message again for this device**.



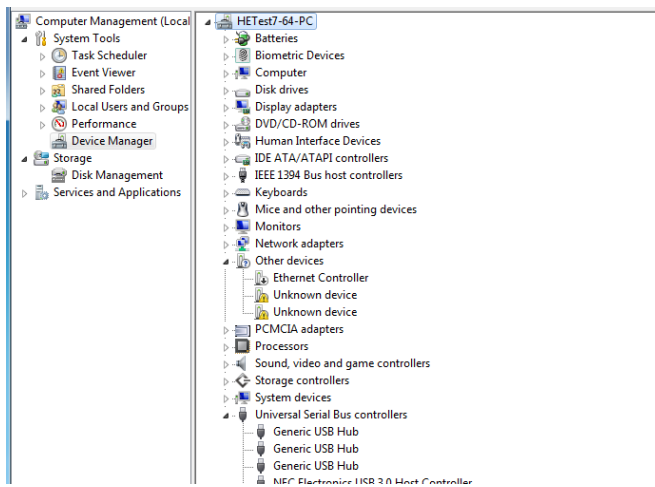
8. Go to the Start menu, right-click 'Computer' and choose **Manage**.



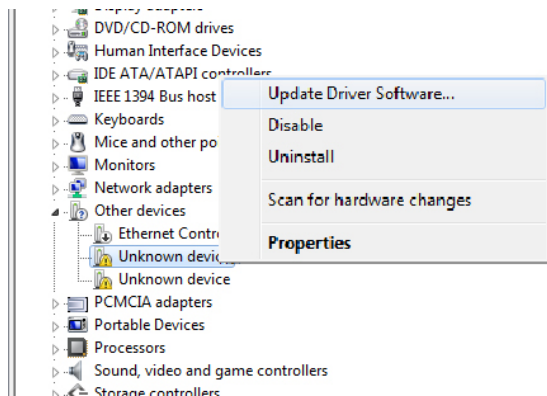
9. On the left, choose **Device Manager**.



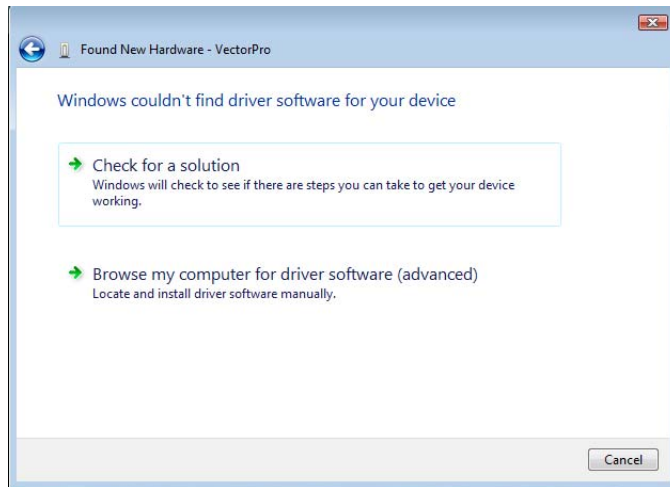
10. Locate the two '**Unknown Devices**' with yellow exclamation marks next to them. (Note: If you have installed the Vector Pro on this computer before, they may be listed as Vector Pro's with yellow exclamation marks, and found under 'Universal Serial Bus Controllers'. The procedure will be the same.)



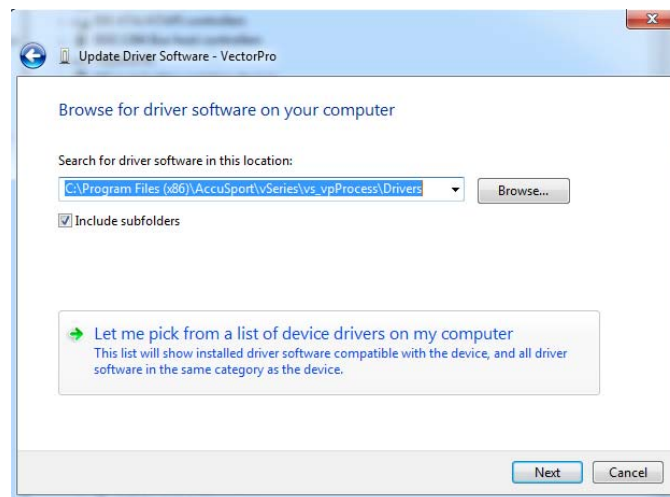
11. Right-click on the first "Unknown Device" and choose **Update Driver Software**



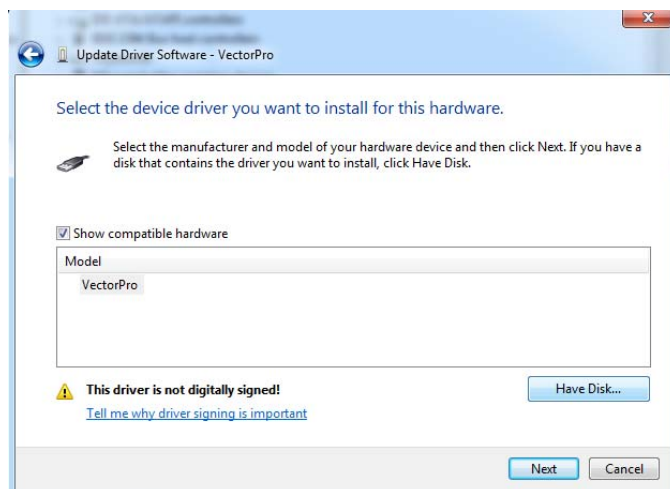
12. The “Found New Hardware” wizard will appear. Choose **Browse my computer for driver software (advanced)**.



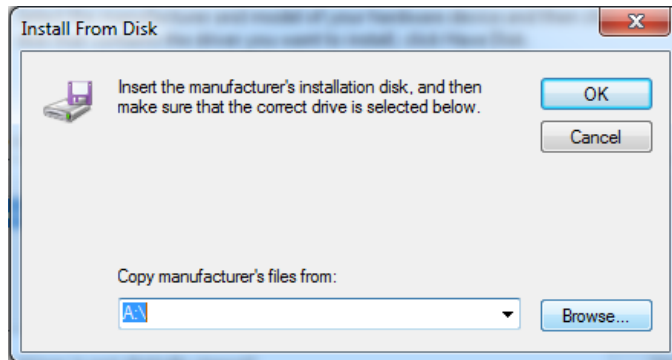
13. The “Browse for driver software on your computer” page appears. Choose **Let me pick from a list of device drivers on my computer**, and click **Next**.



14. The “Select the device driver” page will appear. Click **Have Disk**.

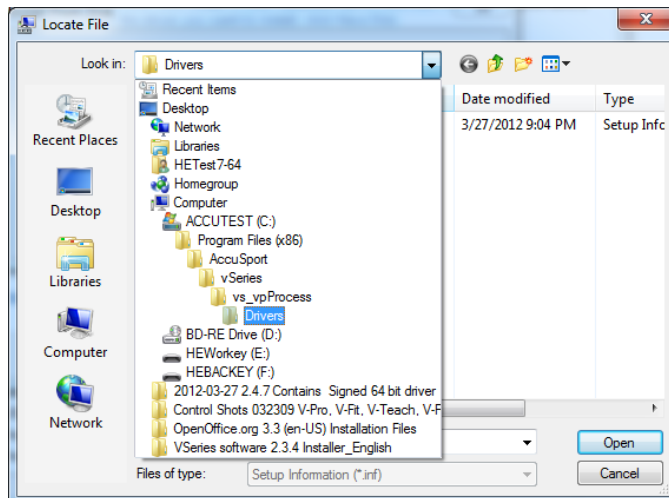


15. The "Install from disk" window will appear. Click **Browse**.

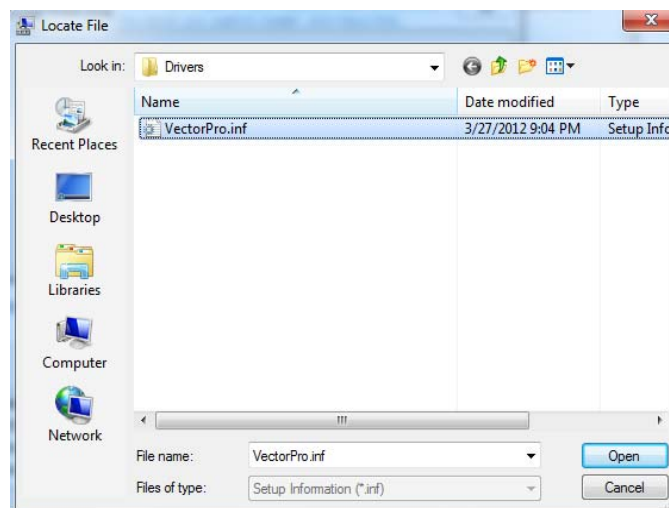


16. Browse to **C:\Program Files (x86)\AccuSport\VSeries\vs_vpProcess\Drivers**

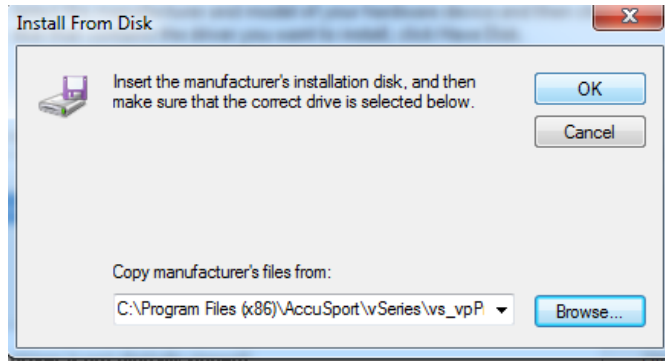
Note: On 32-bit operating systems, the Program Files folder will not have (x 86) and the folder will just be named 'Program Files'



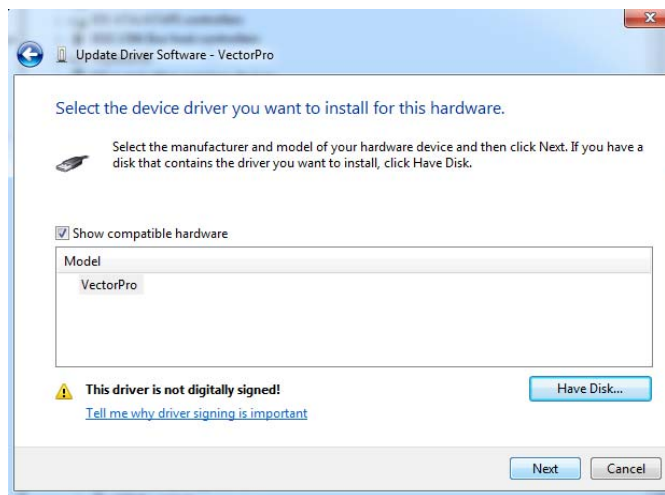
17. Select *VectorPro.inf* and click **Open**.



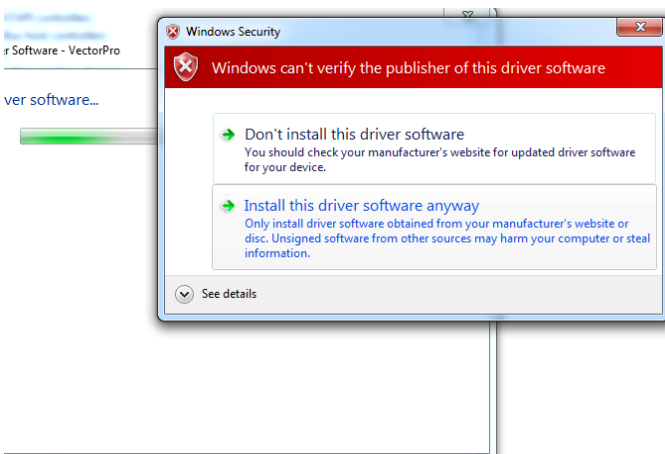
18. The “Install from Disk” window appears again. This time click **OK**.



