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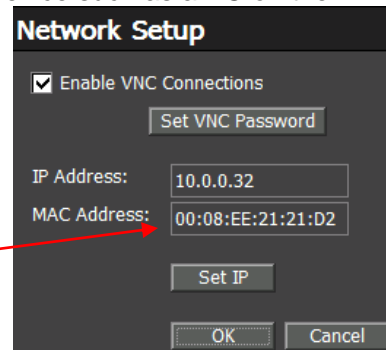
Technical Bulletin

This bulletin outlines how to use Virtual Network Computing (VNC) software to connect to the OSCOR.

The OSCOR has always had a built-in Ethernet Port, and users have asked about remotely accessing the OSCOR across a network using the existing Ethernet port. Commercially available third party Virtual Network Computing (VNC) software is a good tool for connecting to a device such as the OSCOR. The purpose of this document is to provide information about using third party VNC software to connect and control a remote OSCOR via the Ethernet port.
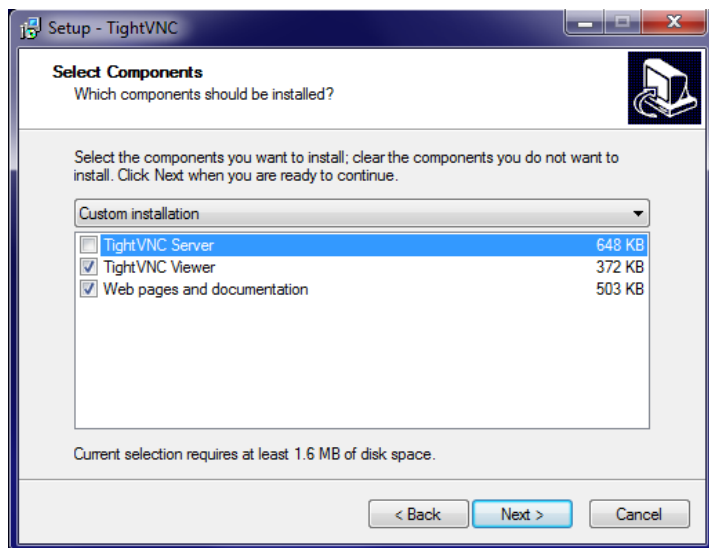
Connecting the OSCOR:

1) A PC/device can connect to an OSCOR using the Ethernet jack on the right side of the OSCOR and an Ethernet Crossover Cable, or via a network.
2) From the Main Menu of the OSCOR, select *System* or press **F6**.
3) From the *System* Sub-Menu on the OSCOR , select the *Network* icon to open the network dialog box:
   a. Select the Enable VNC Connection option. This will allow a local device such as a PC on the network to connect to the remote OSCOR.
   b. Press the *Set VNC Password* button. In the dialog box that opens, enter a password. This is a required step; the password will be necessary when connecting to the OSCOR from another device. This password must be exactly 8 characters long containing at least 1 upper case, 1 lowercase and 1 numeric character.
   c. The IP Address will be listed in the dialogue box, make note of this number for entry in VNC software, then press *OK*.
   d. If it is desired to manually set an IP Address, select the "Set IP" button in the Network Setup dialog box.
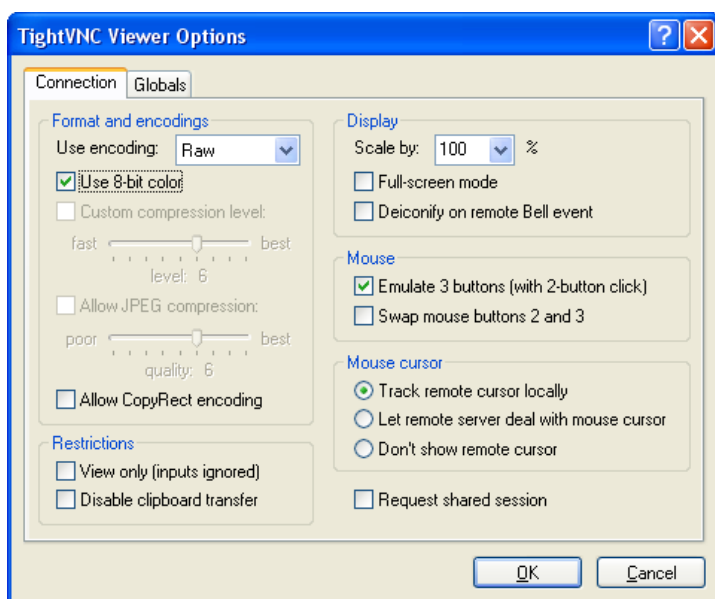
Selecting a VNC Client:

