

## **WHAT KIND OF COMPUTER DO I NEED? CAN I JUST GET IT AT THE LOCAL ELECTRONICS STORE?**

The quality and configuration of the computer used with the Pro-Trainer software Program ( or any good video movement analysis program) is critical to the output and video rendering you will receive. Our systems include customized computers, configured to meet the exacting standards for high quality video recording and playback.

The standard “business” computer is not designed for video recording and playback purposes. In addition, we recommend the computer be used primarily for motion analysis and is not the “general use” computer for your business or practice. It is difficult to find an “off the shelf” computer with the proper components and capacities. The system should be configured and built by a company that specializes in video analysis.

**PC Speed:** The computer requires a good processor speed. It must be capable of handling large amounts of data very quickly as it is transmitted from the video camera. A slow processor will drop or lose portions of the video signal. The resulting video will appear “choppy” during playback.

**PC Memory:** Because of the huge amount of data (bits) required to store video images, the computer’s memory (RAM) needs to be of a sufficient size for this process. Too little memory and you will experience the same problems as you will with slow PC speed. The RAM becomes even more important if you are using multiple cameras simultaneously.

**PC Hard drive:** The .avi videos (format used for recording of videos) are some of the least compressed videos and therefore require additional storage capability on the computer.

**PC Video Processor:** During the streaming of the LIVE video to the computer, the video is processed through the Video RAM. When you are recording and viewing multiple camera views, you are using a great deal of Video RAM. Your clients want to see clear, smooth video playback and this is a critical component for this. In order to meet the high resolution and display needs of the computer, it is strongly recommended the computer is configured with DEDICATED VIDEO RAM. A good example of this is a “multi-media computer” which typically is designed with a separate Video card. The quality of the card is a very important factor in the computer; if you use a “bargain” card, you could end up with choppy video.

**Video Connection:** In order to have the FAST, LIVE connection for viewing of videos, the Mini-DV camcorder utilizes the IEEE-1394 protocol, also known as FireWire or i-Link. Due to hardware limitations, each camcorder requires connection to a unique FireWire card installed in the computer. In the case of a desktop computer, this means you will typically require one (1) to three (3) FireWire cards installed in the case. This is important to note, as cards may be designed with up to three (3) connections per card and only one can be used per camcorder. In order to have two (2) camcorders connected to a notebook computer, you will need one (1) built in FireWire (1394) port and a FireWire (1394) Express card slot (either “34” or “54” style). The typical Express Card has two (2) ports, however only one can be used to connect to the FireWire cable.

**No 3rd Party Software**—the PC cannot have any 3rd party video software installed such as video games or other video capture software. Anti-virus software may also cause processing problems.

***The type of computer (desktop or notebook) selected is dependent on a number of factors.***

First of all - how and where you will be using the system. If you are using the Motion Analysis System primarily with a treadmill, or for functional movements within a specific space, a desktop computer would be your best choice. This will allow you connect up to three (3) camcorders for more efficient recording purposes. Recording with three (3) cameras can reduce the capture and analysis time by up to 60% over a single camera system.

If you have limited space and/or want to use it both indoors and outdoors (or at multiple locations) you should consider a notebook computer.

Recommended specifications for Desktop and Notebook Computers are listed below:

**DESKTOP COMPUTER:**

Recommended Specifications for a **desktop** computer for use with the Pro-Trainer software.

<b>Specifications:</b>	<b>Recommended</b>
<b>Processor Speed:</b>	2.33 GHz – 3.4 GHz i7
<b>Screen:</b>	22-27" Flat screen or larger
<b>RAM:</b>	2 – 8 GB DDR3 RAM
<b>Graphics RAM:</b>	2 to 4 GB <b>DEDICATED</b> Video RAM
<b>Video Display:</b>	800x600 (minimum—up to 1920x1080 ) & 32 bit hi-color
<b>Hard Drive:</b>	320 GB – 1TB
<b>Sound Card:</b>	quality sound card for slow motion playback Microphone input
<b>Operating System:</b>	Windows 7
<b>CD:</b>	CD-RW or 8X DVD
<b>FireWire:</b>	FireWire PCI card—* 1 expansion slot per camcorder <i>(Note: expansion slots need to be provided if multiple camcorders are to be connected to computer—maximum of four (4) per desktop computer, dependent on the processor speed and the Graphics RAM) Standard configuration of three (3) FireWire cards utilizes a Mid-Tower case.</i>
<b>Ethernet:</b>	Gigabit Controller
<b>HDMI:</b>	Recommended for connectivity to larger monitor for dual views

**NOTEBOOK COMPUTER:**

Recommended Specifications for a **notebook** computer for use with the Pro-Trainer software.

<b>Specifications:</b>	<b>Recommended</b>
<b>Processor Speed:</b>	2.4 GHz – 2.66 GHz i7
<b>Screen:</b>	15.6" (16/9 ratio) LCD
<b>RAM:</b>	2 – 4 GB DDR3 RAM
<b>Graphics RAM:</b>	1—2 GB of <b>DEDICATED</b> Video RAM
<b>Video Display:</b>	800x600 (1920 x 1080 recommended)& 32 bit hi-color
<b>Hard Drive:</b>	500 GB
<b>Sound Card:</b>	quality sound card for slow motion playback Microphone input
<b>Operating System:</b>	Windows 7
<b>FireWire:</b>	Integrated FireWire port and Expansion slot for Express Card* - 1 camcorder <i>(Note: The FireWire Express card typically comes with two (2) connections on the card, however, due to the bandwidth requirements for the .avi file format, only one (1) port can be utilized to connect a camcorder.)</i>
<b>MultiMedia:</b>	8x DVD Drive
<b>Ethernet:</b>	Gigabit Controller
<b>Wi-Fi:</b>	801.11 b/g/n
<b>HDMI/Miniport:</b>	Recommended for connectivity to larger monitor for dual views