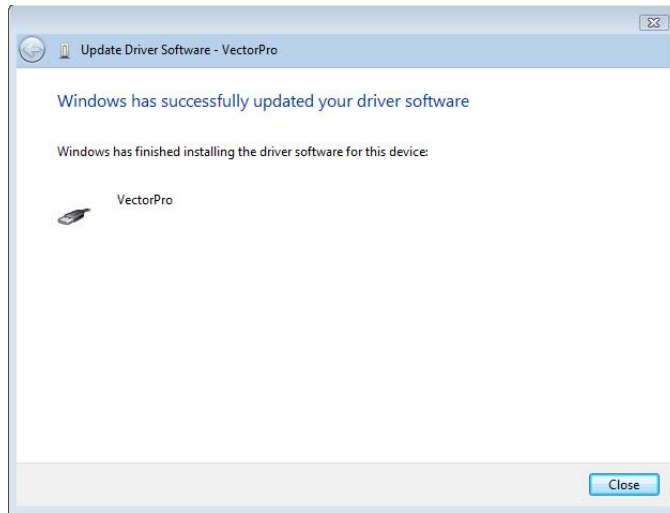
19. The “Select the device driver” page appears again. This time click **Next**.



20. If the “Windows Security” window appears, Click **Install this driver software anyway**

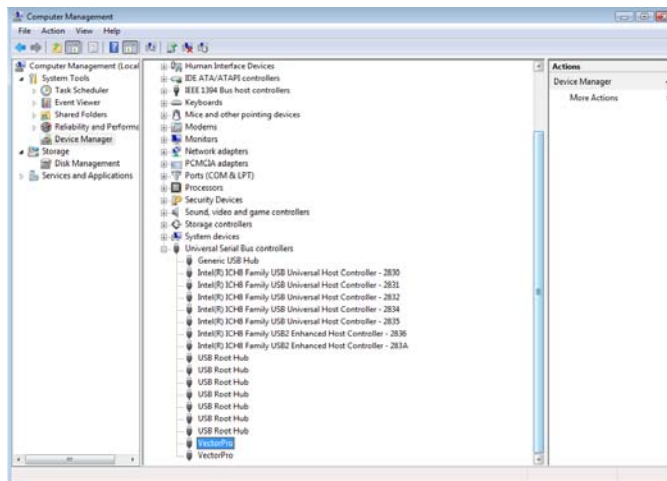


21. After the driver has installed, the “Windows has successfully updated your driver software” page appears. Click **Close** to complete the first driver installation.



22. **Go back to step 12** to install the driver for the second Unknown Device.

23. To verify that both drivers have been installed correctly, scroll down to the “Universal Serial Bus Controllers” label. Click on the plus (+) sign. The ‘Vector Pro’ drivers should both be listed and should have no exclamation or question marks over them, as shown below.



NOTE: If a driver is not installed (still has yellow exclamation mark), repeat steps 12 through 23

NOTE: Always use the same USB port on the computer that the drivers were initially installed on. Otherwise, you may have to reinstall the drivers.

BEFORE USE

Charging the Battery

To charge the battery, plug the Vector Pro into an outlet via the AC adapter. Make sure the Vector Pro unit is turned *Off*, and allow the unit to charge overnight or for at least six hours.

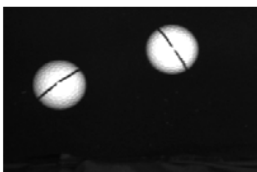
If you are using a fully charged battery, no AC power source is needed (*allows for 2-3 hours of use*). If the battery is not charged, or if you will be using the Vector Pro for an extended time period, use the AC adapter to plug into an electrical outlet.

Marking the Ball

The VSeries software uses black marks on the golf ball to measure spin. The marks must face the unit camera lens **vertically** when the ball is positioned for hitting. No other ball marks should be visible to the camera. If making your own marks, they should be made using a black sharpie on a blank face of a white ball.






Logo Method - Most golf balls on the market today provide a marking with a straight line type orientation as pictured, or you may also use the stripe method below.



Stripe method - Draw a 1/8" black stripe at least one inch long on the blank face of the ball. The mark must be clearly visible when it is facing the camera lens and must be drawn perfectly straight. There are a number of golf ball marking devices commonly used in the industry which will work for striping the ball for use with the VSeries software.

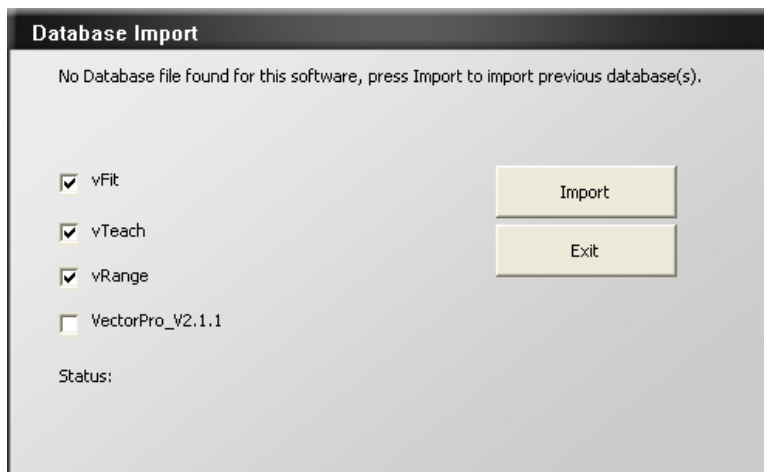
Starting the Software

Power on the computer and connect the Vector Pro to your computer via the USB cable. Double click the VFit , VTeach , or VRange  icon on your computer desktop to start the software. Once the software has opened, power on the Vector Pro unit.

Importing the Database

The first time you open your VSeries software, you will be prompted to import the database from a previously installed version of software.

* If you do not have a previous version of software installed, simply click **Exit**.



If you do have a previous version of software installed, check the corresponding box(es) and click **Import**. The software will automatically render your database for access in the new software that you are installing.

SOFTWARE FEATURES

Navigating the User Interface

Session, score, ball launch measurements, ball flight information and student data are displayed in the same manner for each software module. That information and the toolbar menu options are explained here, beginning in the upper left corner of the software, and then moving clockwise around the screen.



Video Camera Connected: The black camera icon in the upper left corner glows green when a digital camcorder is connected and recognized.



Vector Pro Connected: The black AccuSport logo in the upper left corner of the software glows green when the Vector Pro is connected and recognized.

File Options View Help Toolbar: Select features, change preferences and settings within the software, and access options not available on the main software screen. *See page 24 for detailed view*



Clear Session: Clears all shot data and plots on the screen.



Ball Flight Analysis: Carry, offline and total distance appear across the top of the screen. White numbers show data from the current shot. Gold numbers show the average of all shots in that item.

Total Distance includes carry and roll. The direction offline will be represented by an "R" for Right and an "L" for Left.



Full-Screen Mode: In VRange, this opens the range in full-screen mode for a true simulation experience. In VTeach, this opens the video capture window in full-screen mode for better viewing. VFit does not have any functionality for this button.



Minimize: Minimizes the software screen (sends to task bar)



Maximize: Maximizes the software screen (allows software to fill your monitor)



Restore: Restores the software screen to the size determined by your monitor's resolution setting.



Close: Closes the software.



Trigger Delay: Toggle between Fast-Medium-Slow according to the player's swing speed or club choice (Fast for drivers, Medium for irons, and slow for wedges)



Score: The software scores each shot, in a range from 0 to 100, based on all the parameters of that shot.

Launch Dials

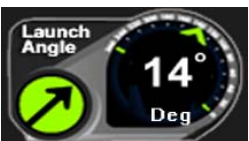
The launch dials located at the bottom of the software convey launch data information for every shot.



Ball Speed: Measures in miles per hour (MPH), feet per second (FPS), kilometers per hour (km/h) or meters per second (m/s). *To change units, click Options>Preferences.*



Club Speed: Calculates within 1 to 2 miles per hour (MPH), feet per second (FPS), kilometers per hour (km/h) or meters per second (m/s). *To change units, click Options>Preferences.*



Launch Angle: Displayed in degrees.



Descent Angle: Calculated angle of the golf ball in relation to the ground as it descends from the apex of its flight.



Back Spin: Displayed in RPMs.

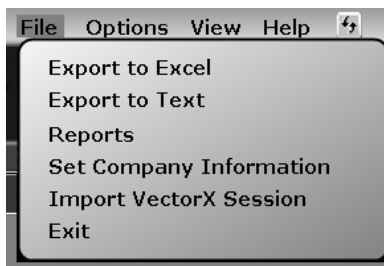


Side Spin: The label below the number indicates draw/hook, fade/slice, or center. Displayed in RPMs.



Side Angle: The label below the number indicates push, pull or center. Displayed in degrees.

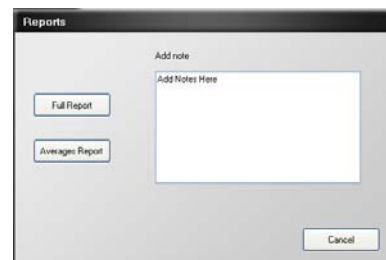
File Menu



Exporting to Microsoft Excel: If you already have Microsoft Excel on your computer, you can click the Export to Excel from the Options Menu to export text to an excel spreadsheet.

Exporting to Text File: You may click the Export to Text icon to export shot data to a text file.

Reports: Generates a printable version of your session. Choose between the Full Report to see all shots, or Average Report to see only item averages. You may also add notes that will appear on the printed page. *See the Appendix for examples*

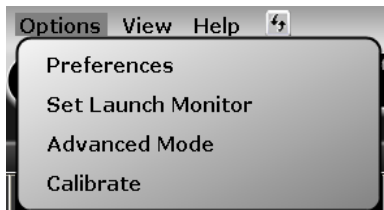


Set Company Information: You can personalize your reports by updating your company information. This information will be included on all printed reports.

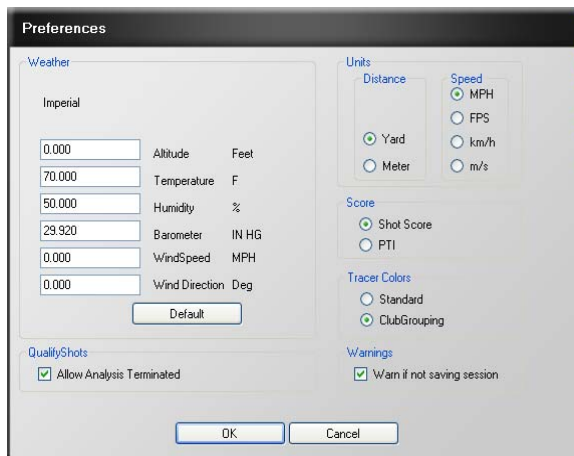
Import VectorX Session*: Imports a VectorX session that was saved to flash drive. **Not applicable to Vector Pro*

Exit: Closes software

Options Menu



Preferences:



• **Weather:** Conditions under which you are hitting the ball. Wind direction should be set at zero degrees if the ball flies directly into the wind, at 180 degrees if the ball flies downwind, at 90 degrees if the wind is coming from the right, and at 270 degrees if the wind is coming from the left.

• **Default:** Button in the weather box restores default settings.

- **Qualify Shots:** If the software cannot analyze a shot correctly, usually because there is something wrong with the image, it will not produce shot data and will display 'Analysis Terminated' in the image window.

