

ViewPoint EyeTracker®

PC-60 ViewPointClient™ Users Guide



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ViewPointClient™

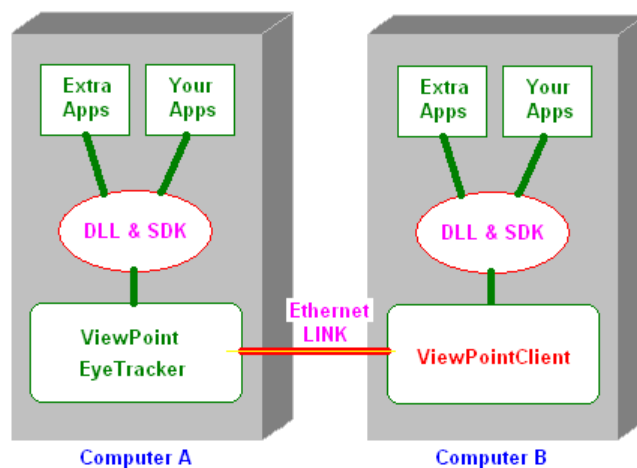
A remote computer interface program
for the ViewPoint EyeTracker®

About ViewPointClient

The *ViewPoint EyeTracker* communicates with other “layered” applications running on the same computer, via a dynamically linked library (dll). The dll is part of the *ViewPoint* Software Developers Kit (SDK) that contains high level functions that allow the user to seamlessly and easily interface their programs with the eye tracker.

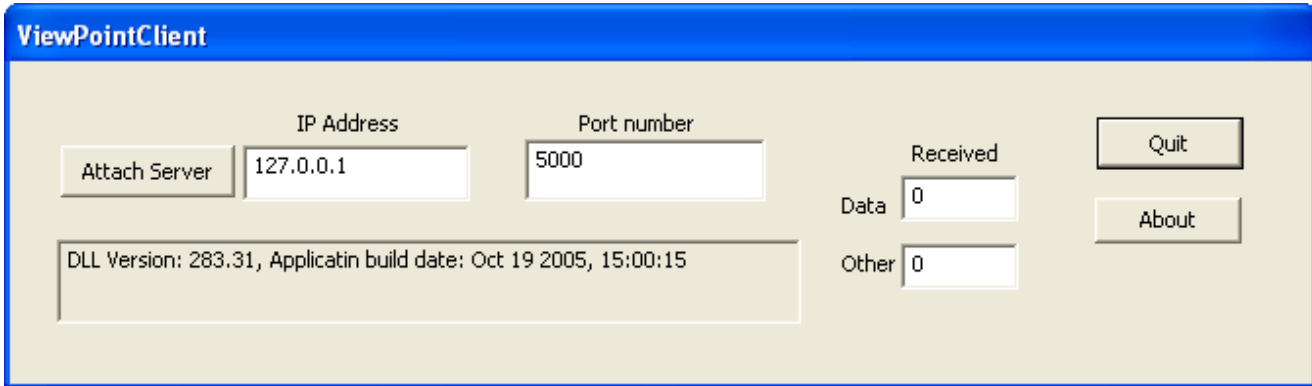
ViewPointClient is a program that runs on a remote computer and communicates with the *ViewPoint EyeTracker*. *ViewPointClient* interfaces to a copy of the dll and exchanges data just like the *ViewPoint EyeTracker* does, but it typically takes less than one percent of cpu resources. This means that the same “layered” applications can be used on a remote computer just as easily as on the same computer. The *ViewPoint EyeTracker* includes an ethernet server; the *ViewPointClient* establishes an Ethernet link with this server.

ViewPointClient is designed to replace the older *RemoteLink* program that provided similar functionality over a serial port (COM port) interface. The new *ViewPointClient* and Ethernet interface provide more extensive data synchronization as well as faster and more reliable data delivery.