There are many free and open source third party VNC (Virtual Network Computing) clients available on the internet. An internet search should turn up several options. REI has successfully tested TightVNC version 1.3, available for free from www.tightvnc.com (It is important to download and install version 1.3, as file transfer does not work yet with the latest version 2.5.2).
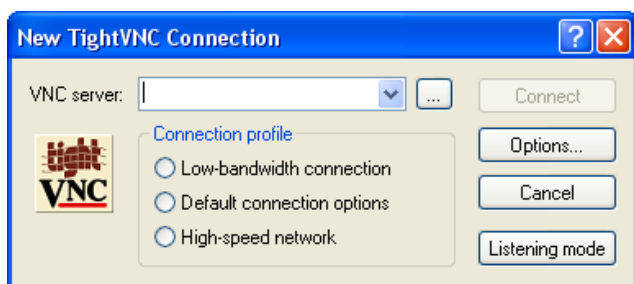
Note: The installation files for TightVNC version 1.3 include the TightVNC server. It is recommended that you only install the TightVNC Viewer and associated documentation. During the installation process, when selecting which components should be installed, be sure to deselect the TightVNC Server.

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Example of setting up TightVNC optimized connection:

1) Download and install TightVNC, **version 1.3** (www.tightvnc.com).
2) Open TightVNC Viewer. From the login screen, click options to open the Options Panel.
3) On the Connections Tab:
   a. Change "Use Encoding:" to "Raw"
   b. CHECK "Use 8-bit color" (increases screen update speed, but can impact color quality)
   c. Confirm that the following options are UNCHECKED:
      i. "Allow CopyRect encoding"
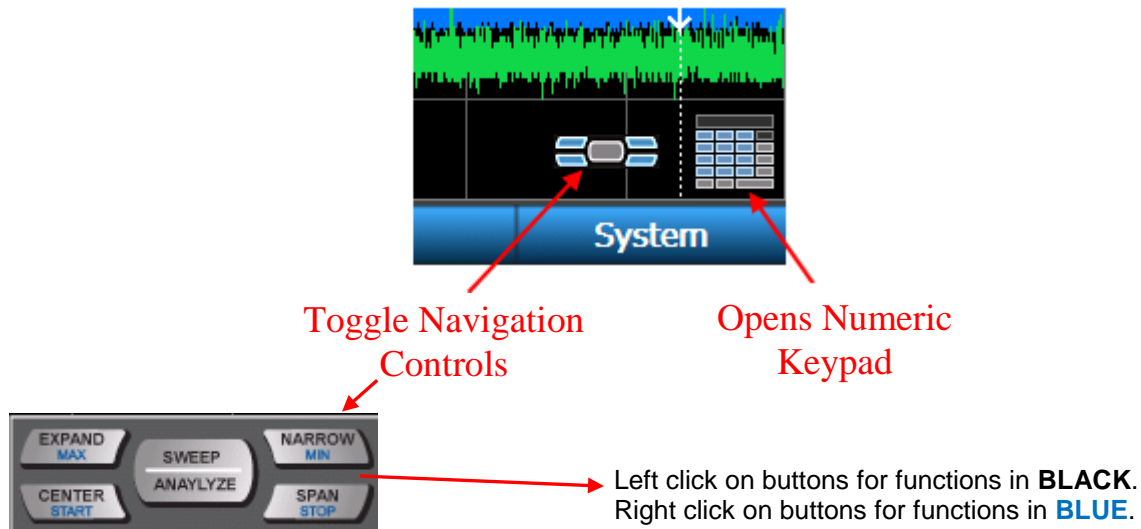   ii. "View Only (inputs ignored)"
      iii. "Request shared session"

4) Click OK to close the Options Panel and return to the log in panel.

5) On the login screen of the TightVNC viewer, input the IP Address obtained from the OSCOR in step 3c in the network dialogue (see page 1), and press ENTER to connect to the OSCOR. When prompted for a password, enter the OSCOR password that was setup in step 3b on page 1.

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6) Once connected, use the VNC client and the PC's mouse, keyboard, and numeric keyboard to control the OSCOR as if using the touch screen on the OSCOR.

7) When the *Network* Icon is selected on an OSCOR to connect to a network using VNC, two small icons appear at the bottom right of the graph window. These graphics will toggle Navigation Controls and keypad buttons on the display, emulating the hard/physical OSCOR buttons.
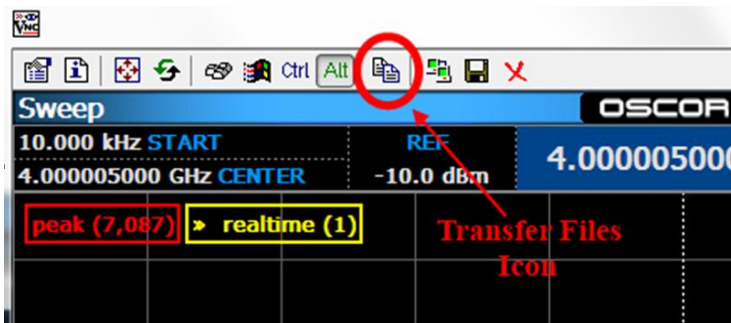

Toggle Navigation Controls

Opens Numeric Keypad

Left click on buttons for functions in **BLACK**.
Right click on buttons for functions in **BLUE**.