By unchecking this box, you will force the software to show data for every shot hit, even if the image cannot be analyzed correctly. This setting allows you to capture video in VTeach without the need for a processed shot in the software. *For more information on capture options, see page 39.*

- **Units:** Measurement for distance and ball and club head speed.
- **Score:** The Shot Score system scores each shot in a range from 0 to 100, based on the flight efficiency related to ball speed. Shot Score takes into account all measured variables in the launch data. Power Transfer Index (PTI), also known as Smash Factor, is simply a quotient of ball speed over club speed, and is an older scoring technique first used when speed was the only information available in ball flight measurement. The PTI number will usually fall somewhere between 1.4 and 1.5.
- **Tracer Colors: 'Standard'** will plot all shots in white by default in the shot profile and in the VRange software. Choosing '**Club Grouping**' will automatically assign a new color to each new item that is added, for ease in comparing different items.
- **Warnings:** If this box is checked, a reminder that the session will not be saved will appear after the first shot is hit if a student session has not been set up. If you do not wish to set up a student session and automatically save the data, you can click **Ok** and continue with the hitting session.

Set Launch Monitor: Select between Vector Pro or VectorX depending on which unit you are using in conjunction with the software.

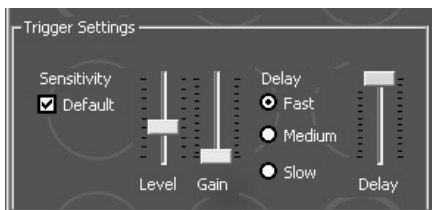
Advanced Mode:



The Advanced Mode displays detailed information about the golf shot including the images from the top and bottom cameras, microphone trigger settings, and image enhancement options including mono, edges, marks, and plane. In addition, there is

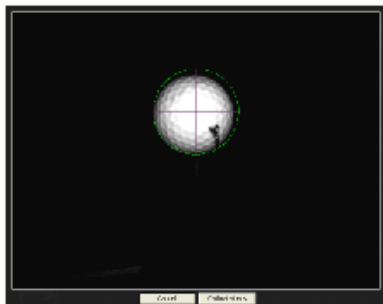
a focus mode for manually focusing and setting the brightness of the cameras. In a few cases, AccuSport Customer Support may ask you to adjust these settings with their supervision.

The Trigger Setting will display the following:



Default sensitivity should be used for all clubs and hitting conditions. Fast delay is appropriate for most conditions. Slower swing speeds and iron shots may require the Delay be set to medium or slow.

Calibrate: *(Vector Pro Only)*



Calibration sets the brightness and focus of the two camera lenses. Use Calibration at setup and when lighting conditions change.

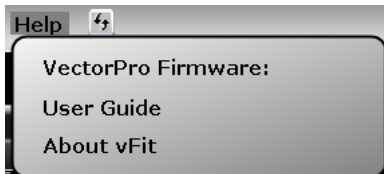
View Menu



Plotting: Selecting **Single** will plot only one shot at a time on the shot profile and in VRange; this shot is either the last shot hit or the shot currently selected in the shot history window. By selecting **All**, every shot will be plotted, with the last shot hit (or currently selected) displayed brightly and all others transparent.

**The view Menu options are different in the VRange software. Please refer to page 45 for details*

Help Menu



Vector Pro Firmware: Displays the current version of firmware within the Vector Pro unit itself. (This option may not be present)

User Guide: Opens User Guide (PDF format)

About VFit (VTeach/VRange): Displays software version

Managing the Student Database



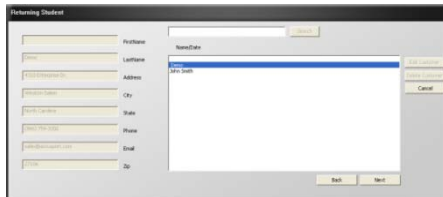
Select Student: To enter new student information or to access stored data from a returning student, click the student arrow to open the database. All shots hit with a student selected will be automatically saved.



1) Choose between **New Student or **Returning Student**.**



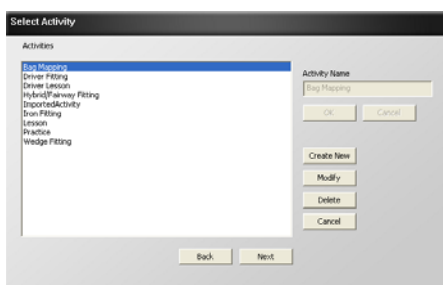
2a) For a new student: Click **New Student**, then enter name and contact information. Click **Next** to proceed to entering Activity information.



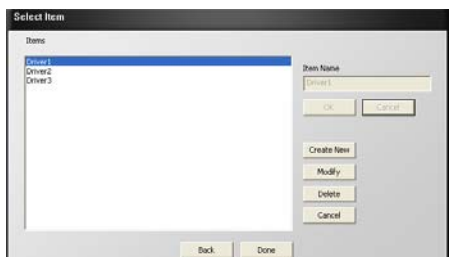
2b) For a returning student: Choose your student from the list. If you do not see the student listed, enter the student's first or last name and click **Search**. Click to highlight the desired student and click **Next**.



You will now have the option to either begin a new session with this student, or continue/view a previous session. To continue or view a previous session, click **Continue Session** – this will take you directly to the session. If you wish to start a new session, click **Start New Session** to proceed to entering Activity information.



3) Select Activity: Choose from the list of activities or create your own. In the future, this will help you identify what took place in a session when viewing previous sessions.



4) Select Item: A particular list of items will be displayed according to which activity was chosen. You can also add new items by clicking **Create New**. Items can be clubs, heads, shafts, or balls and will serve as an identifier throughout your session.

5) Click Done to close the window and begin your session. You will notice that the Student Name, Item, and Activity are now displayed in the student information bar at the bottom of the screen.

▲ **Item:** Driver1

Select Item: During a session, you may want to compare different items. Click the item arrow and choose the next item you wish to compare. After your item is selected, click **Done** and your next shot will begin a new average line for that item.

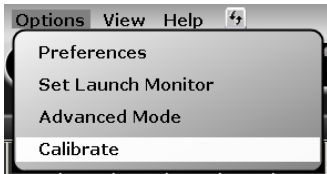
Activity: Driver Fitting

Activity: Displays the Activity selected during the student/session set up process. Once a session has begun with a specific activity assigned, you cannot change the selected activity. This section is for display only.

*****Once a Student, an Activity, and an Item have been specified, all shots hit within that session will be automatically saved.***

SETTING UP

Calibration



It is recommended that you calibrate the Vector Pro before each use to ensure that you receive accurate data. Go to the Options menu and click **Calibrate**.

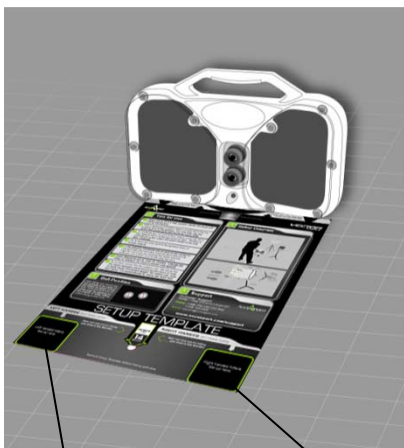


Using your Setup Template and black calibration tee, position the ball within the dotted green target and click **Calibrate**.



A message will appear stating that the Calibration is Complete. Click **Ok** and you will be taken back to the main software screen. If calibration is not successful, go back and repeat the calibration process, making sure there are no foreign objects in the picture.

Positioning the Ball



left tee zone

right tee zone

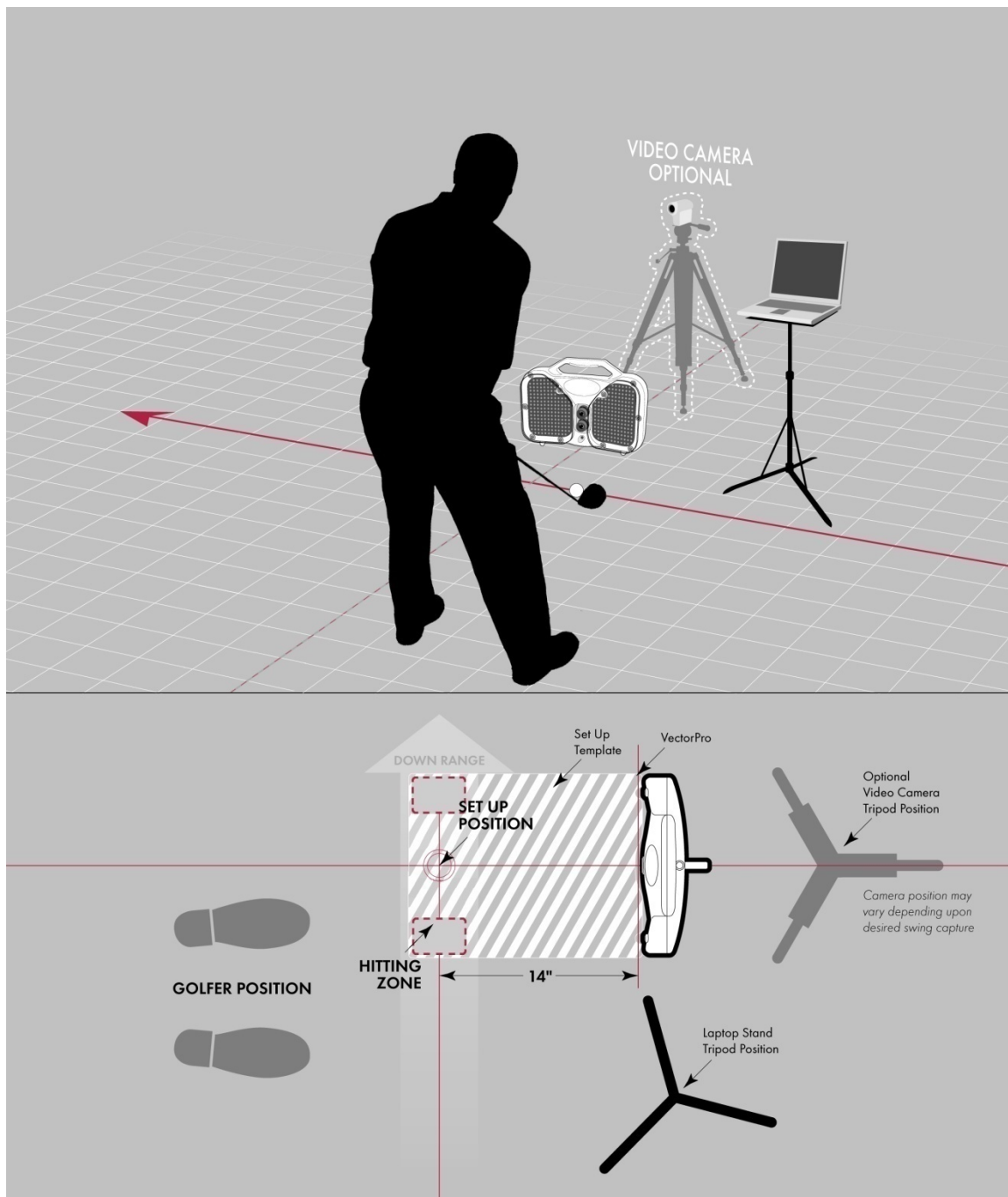
Use the Setup Template to tee up the ball in the correct position. If you are not using the Setup Template, review the setup illustration on page 32, to understand the golfer position and hitting zones. Tee the ball up in the **Right Tee Zone** for a **right handed golfer**.

For a left handed golfer, tee up the ball up in the **Left Tee Zone**.

*** Note: Do NOT leave Setup Template in place when hitting shots**

Positioning the Vector Pro, Laptop Computer, Video Camera

Diagram shows positioning for right handed golfers.



Hitting your first shot

After hitting the ball, review the image in the right corner of the screen. To measure ball flight parameters accurately, the software needs 2 complete golf balls in the image window. If a clear ball image does not appear, or if you receive the message "Analysis Terminated," go to Options and open the **Advanced Mode**. The marks on each ball should be clear, ball dimples should be distinguishable and ball outlines should be completely visible, not fading into darkness or cut off the edge of the screen. For further troubleshooting, refer to page 64.