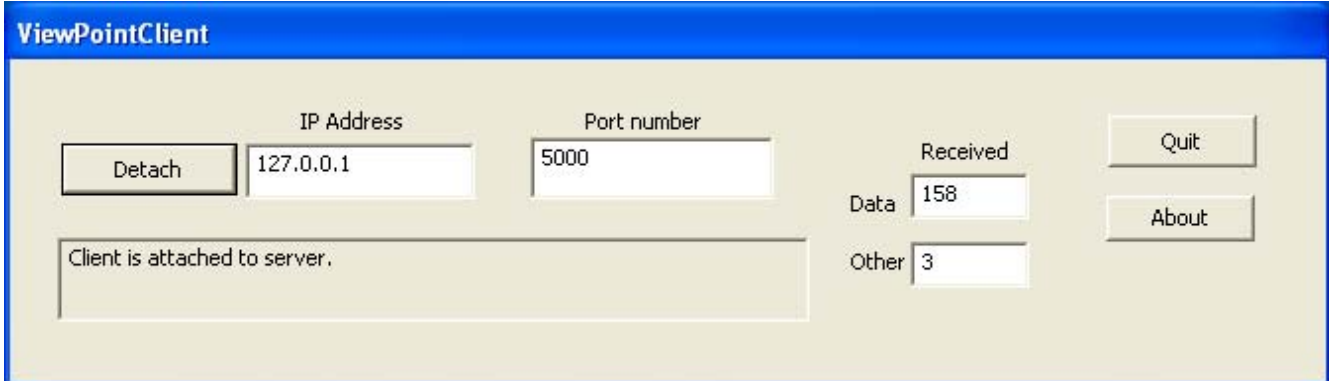
How to use ViewPointClient

- Copy the *ViewPointClient.exe* application and the *VPX_InterApp.dll* into the same folder on a second computer.
- Start the ViewPoint EyeTracker application. This automatically starts the built in server.
- Open the *ViewPointClient.exe* application; the following window will be displayed.



The screenshot shows the ViewPointClient application window. The title bar reads "ViewPointClient". The interface includes an "Attach Server" button, an "IP Address" field containing "127.0.0.1", and a "Port number" field containing "5000". To the right, there are "Received" and "Data" labels with a value of "0" in a text box, and another "Other" label with a value of "0" in a text box. There are also "Quit" and "About" buttons. A status box at the bottom left displays "DLL Version: 283.31, Applicatin build date: Oct 19 2005, 15:00:15".

- Enter the IP Address (Eg: 192.168.1.101) of the computer on which *ViewPoint* is running and click "Attach Server". It is rarely necessary to change the Port number, so start by leaving it as the default value. Note: 127.0.0.1 address can be used to "self-loop", but should rarely be used.(Refer to **LoopBack** Section). The *ViewPointClient* application should look like the following.



The screenshot shows the ViewPointClient application window after successful attachment. The title bar reads "ViewPointClient". The interface now includes a "Detach" button, the "IP Address" field still containing "127.0.0.1", and the "Port number" field still containing "5000". The "Received" and "Data" labels now show a value of "158" in a text box, and the "Other" label shows a value of "3" in a text box. The "Quit" and "About" buttons remain. The status box at the bottom left now displays "Client is attached to server."

The **Data** field indicates the number of eye tracking data packets received. If the **Data** field is 0, or remains constant, then probably either *ViewPoint* is in **Freeze** video mode, or the *ViewPoint* menu item: *Interface > Send Data > ** options needs to be set to **Streaming Data**. This field will continuously increment when it is receiving eye tracking data in real-time.

Third Party Applications

Copy the **Interfaces** folder to the folder containing *ViewPointClient* and *VPX_InterApp.dll* on the second machine. To run any of the third party applications, please consult their respective documentations.

Layered Applications

The executable files for the demo-applications are in the **ViewPoint/ExtraApps/*** folder. You can copy these to the second machine into the folder containing *ViewPointClient* and *VPX_InterApp.dll*. Run the applications just as you would if they were in the folder where *ViewPoint* is running. These include:

- *VPX_SimpleC.exe*
- *VPX_Win32_Demo.exe*
- *VPX_MFC_Demo.exe*
- *VPX_Basic_Demo.exe*

You can also write your own layered applications to run on on either machine. We recommend that you start with the sample code and projects in the **ViewPoint/SDK/*** folder.

Changing the Port Number

The current default Ethernet port is 5000 and should not need to be changed. However if it is changed, the server will be stopped and all client connections will be lost, then the server will be restarted; any clients will need to attach again. This is done with the following command line instructions:

```
ethernet_setPortNumber unsignedInteger
```

Running the Server

It does not matter whether the *ViewPoint* or the *ViewPointClient* application is launched first, however the *ViewPoint* application and its built-in server must be running before the *ViewPointClient* application can attach to the server. Normally the server can remain running and should not need to be turned off, however if this seems necessary, it is accomplished with the following command line instruction:

```
ethernet_server boolValue
```

Loopback

The ViewPoint EyeTracker server and ViewPointClient applications can communicate with one another on the same machine using the Ethernet loopback interface available at address 127.0.0.1. The two applications must be in separate folders, each with their own VPX_InterApp.dll. This can be useful for testing, however it is not as efficient as using a single copy of the VPX_InterApp.dll for interprocess communication on the same machine.

Hub, Switch, Router, or a Crossover cable ?

If you already have a Hub, Switch, or Router, then any of these will work fine. If you plan to purchase a new one, then we suggest that you choose a Switch or Router as these are traditionally more efficient. Any of these will allow several computers running ViewPointClient to the ViewPoint EyeTracker built-in server all at the same time.

If you only want to connect two computers then you can simply use an Ethernet Crossover cable, which does not require any kind of Hub, Switch, or Router, but simply plugs into the Ethernet port of each computer.

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