Also, below are some keyboard shortcuts that can be used on the local PC (NOTE: these shortcuts ONLY work on the numeric keypad).

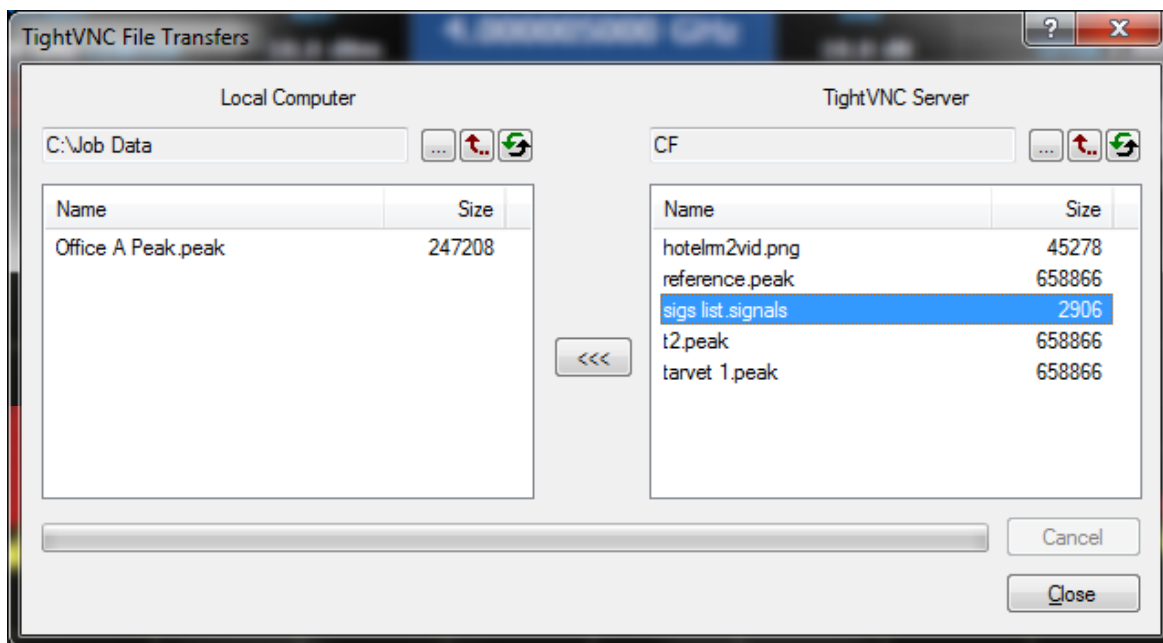| Numeric Keyboard Key	Corresponding OSCOR function
*	Sweep Mode / Analyze Mode
+	Narrow
-	Expand
Shift +	Min
Shift -	Max
←, ↑, →, ↓	Same as navigational keys on OSCOR

File Transfer:

1) To transfer files, click the double sheet icon at the top of the VNC window on the local PC. A file transfer window will open up.

(local PC VNC view)

2) In the file transfer window, the left side panel (TightVNC Client) represents the files on the local PC; the right side panel (TightVNC Server) represents the files on the remote OSCOR unit.

3) To copy files from the OSCOR, first select the destination for the copied files in the left side panel. Then select the files on the OSCOR that you wish to copy in the right side panel. With the files selected in the right side panel, the transfer button between the two panels will change to "<<<" indicating that the files will be copied from the OSCOR to the PC. Press the "<<<" button. The file copy process will begin. A progress bar will be displayed on the PC screen. Press the "Cancel" button to abort the copy process.

4) To copy files from the PC to the OSCOR, first select the destination for the copied files in the right side panel. Then select the files on the PC that you wish to copy in the left side panel. With the files selected in the left side panel, the transfer button between the two panels will change to ">>>" indicating that the files will be copied from the PC to the OSCOR. Press the ">>>" button. The file copy process will begin. A progress bar will be displayed on the PC screen. Press the "Cancel" button to abort the copy process.

5) After transferring files, press "Close" to close the File Transfer window.

Android and iPad
For connection via Android or iPad devices, REI has successfully tested Mocha VNC (does not support file transfer), with 32-bit color mode turned off (improves screen update speed).

Notes regarding VNC
- Individual results and connection speeds will depend heavily upon the distinct network (routers, firewalls, latency, bandwidth, etc...) and access to the network configuration.
- Screen update speed is also heavily affected by the graphics card capability of the local PC device.
- It is recommended to use the lowest color bit settings (i.e. 8-bit color) to improve screen update speeds.
- Connection across the internet is possible using VPN (Virtual Private Networking).