VFIT SOFTWARE

This section describes software features unique to the VFit Module.

The screenshot displays the VFit software interface. At the top, there are menu options (File, Options, View, Help) and the ACCUSPORT logo. Below the menu, there are three main data points: carry (yds) 201, offline (yds) 22L, and total distance (yds) 219. A 'Reset Plots' button is visible on the left.

The central 'Shot History' table is as follows:

Item	Shot	Plot	Shot Score	Ball Speed	Club Speed	Launch Angle	Back Spin	Side Spin	Side Angle	Carry	Carry Offline	Total	Roll	Desc. Angle	Max Height	Total Spin	Flight Time	Video
Driver 1			74.67	141	97	7.7	3,175	-140	-0.8	205	0	221	16	-23.8	15	3,196	5.0	
Driver 1	1	White	66	145	99	6.4	2,781	153	-5.2	201	-22	219	18	-19.5	11	2,798	4.5	Yes
Driver 1	2	White	78	139	97	8.4	3,646	-384	0.9	208	12	221	14	-27.7	17	3,687	5.4	Yes
Driver 1	3	White	78	140	96	8.3	3,097	-190	1.8	205	11	222	16	-24.2	15	3,103	5.1	Yes
Driver 2			84.00	141	98	10.1	3,411	117	-0.7	220	-6	234	14	-30.4	21	3,427	5.8	
Driver 2	1	Lime	82	140	97	9.8	3,499	54	-2.2	216	-10	230	14	-29.8	20	3,522	5.7	Yes
Driver 2	2	Lime	86	143	98	10.4	3,323	179	0.8	224	-2	238	14	-31.1	22	3,332	5.9	Yes

Below the table are three tabs: Analysis, Profile, and Club Impact. The Analysis window shows a grid of data points. The Club Impact window shows a ball speed profile. The Profile window shows a graph of ball speed vs. club speed.

At the bottom, there is a dashboard with various performance metrics:

- SCORE: 68
- Ball Speed: 145 MPH
- Club Speed: 99 MPH
- Launch Angle: 6.4°
- Descent Angle: -19.5°
- Back Spin: 2781 RPM
- Side Spin: 153 Draw
- Side Angle: 5° Pull

The top of the Fitting Screen contains the Shot History Table. Click the tabs located in the middle of your screen to change the lower window to display Analysis, Profile or Club Impact. When you click to highlight a row in Shot History (shown in blue), the data from that shot appears in the lower windows.

Please refer to pages 13-33 for standard information regarding the software installation, software features, managing student information and calibration.

Shot History Table

Reset Plots		Shot History														Show Averages Only		
Item	Shot	Plot	Shot Score	Ball Speed	Club Speed	Launch Angle	Back Spin	Side Spin	Side Angle	Carry	Carry Offline	Total	Roll	Desc. Angle	Max Height	Total Spin	Flight Time	Video
Driver 1			74.67	141	97	7.7	3,175	-140	-0.8	205	0	221	16	-23.8	15	3,196	5.0	
Driver 1	1	White	68	145	99	6.4	2,781	153	-5.2	201	-22	219	18	-19.5	11	2,798	4.5	Yes
Driver 1	2	White	78	139	97	8.4	3,646	-384	0.9	208	12	221	14	-27.7	17	3,687	5.4	Yes
Driver 1	3	White	78	140	96	8.3	3,097	-190	1.8	205	11	222	16	-24.2	15	3,103	5.1	Yes
Driver 2			84.00	141	98	10.1	3,411	117	-0.7	220	-6	234	14	-30.4	21	3,427	5.8	
Driver 2	1	Lime	82	140	97	9.8	3,499	54	-2.2	216	-10	230	14	-29.8	20	3,522	5.7	Yes
Driver 2	2	Lime	86	143	98	10.4	3,323	179	0.8	224	-2	238	14	-31.1	22	3,332	5.9	Yes

In the Shot History table, data is grouped and summarized by item within the gold colored line of each group (*as shown above*). Click on the +/- box in the item field to collapse the data to display average lines only for each item.

Individual or item averages may be selected for plotting in the Profile view. To plot an item, click on the tab labeled Profile, click the box in the plot column of Shot History for a particular shot or average; select a color for plotting that item.

To delete a shot in the Shot History table, select the row, right click on it and then click delete shot.

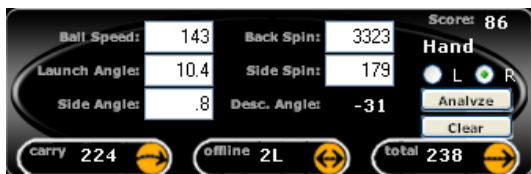
Reset Plots: Resets plots to default colors depending on selected 'Plotting' option (*view menu*).

Show Averages Only: Collapses all items' individual shots under their respective average lines for easy comparison.



Expand Table: Click on this icon to display an expanded view of the shot history table.

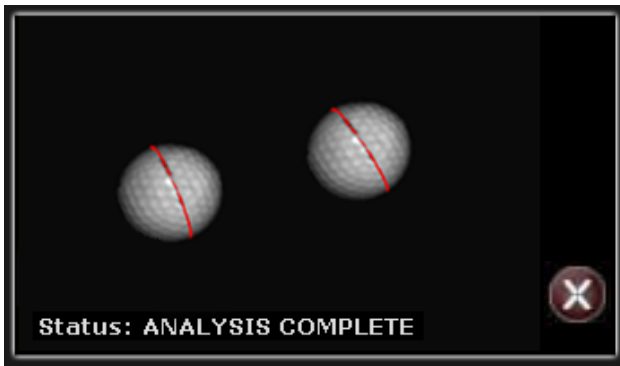
'What if' Analysis




The 'What If' Analysis allows you to input different launch information for shot comparison. Launch information may be modified, analyzed and compared to other shots. After filling in launch condition values such as speed, spin, launch angle, side spin and side angle, click **Analyze** to update. Then select **Clear** to return to the original data. Clear must be selected after each analysis in order to be able to select another shot in the Shot History table.

**The software will auto-detect right or left handed after a shot is hit. If using the 'What If' feature without any shots hit, you must specify Right or Left handed in order for data and plots to be correct.*

Image Window



The **Image Window** is located in the lower right corner of the software and shows a composite image of the ball from the top and bottom cameras. The Vector Pro Launch System requires a black mark on the golf ball to measure spin; those marks are indicated in red by the software to validate that the shot was marked correctly.

*If the software misreads the black marks, the ball can be remarked by clicking once on each end of the appropriate mark. Error messages can also be viewed in this window to assist in troubleshooting problems related to shot capture. If you wish to delete the last shot, click the Delete Shot button in the lower right corner 

Shot Analysis

Analysis	Profile		Club Impact																						
	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5	16	16.5	17												
750	193.2	197.9	202.4	206.7	210.8	214.8	218.6	222.2	225.6	228.9	232.0	235.0	237.9												
1000	204.1	208.5	212.7	216.7	220.5	224.1	227.6	230.8	234.0	237.0	239.8	242.5	245.0												
1250	213.3	217.3	221.1	224.8	228.2	231.5	234.6	237.6	240.4	243.0	245.5	247.9	250.2												
1500	220.9	224.6	228.0	231.3	234.4	237.3	240.1	242.7	245.2	247.6	249.8	251.9	253.8												
1750	227.1	230.4	233.5	236.4	239.2	241.8	244.3	246.6	248.8	250.8	252.8	254.6	256.3												
2000	232.0	235.0	237.7	240.3	242.8	245.1	247.3	249.4	251.3	253.1	254.8	256.4	257.9												
2250	235.8	238.4	240.9	243.2	245.4	247.5	249.4	251.2	252.9	254.5	256.0	257.4	258.7												
2500	238.6	241.0	243.2	245.3	247.2	249.0	250.8	252.4	253.9	255.3	256.6	257.8	259.0												
2750	240.7	242.8	244.7	246.6	248.3	250.0	251.5	252.9	254.3	255.5	256.7	257.7	258.7												
3000	242.0	243.9	245.7	247.4	248.9	250.4	251.8	253.0	254.2	255.3	256.4	257.3	258.2												
3250	242.9	244.6	246.2	247.7	249.1	250.4	251.6	252.8	253.9	254.9	255.6	256.2	256.7												
3500	243.3	244.8	246.3	247.7	248.9	250.1	251.0	251.8	252.4	253.0	253.4	253.8	254.0												
3750	243.3	244.6	245.8	246.8	247.6	248.4	249.0	249.6	250.0	250.4	250.6	250.8	250.9												
4000	242.2	243.2	244.1	244.9	245.5	246.1	246.5	246.9	247.2	247.4	247.5	247.6	247.6												
4250	240.5	241.3	241.9	242.5	243.0	243.4	243.8	244.0	244.2	244.3	244.3	244.3	244.2												

Click the tab in the middle of the screen labeled **Analysis**. The chart displays various computed launch angle and back spin conditions. The **Yellow** box shows the distance achieved by the initial launch conditions. Surrounding cells show the distances of various launch angle and spin

rate combinations. If a box is **Black**, there is no significant gain or loss in distance. **Red** indicates a loss of distance and **Green** indicates a gain in distance.

Shot Profile



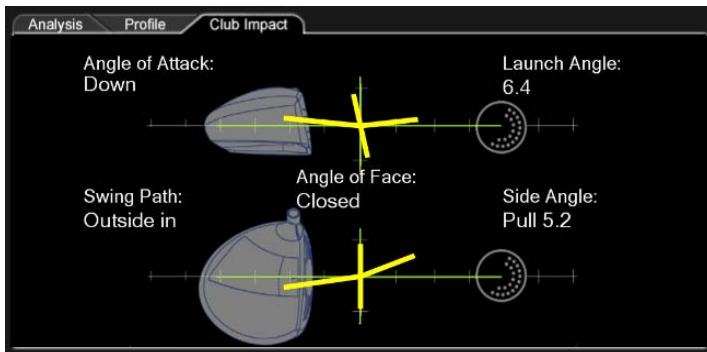
Click the tab labeled **Profile**. Here, you are able to view either a Side Profile or Top Down profile by selecting the corresponding toggle in the upper right.

Plotting Options: In the 'View Menu', select **All** to display tracers of every shot during a session or select **Single** to display only the current shot. Plot colors can be set via *Tracer Colors* in 'Preferences' to Standard (all white) or Club Grouping (automatically assigned colors per item). You may also manually assign a plot color at any time in the Shot History table in the Plot column.

****The current shot hit, or currently selected, will always be the brightest shot plotted.***

Launch data may be modified for a "What If" plot. Change the values in the 'What If' Analysis window and then click **Analyze** to see the plot of a hypothetical shot (shown in white).

Club Impact



Click the tab labeled **Club Impact**. This tab shows angle of attack, swing path, and indicates whether the face was open or closed at impact.

VTech Software

This section describes software features unique to the VTech Module.

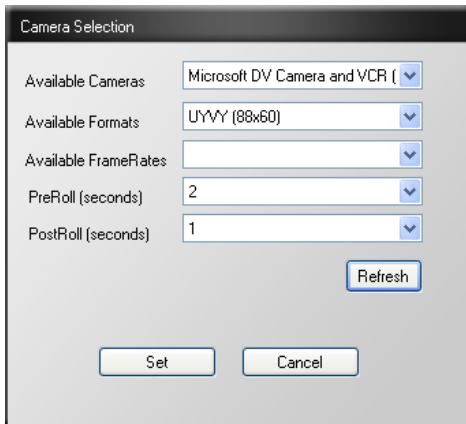


Please refer to pages 13-33 for standard information regarding the software installation, software features, managing student information and calibration.

Video Camera Selection

If you wish to use a video camera, follow these steps for selecting and setting up the camera in the VTech software.

