

Multi-dimensional Direct Pointing Remote Control for Interactive User Experience

We will demonstrate a novel remote control device with multiple degrees of freedom that permits intuitive direct pointing at a screen from a distance. The device, called a Wavit, consists of two parts: the Handset and the Pod. The Pod is connected via USB to a Windows PC which is in turn connected to a large TV display. The Pod sits near the screen (ideally above or below) and, with the Handset, the user can randomly move the cursor and point directly to and access screen icons while sitting (or standing) anywhere from ~3 ft to ~25 ft away. We will demonstrate the following:

- The basic set-up and operation of the system, as well as discussion of technical details.
- The various absolute degrees of freedom that are tracked – Pointing (x,y), Twist angle, Distance from screen, and View angle – and their uses as virtual buttons and controls.
- A sample user interface that is designed to display the system's various functions.
- Use of the Wavit in a variety of applications, including Media Center navigation, Web browsing and viewing (and control) of video content via the Internet, PC video game play, universal IR remote capability, and as a presentation device.
- In addition, we intend to demonstrate a new function, the transmission of VoIP using a built-in microphone in the Handset. This will permit easy VoIP (e.g., Skype) calls from the sofa – point and click the person you wish to call on the screen, and then push a button on the handset to talk.



Wavit set-up and equipment

User Interface screenshots

Required Equipment:

Internet connection (>1 Mbps, 4 Mbps preferred), large screen HDTV (>40" LCD preferred, HDMI connection preferred). We can provide the screen if necessary. Small sofa and/or EZ chair for living room simulation.