1. Power on the video camera and computer.
2. Plug the camera into the computer.
3. Start the VTech software by double clicking the VTech icon on your computer desktop.



4. When the Camera Selection window appears, click the camera drop down and select your camera. If your camera allows, you can change the format (do not exceed 720x480) and adjust the framerate. You also have the option to change PreRoll (duration of video captured *before* impact) and PostRoll (duration of video captured *after* impact). **If you are not using a video camera, click **Cancel**.*

5. Click **Set** to close the dialog box and begin using the software.

**The camera icon in the upper left corner of the VTeach software will glow green when a video camera is connected. It will be black if no camera is connected.*

Capturing Video

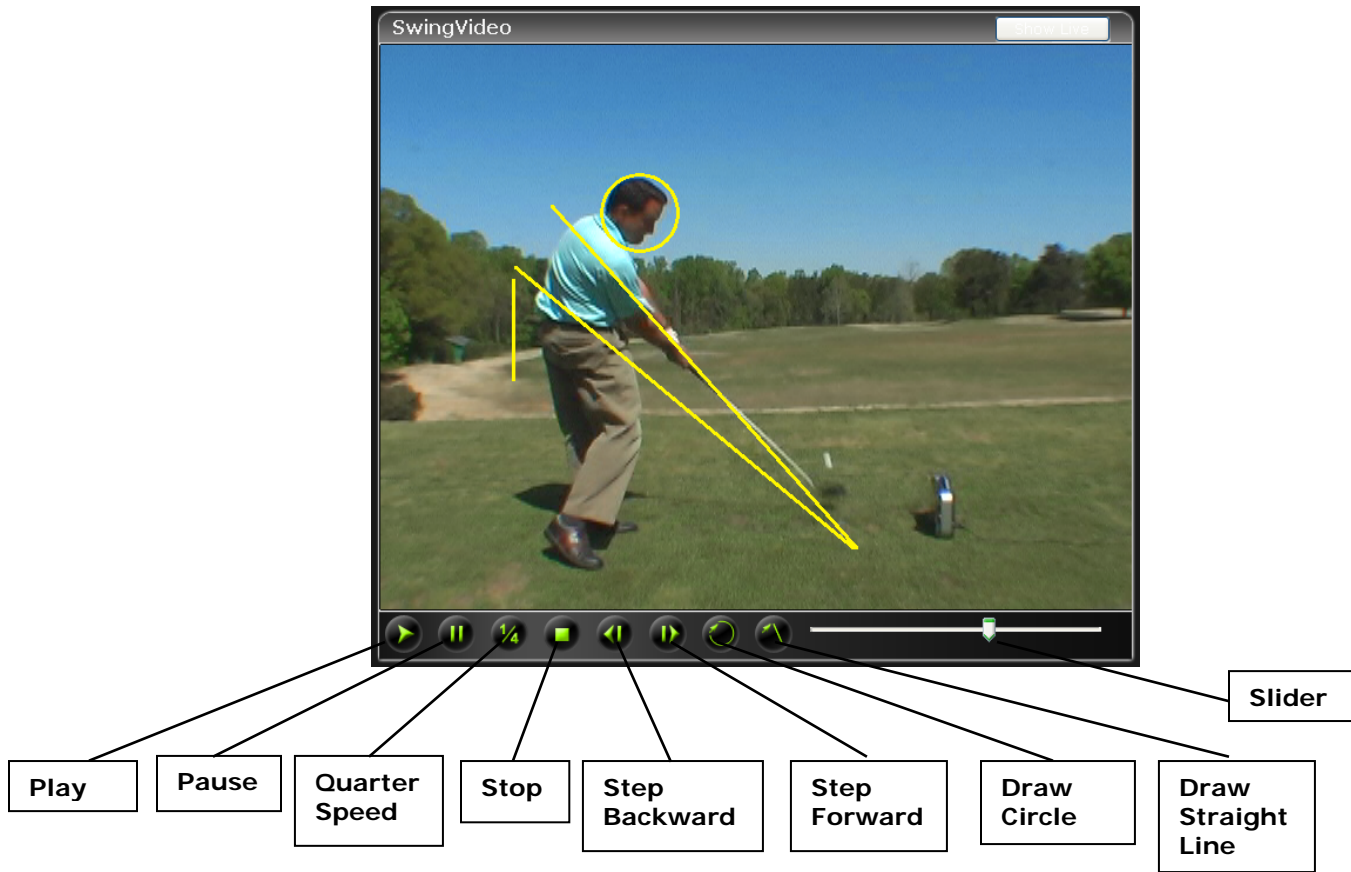
Live Mode: To see a live view to aid in setup and positioning of the camera, click **Show Live** at the top of the video window.

Capturing Video: Video is captured with each processed shot. If a shot is not processed and you see 'Analysis Terminated' in the image window, video will not be captured.

To capture video without requiring a processed shot, go to Options and click **Preferences**. Uncheck the box next to **Allow Analysis Terminated**. Shots will appear in the shot history table to allow you to select between your captured video, but will not contain any shot data. Use either of the methods below to trigger the camcorder.

- 1) Use the Vector Pro unit to trigger the camcorder. You are not capturing shot data, so it does not have to be in the correct hitting position as long as the sound of impact is able to trigger the microphone.
- 2) Press **Alt+T** on your keyboard to trigger the camera as the player strikes the ball. It is advised that you set the PreRoll and PostRoll each to 3 seconds as a buffer to ensure the entire swing is captured.

Swing Video Diagram



Swing Video Navigation

Use the video navigation buttons to play/pause, stop, play at quarter speed, or step the video clip forward or backward. Click and drag the slider just below the Swing Video window to step the video forward, backward or pause it at a particular spot.

On Screen Annotation

To use the drawing tools for swing video annotation, pause the video at the spot at which you wish to draw.



Click the **Line Tool**, then click and drag the pointer across the video image to draw a straight line.



Click the **Circle Tool**, then click and drag the pointer across the video image to draw a circle.

*Right-click on a drawn line or circle to modify or delete it.

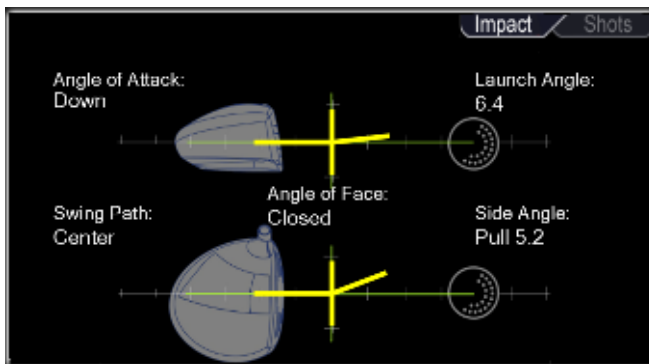
Shot History

Item	Shot	Plot	Shot Score	Ball Speed	Club Speed	Launch Ang
Driver 2			84.00	141	98	11
Driver 2	1	Lime	82	140	97	11
Driver 2	2	Lime	86	143	98	11
Driver 3			74.67	129	95	11
Driver 3	1	range	77	104	89	21
Driver 3	2	range	79	139	97	11
Driver 3	3	range	68	145	99	11

The Shot History table allows you to view and select any shot from the session. Note that shots with swing video attached will have a 'Yes' in the video column.

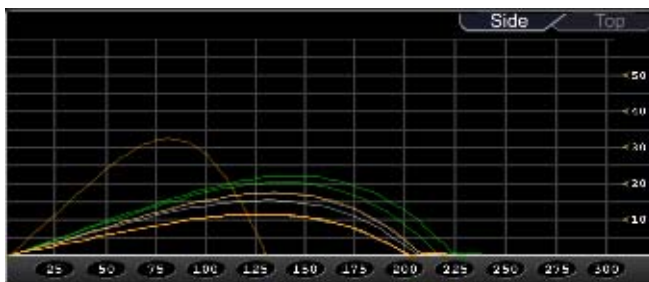
**This table can be expanded down over the shot profile by clicking the yellow arrow at the top.*

Club Impact



The Club Impact window shows angle of attack, swing path, and indicates whether the face was open or closed at impact.

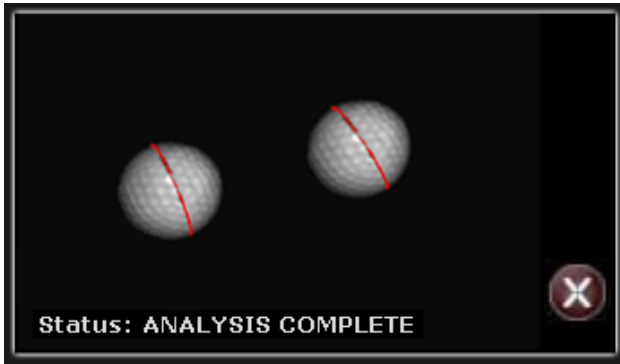
Shot Profile




Profile shows a top down or side view of the ball flight based upon the measured ball launch information and AccuSport's best-in-the-industry flight model.

**See page 47 for detailed view of Shot Profile*

Image Window



The **Image Window** is located in the lower right corner of the software and shows a composite image of the ball from the top and bottom cameras. The Vector Pro Launch System requires a black mark on the golf ball to measure spin; those marks are indicated in red by the software to validate that the shot was marked correctly.

*If the software misreads the black marks, the ball can be remarked by clicking once on each end of the appropriate mark. Error messages can also be viewed in this window to assist in troubleshooting problems related to shot capture. If you wish to delete the last shot, click the Delete Shot button in the lower right corner 

VRANGE SOFTWARE

This section describes software features unique to the VRange software module. The VRange software is serial number specific and must have a license key for the program to work beyond the evaluation period. VRange is a separate add-on module to the VSeries software. VRange can be displayed in four different range/hole views: 105yds, 155yds, 225yds, and 325yds.

Please refer to pages 13-33 for standard information regarding the software installation, software features, managing student information and calibration.

VRange Demo

A 14 day evaluation copy of the VRange software was included with your Vector Pro shipment. It is also available for download at www.accusport.com. To purchase VRange and to receive the license key (exclusive to specified Vector Pro unit serial number), contact Customer Support at 866-759-3302 ext. 2.



Expandable Windows



Expand Window Tabs: Click on the green arrows to display windows of Shot History, Image View, 'What If' Analysis, Top Down View, and Profile.

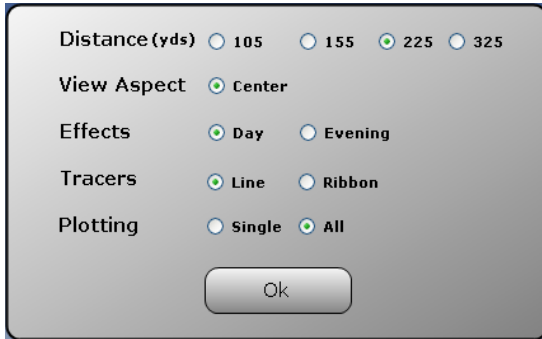
The screenshot shows the main interface of the Accusport software. At the top, there are menu options: File, Options, View, Help. The main display area shows a golf course scene with a ball in flight. Callouts point to several windows: 'Shot History Table' (top left), 'Image Screen' (middle left), 'Top Down View' (top right), and 'Shot Profile' (middle right). At the bottom, there is a 'What If' Analysis window. The interface also displays various statistics: carry (202), offline (22L), total distance (220), and 180, 2L, 190. The bottom status bar shows: Student: Demo, Item: Driver 3, Activity: Driver Lesson. A SCORE of 68 is displayed. Other metrics include Ball Speed (145 MPH), Club Speed (99 MPH), Launch Angle (6.4°), Descant Angle (-19.4°), Back Spin (2823 RPM), Side Spin (153 Draw), and Side Angle (5° Pull).

This screenshot shows the same interface as above, but with the 'Shot History Table' window expanded. The table contains the following data:

Item	Shot	Plot	Shot Score	Ball Speed	Club Speed	La Ar
Driver 1			74.67	141	97	
Driver 1	1	White	68	145	99	
Driver 1	2	White	78	139	97	
Driver 1	3	White	78	140	96	
Driver 2			84.00	141	98	
Driver 2	1	Lime	82	140	97	
Driver 2	2	Lime	86	143	98	
Driver 3			74.67	129	95	
Driver 3	1	range	77	104	89	
Driver 3	2	range	79	139	97	
Driver 3	3	range	68	145	99	

Below the table, there is a 'Status: reload' button and a 'Hand' selector (L, R). A 'What If' Analysis window is also visible, showing a graph of ball speed vs. distance. The bottom status bar remains the same as in the previous screenshot.

View Menu Options (VRange only)



Select **View** from the Options menu to display range options for distance, view aspect, day or evening effects, tracer type, and plotting preference.

- **Distance:** Four distance views are available in VRange: 105 yards, 155 yards, 225 yards, and 325 yards.
- **View Aspect:** Center aspect is currently the only option available.
- **Effects:** The ranges can be viewed in either day or evening view.
- **Tracers:** Shots can be displayed in either line or ribbon format.
- **Plotting:** Select **All** to display tracers of every shot during a session or select **Single** to display only the current shot. Plot colors can be set via *Tracer Colors* in 'Preferences' to Standard (all white) or Club Grouping (automatically assigned colors per item). You may also manually assign a plot color at any time in the Shot History table in the Plot column.

Shot History

Reset Plots		Shot History		Avg Only		
Item	Shot	Plot	Shot Score	Ball Speed	Club Speed	La Ar
<input type="checkbox"/> Select Item			61	97	83	
Select Item	1	White	73	116	82	
Select Item	2	White	56	117	88	
Select Item	3	White	0	0	NaN	
Select Item	4	White	68	105	83	
Select Item	5	White	83	110	82	
Select Item	6	White	73	116	82	
Select Item	7	White	73	116	82	

Select the green tab at the top left to access the Shot History table.

In Shot History, data is grouped and summarized under the gold colored average line for each item. Click on +/- box in the item field to collapse the data to display average lines only for each item.

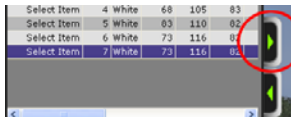
Individual shots or item averages may be selected for plotting in the Profile and Range view. To plot an item, click the box in the plot column of Shot History for a particular shot or average; select a color for plotting that item. The tracer changes to the plot color selection in the main range view, the top down view and the side profile view.

To delete a shot in the Shot History table, right-click anywhere on the row and then click **Delete Shot**.



Reset Plots: Resets plots to default colors depending on selected 'Plotting' option (*view menu*).

Avg Only: Check this box to display only the averages for each item.



Click on the secondary expansion arrow to expand the shot history window to include all columns. In expanded view, the arrow will then face left, and clicking it again will cause the window to revert back to compact view for better viewing of the range.

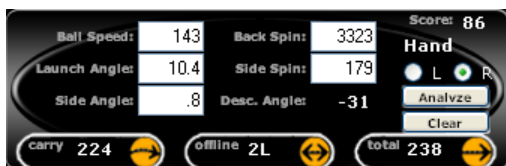
Image Window



Select the middle green arrow on the left to display the Image window.

The image window shows a composite image of the ball from the top and bottom cameras. The software uses the black line on the golf ball to measure the spin; those marks are indicated in red by the software to validate how the shot was measured. If the software misreads the black marks, the ball can be remarked by clicking once on each end of the black line. Error messages can also be viewed in this window to assist in troubleshooting problems related to shot capture.

“What if” Analysis



The 'What If' Analysis allows you to input different launch information for shot comparison. Launch information may be modified, analyzed and compared to other shots. After filling in launch condition values such as speed, spin, launch angle, side spin and side angle, click **Analyze** to update. Then select **Clear** to return to the original data. Clear must be selected after each analysis in order to be able to select another shot in the Shot History table

**The software will auto-detect right or left handed after a shot is hit. If using the 'What If' feature without any shots hit, you must specify Right or Left handed in order for data and plots to be correct.*

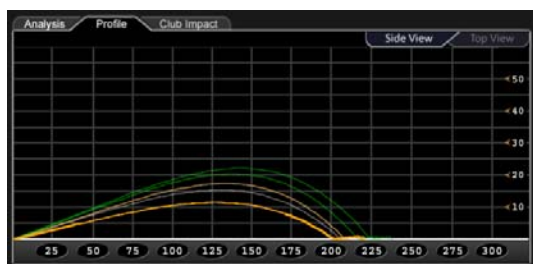
Top Down View



Select the top right green tab for a top down view of the shot profile.

Colors can be set under **Tracer Colors** in 'Preferences', or manually selected by clicking the plot cell in the Shot History table and selecting a color to compare different shot profiles within the software.

Shot Profile View



Select the bottom right green tab for a side view of the shot profile, which shows a top down or side view of the ball flight based upon the measured ball launch information and AccuSport's best-in-the-industry flight model.

**See page 47 for detailed view of Shot Profile*

CUSTOMER SUPPORT

You can reach AccuSport Customer Support by phone or email:

Phone: 336-759-3300 x2

Toll-free: 866-759-3302 x2

support@accusport.com

Please have your serial number available.

HOURS: Monday – Friday 8:00 am to 5:00 pm EST

Free customer support during regular business hours.

Weekend support available Saturday (10:00 am to 5:00 pm) and Sunday (1:00 to 5:00 pm). There is a per incident fee.

If the Vector Pro warranty has expired, the customer is responsible for all shipping costs.

Visit our website www.accusport.com for additional user tips.

FREQUENTLY ASKED QUESTIONS

General Questions

Whom should I contact with questions about Vector Pro or the AccuSport warranty?

You can reach AccuSport Customer Support by phone or email:

Phone: 336-759-3300 x2

Toll-free: 866-759-3302 x2

support@accusport.com

Please have your serial number available.

HOURS: Monday – Friday 8:00 am to 5:00 pm EST

Customer support is free of charge during the warranty period.

Visit our website www.accusport.com for additional user tips.

How can I get more information on Vector Pro?

Contact our sales department at 336-759-3300 (or toll-free: 866-759-3302). Press 1 for sales. Or email sales@accusport.com.

How does Vector Pro connect to my computer?

Vector Pro connects to your computer via USB 2.0. For capturing swing video at least one FireWire IEEE 1394 port is also required.

Do I have the latest software version? If not, where do I get it?

To verify your software version, please contact Customer Support. If your version is out of date, we can arrange for you to download a newer version of software if available. If downloading the software is not an option, we can also send a CD, however, there is a charge for CD copies of the software.

How do I know if my computer has a USB 2.0 port?

1. Right-click **My Computer** and select **Manage**.

*Note: Windows XP users may need to click **Start** to access **My Computer**.*

2. Click **Device Manager**.

3. Click the (+) sign next to **Universal Serial Bus Controllers** (in the right windows pane).

4. Manufacturer names are listed in front of each USB Host Controller or Root Hub. They should be labeled as follows;

i. If Enhanced Host Controller and/or USB 2.0 Root Hub Device are listed, then the computer has USB 2.0 ports.

ii. If the phrases USB 2.0 or Enhanced do not appear with any of the USB references, then the computer has USB 1 or 1.1 ports.

Note: If Universal Serial Bus Controllers is not listed, there is a problem with the USB controller or the USB controller is not enabled in the computer's BIOS. Please contact the computer or card manufacturer for updated drivers and/or for information on how to fix or enable the USB controller.

How does Vector Pro work?

Vector Pro is triggered by the sound of the club hitting the golf ball. The cameras capture two images of the ball, which are transferred to a computer. Advanced image analysis software determines the size, rotation, vertical path and distance between the two images. The software utilizes this information to accurately measure ball speed, launch angle, back spin, side spin and push/pull, and to calculate club head speed and angle of descent.

Can I use irons with Vector Pro?

Yes. In addition to drivers, irons can be used on the Vector Pro with little to no adjustment. Keep in mind that the Vector Pro needs to be positioned at the same level as the hitting mat. We also recommend changing the 'Delay' setting in the software to *Medium* for iron capture.

Will Vector Pro work for a left handed player?

Yes. The software will auto-detect Right or Left handed. You will need to reposition the unit on the other side, but there is no need to make any adjustments to the software.

Does AccuSport provide product training?

The Vector Pro Launch System is the industry leading launch monitor with a host of features. Training packages are available at an extra cost. For details, contact Customer Support.

Do I need to register my Vector Pro?

Yes. Registering your Vector Pro will activate your warranty. In addition, it will assure that your contact information is entered into our system so that you can receive software announcements and technical support for the warranty period. You can register your Vector Pro at www.accusport.com or by contacting Customer Support.

Will Vector Pro work on an Apple Mac?

No. The Vector Pro Launch System will only work on 32-bit or 64-bit Personal Computers (PCs) running Windows XP Home or Professional, Windows Vista, and Windows 7 Operating Systems.

How accurate is club speed?

Vector Pro club speed is accurate to within 2 mph. This calculation is derived from ball speed, launch angle, back spin, side spin and push/pull, all of which are measured parameters.

Is there a chart for optimal launch angle and spin rate?

Since each golfer's swing is different, there are too many variables for a printed chart. However, you can use the "what if" feature of the VFit Analysis Screen to enter different shot information - such as launch angle and spin rate - in order to determine the impact of these changes on an individual golfer's ball flight.

Why is the green power light on the Vector Pro blinking?

The green LED power light on the side of Vector Pro glows when Vector Pro is powered on. It blinks when the internal battery is not fully charged. If the battery is low and needs charging, Vector Pro will emit a beeping sound.

Using Vector Pro

How important is ball placement?

Ball placement is crucial. If the ball is not placed in the correct hitting area or is not at the stated 14 inches, +/- 1 inch, from the launch monitor, the ball capture or launch data will be affected. The Setup Template indicates where the ball should be placed for set-up and hitting.

How do I charge the battery?

To charge, plug the Vector Pro into an outlet via the AC adapter. Making sure the power on the Vector Pro unit is "Off", allow the unit to charge overnight or for at least six hours.

Do the preference settings have a significant impact on ball flight?

Preferences related to altitude and weather do impact ball flight. The ball will fly higher and farther at high altitude than at sea level. Therefore, if you set your preferences for Colorado, and then take your Vector Pro to Florida, you must change the preferences, or Vector Pro will show the ball going farther and higher than it would actually travel. For the most accurate readings, you should set the preferences according to the conditions that you are in.

Wind direction should be set at zero degrees if the ball flies directly into the wind, at 180 degrees if the ball flies downwind, at 90 degrees if the wind is coming from the right, and at 270 degrees if the wind is coming from the left.

Does it matter what kind of golf balls I use?

We recommend using a white ball with as few markings as possible, so that the software can clearly read the straight lined type logo, or line you have drawn on the ball. Be sure the ball is properly marked (page 20.) Range balls or limited flight balls will affect measured launch data.

What are the Marks, Mono, Plane, Edges, and Ball Outline checkboxes in Advanced Settings for?

First, remember that anything in Advance Settings is for experienced users only. If you are an experienced user then this explanation will be helpful to you.

Marks: show what the software recognizes as significant marks on the golf ball. Ideally, the logo used or black line should be the only, or at least the predominant mark highlighted in blue.

Mono: allows you to check the brightness setting. When the Mono button is checked, the white circle in place of the golf ball should extend to the edges of the ball. If it does not, recalibrate the Vector Pro with the tee position 14 inches away.

Plane: displays a plain red line around the golf ball. If using a black line or logo, the red line should overlap it. This confirms that the software is reading the marks on the ball correctly.

Edges: maps the individual edge points in relation to the center of the golf ball.

Ball Outline: maps the actual circumference in relation to the center point of the golf ball.

How Should I setup the Vector Pro when using a White Headed Driver or Fairway Wood

When fitting clubs with white heads the club head can appear in the ball capture window. This can cause incorrect readings in the software. The following setup should prevent this problem.

The tee position should remain approximately 12-14 inches away from the launch monitor. However, when using white headed clubs, move the ball behind the back edge of the monitor 2-3 inches, as pictured. This will prevent the image of the golf club from being captured by the



launch monitor. To capture the shot correctly a change to the software **Trigger Delay** settings may also be needed. Players with a fast to moderate ball speed should select a **Fast (F)** Trigger Delay setting. If the player has a slower swing speed and would like to use a white driver on a Vector Pro, the Trigger delay setting should be changed to **Medium (M)**. This allows more time to get the ball within the shot capture window.



Troubleshooting

When I try to load the drivers an error message appears telling me there is no information on my hardware contained in the file.

Contact Customer Support: (866) 759-3302 or support@accusport.com

I'm getting an error message that says this device is not recognized.

Contact Customer Support.

The Driver Installation Problem Solving Procedure below addresses the following questions and problems:

How do I update the Vector Pro driver?

The Hardware Update Wizard does not appear when I turn on my Vector Pro for the first time?

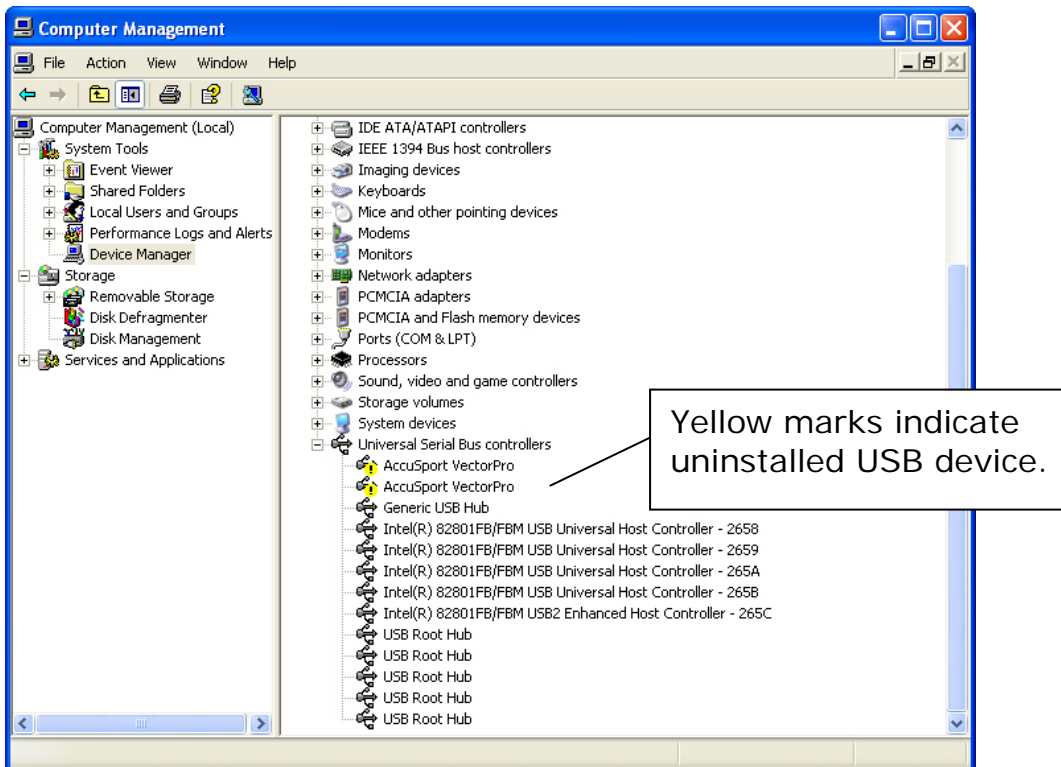
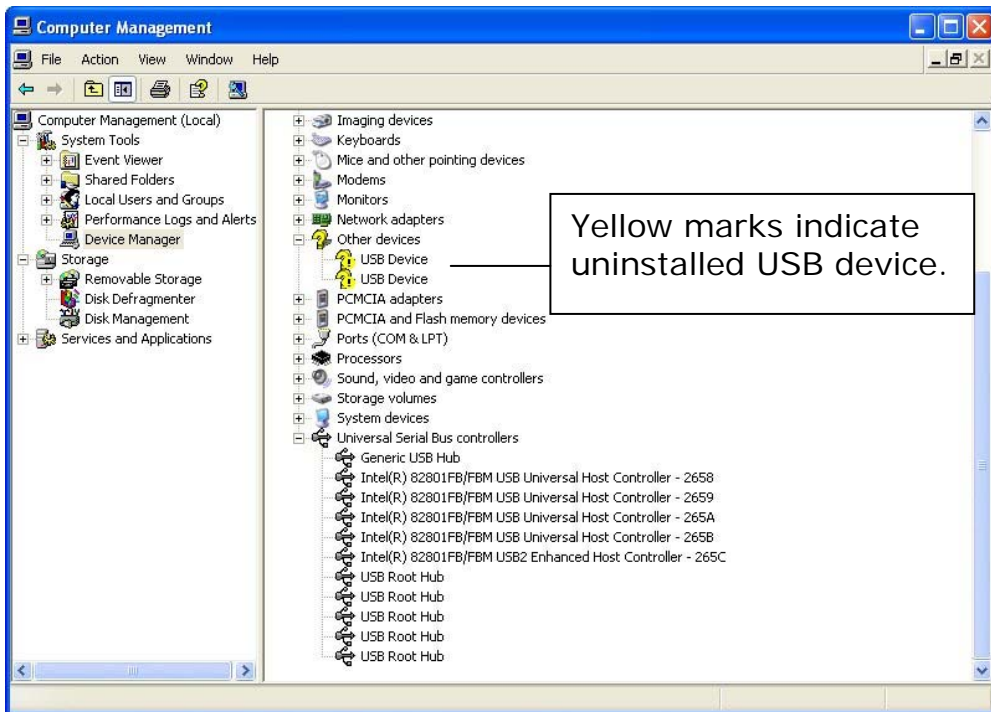
The User Guide says I will need to install four drivers but only two instances of the wizard appear?

For these driver installation issues, use this procedure:

Driver Installation Problem Solving Procedure

1. In Windows click **Start**.
2. Right Click **My Computer**.
3. Click **Manage**.
4. Click **Device Manager**.

The right window panel shows hardware currently installed or connected to your computer. The window will look similar to one of the following images: *(next page)*



The yellow question marks or exclamation marks indicate that these drivers need to be installed using the procedures on page 14 for Windows XP, page 17 for Windows Vista and Windows 7.

The logo or line on the ball is not visible on the image.

1. Select Options and Calibrate to re-calibrate the lenses.
2. Make sure that the logo or line is vertical and faces the right edge of the Vector Pro when you tee up the ball.

I hit one shot and software will not capture any more.

Your computer's processor may not be running at full speed or the computer may have tried to enter sleep mode. Make sure that your computer processor is running at full speed:

1. Click on the windows **Start** button
2. Right click **Control Panel**
3. Select **Performance and Maintenance**
4. Double left click **Power Options**. (If using windows classic look, you should go straight to the **Power Options** icon and double left click.)
5. From the **Power Schemes** drop down box, select **Always On**, select **Apply**, then **OK**. Then restart your computer.
6. If this does not solve the problem, call Customer Support.

There is part, one, or no golf balls on the screen.

1. Be sure Vector Pro is on the same level as the mat.
2. If the ball image is cut off at the side, use the setup template to verify that you are teeing up the ball correctly and that it is 14 inches from the Vector Pro.
3. Click Options on the menu bar and select Advanced Mode. Verify that the 'Default' box is checked for trigger sensitivity, located in the lower left corner.
4. Click Options on the menu bar and select Advanced Mode. Verify that Fast is being used for drivers and Medium for irons or slow swing speeds.

I am getting launch data for drivers, but the system is not capturing irons.

1. Make sure that Vector Pro is on the same level as the mat and that the ball is not being hit below the cameras.
2. Click Options on the menu bar and select Advanced Mode. Verify that the 'Default' box is checked for trigger sensitivity, located in the lower left corner.
3. If the ball image is cut off at the side of the screen, use the setup template to verify that you are teeing up the ball correctly.
4. If your swing speed with an iron is less than 80 mph, change the Delay setting in Advanced Mode to Medium.
5. Tee up the ball a bit closer to the center line straight out from the Vector Pro lenses, still 14 inches away from the unit.

I am getting strange or incorrect readings.

This may be due to lighting conditions, loss of calibration, incorrect system preferences or low battery.

1. Select Options and Calibrate from the menu bar and recalibrate the lenses.
2. Make sure the ball is marked properly, and that the software is reading the correct mark, not some other spot on the ball.
3. If the problem persists, click Options/ Preferences in the menu bar of the software, and make sure the wind speed, altitude and temperature settings are correct.
4. If the battery is low, charge it or use an alternate power source.

The ball image screen is completely white.

Go to Options>Advanced Mode and verify that the 'Mono' box is not checked.

I cannot see the stripe on the balls.

Make sure when placing the ball in front of Vector Pro that the black line is vertically facing the Vector Pro.

The golf ball is blurry.

Select Options and Calibrate from the menu bar and recalibrate the lenses.

My software screen looked corrupted.

Make sure to close the software before making any changes to your monitor's resolution.

Error Messages**Analysis Terminated**

This message indicates that the ball strike has not been correctly captured. If the ball image is cut off at the top of the screen, ensure the Vector Pro is level to your hitting surface or tilt Vector Pro back slightly. If the ball image is cut off at the side, use the setup template to verify that you are teeing up the ball correctly and that it is 14 inches from the unit and modify the delay settings in Advanced Mode. Typically Fast delay is ideal for drivers and Medium delay is used for irons or slower swing speeds.

Ball too close

The ball is less than 12 inches away from the Vector Pro. Be sure that the golf ball has been teed up/placed 14 inches from the Vector Pro and hit another shot.

Ball too far

The ball is greater than 18 inches away from the Vector Pro. Be sure that the golf ball has been teed up/placed 14 inches from the Vector Pro and hit another shot.

Check Ball Speed

The ball speed is either less than 21mph or greater than 235 mph. This message could also be caused by incorrect ball markings.

Check Launch Angle

Be sure that the Vector Pro preferences are not incorrectly set to left handed for a right handed player or to right handed for a left handed player. This may also indicate a topped shot.

Check Side Angle

The side angle is greater than (+/- 12 degrees).

Low Ball Edge Quality

The ball/ tee placement is incorrect. Use the supplied template to ensure that the ball was hit at the required 14 inches from Vector Pro and from within the appropriate hitting zone. If the distance is correct, select Options and Calibrate from the menu bar to recalibrate the lenses.

Low Planes

Balls may not have been marked properly.

Marks too Small

To be sure that Vector Pro can read the marks on the ball, first check that the logo or line is vertical and facing the right edge of the Vector Pro when you tee up the ball.

If the ball is incorrectly marked or dirty, or if it has significant marks on it other than the logo or line, remark or change the ball.

No Balls Found

This message appears if none, one, or only part of a ball can be seen on the image screen. Use the setup template to ensure that the ball was hit at the required 14 inches from Vector Pro.

Use the setup template to be sure that the ball was teed up in the proper hitting area. For right handed players, this is normally inside the right edge of the Vector Pro. For left handed players, this is normally inside the left edge of Vector Pro.

For hitters with slower swing speeds, select Options and Advanced Mode from the menu bar and change the delay setting to Medium or Slow. Typically Fast is recommended for Drivers and Medium for irons or slower swing speeds.

No Planes

Balls may not have been marked properly, or ball may have been placed on the tee with marks facing away from Vector Pro.

APPENDIX

Appendix A: Full Report


Shot Summary

Demo
Driver Lesson

Item	Shot	Pkt	Shot Score	Ball Speed	Club Speed	Launch Ar	Back Spin	Side Spin	Side Ar	Carry	Offline	Total	Roll	Desc. Angle	Max Hgt	Total St	Right Time	Video
Driver 1			74.67	141	97	7.7	3,175	-146	-5.8	205	0	221	0	-29.8	15	3,156	5.9	
Driver 1	1	White	86	146	99	6.4	2,781	132	-9.1	203	-32	221	0	-19.5	11	2,798	4.5	Yes
Driver 1	2	White	78	139	97	8.4	3,646	-284	0.9	208	12	221	0	-27.7	17	3,687	5.4	Yes
Driver 1	3	White	78	140	96	8.3	3,097	-190	1.8	205	11	222	0	-24.2	15	3,103	5.1	Yes
Driver 2			64.00	144	98	10.1	3,451	117	-6.7	220	-6	224	0	-26.4	21	3,467	5.8	
Driver 2	1	Line	82	140	97	9.8	3,499	54	-2.2	216	-30	230	0	-29.8	20	3,522	5.7	Yes
Driver 2	2	Line	86	143	98	10.4	3,323	179	0.8	224	-2	230	0	-31.1	22	3,332	5.9	Yes
Driver 3			74.67	126	95	10.3	4,772	-406	-2.6	180	-2	198	0	-31.1	20	4,827	6.2	
Driver 3	1	Orange	77	104	89	25.1	7,806	-1,032	-2.1	129	3	128	0	-52.3	32	7,877	5.8	No
Driver 3	2	Orange	79	139	97	8.4	3,680	-432	0.9	208	13	221	0	-27.7	17	3,723	5.6	No
Driver 3	3	Orange	81	140	97	8.4	3,621	-131	1.2	202	-22	220	0	-19.4	11	3,640	4.3	No

Page 1 of 4

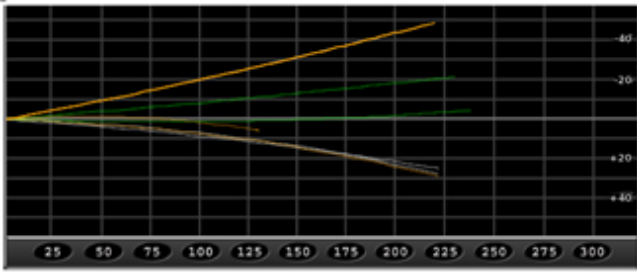
AccuSport
4310 Enterprise Drive-Suite C, Winston-Salem, NC, 27106
Phone: 336.759.3300
Fax: 336.579.2214
Contact: Support
Email: support@accusport.com



Page 1: Displays a full view of the expanded Shot History table. Each item's average line and individual shots are displayed.


Shot Summary

Demo
Driver Lesson



Page 2 of 4

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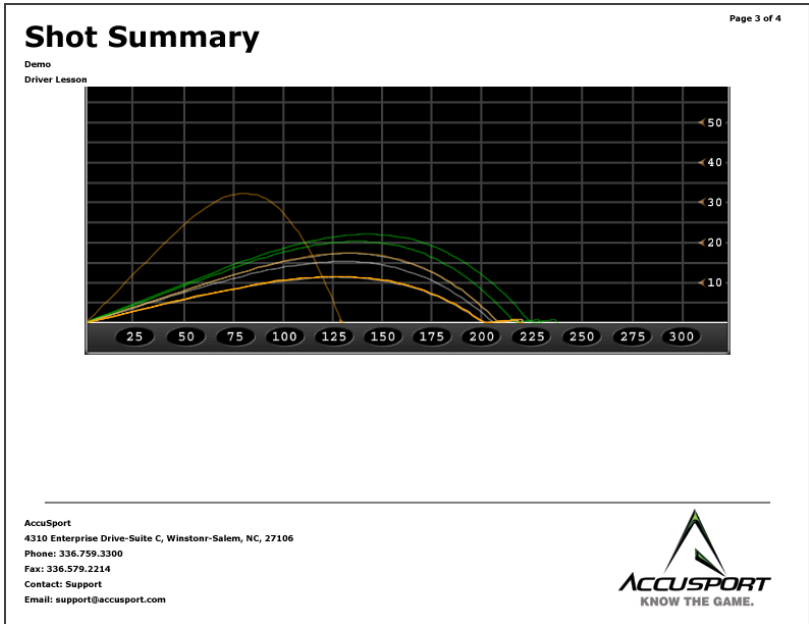
Page 2: Displays the Top Down Shot Profile. All individual shots are plotted according to the plot color assigned in the shot history table.

Note: Averages are not plotted unless a color is manually selected by user in the Shot History table before generating the report

User Guide

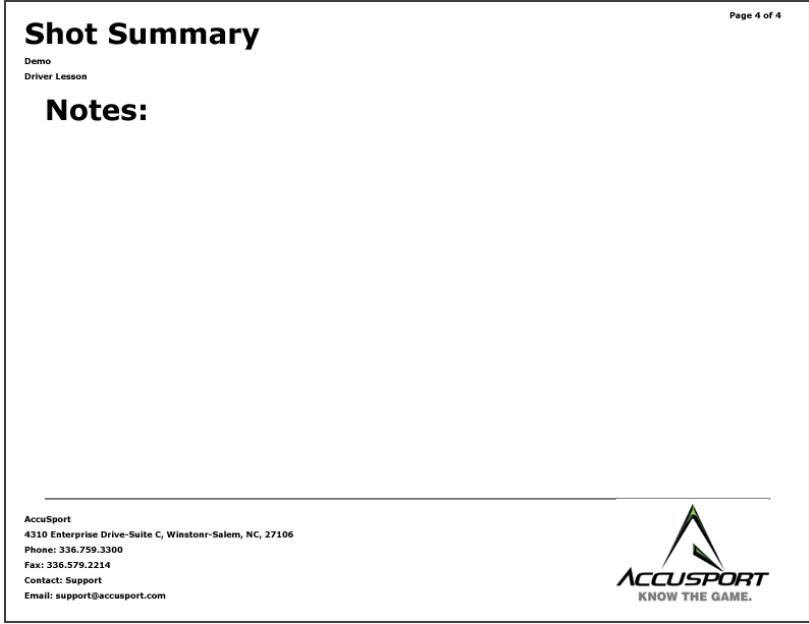
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Page 3: Displays the Side View Shot Profile. All individual shots are plotted according to the plot color assigned in the shot history table.

Note: Averages are not plotted unless a color is manually selected by user in the Shot History table before generating the report



Page 4: Displays any notes that were entered at the beginning of the reports generation process.

Appendix B: Averages Report


Shot Summary

Page 1 of 4

Demo
Driver Lesson

Item	Shot	Dist	Shot Score	Ball Speed	Club Speed	Launch Ar	Back Spin	Side Spin	Side Ar	Carry	Offline	Total	Ball	Desc. Angle	Max Hgt	Total St	Flight Time	Video
D:Driver 1	Iron	84.8	144	117	9.7	3,275	199	-63	-242	0	242	0	-20.9	13	3,186	4.9		
D:Driver 2	Iron	84.00	141	98	10.1	3,411	117	-5.7	220	-4	224	0	-30.4	21	3,427	5.8		
D:Driver 3	Lynx	79.67	129	95	13.0	4,772	-49	-2.1	180	-2	199	0	-33.1	20	4,817	5.3		

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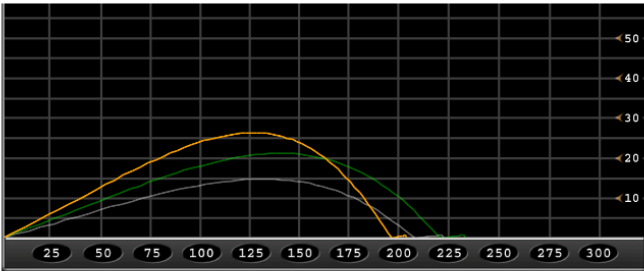


Page 1: Displays the Shot History table in the collapsed Average comparison view. Only each item's average line is displayed.


Shot Summary

Page 2 of 4

Demo
Driver Lesson

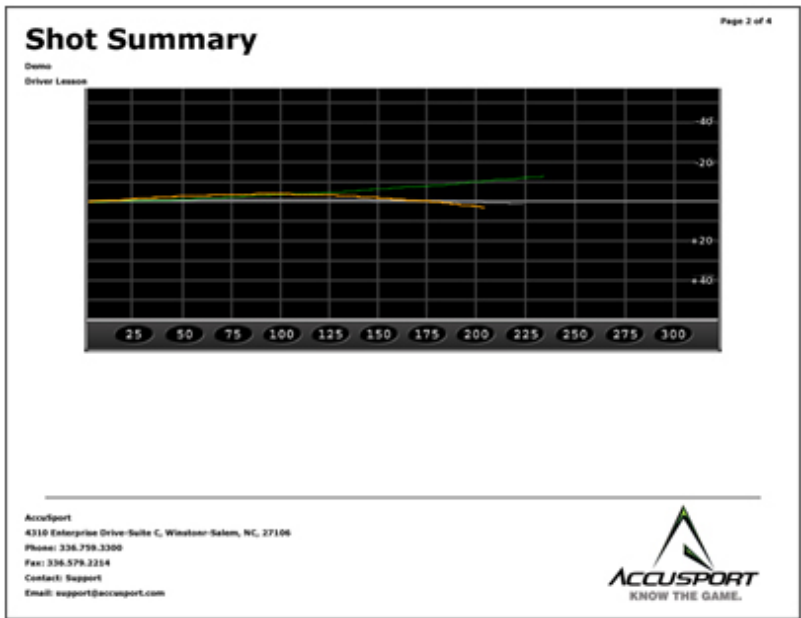


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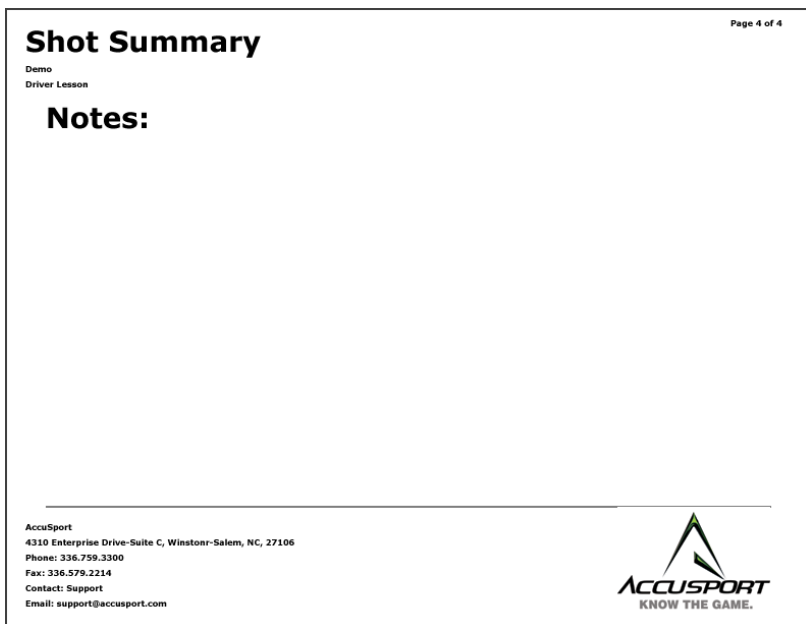
Page 2: Displays the Top Down Shot Profile. Only Item averages are plotted according to the plot color assigned in the shot history table.

Note: Averages are automatically assigned a color when the average report is generated.



Page 3: Displays the Side View Shot Profile. Only Item averages are plotted according to the plot color assigned in the shot history table.

Note: Averages are automatically assigned a color when the average report is generated.



Page 4: Displays any notes that were entered at the beginning of the reports generation process.