TOSHIBA Surveillix™ DVR Network Guide

Changing the IP Address of the DVR Server

Uses the standard Windows 2000 Network Configuration windows.

- Exit to Windows Mode.
- Right Click on **My Network Places** and select **Properties**.
- Right Click on **Local Area Connection** and select **Properties**.
- Click on **Network Protocol (TCP/IP)** and select **Properties**.
- Change the IP Address and the Subnet Mask accordingly. The Gateway may need to be edited to allow the DVR to pass through a Firewall.
- When finished Close all Windows and Restart the DVR.

Connecting the DVR to a LAN using a HUB

- Configure the IP address. (Default is 10.0.0.130)
- Connect the DVR unit to a Network HUB using a Cat5 (RJ-45) cable.

Connecting the DVR directly to a PC

- Configure the IP address. (Default is 10.0.0.130)
- Connect the DVR unit to a PC using a Cat5 (RJ-45) Crossover cable.

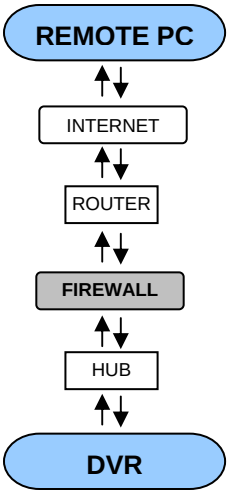
Adjusting the DVR Ports for Remote Connections

The Ports the DVR uses to transfer data and communicate with a remote PC are configurable.

- Enter **Setup**.
- Open **Communication Setup**.
- Adjust the Ports accordingly.
- Press **OK** and exit setup.

Allowing the DVR to Pass through a Firewall

Since most firewall software is different, each must be configured uniquely. However, the basic concept is the same with them all.



There are 4 Ports used to transmit data to and from the Remote PC.

- Center Port
- Image Port
- Search Port
- Emergency Port

These Ports must be opened up inside the Firewall, both Incoming and Outgoing, for a connection to be made. The Gateway may also need to be configured. Since each network can be vastly different, it is strongly suggested that an experienced Network Administrator adjust the appropriate settings according to their specific configuration using the standard Windows 2000 specifications.

The default port configuration is as follows:

Center Port	2000
Image Port	2002
Search Port	2003
Emergency Port	2001

Remote Connections Using the DVR Internal Modem

In order for a Client PC to connect to the DVR unit using the DVR unit's internal modem, a VPN (Virtual Private Network) connection must first be created. The VPN allows the Remote PC to connect up to a LAN created by the DVR Unit and therefore act as if it was physically connected to a LAN. Once connected, the Remote Software is used and configured the same as if it physically present on the network.

- Create a VPN connection on the Client machine and enter the appropriate information. Since this process is different on every version of Windows, it may be necessary to consult a Windows Manual. (Refer to the Operations Manual for detailed information on creating a VPN)
- Double Click the VPN connection icon and enter any login (user and password) information.
- Once connected, open the Remote Software and connect as if the PC was physically connected to the LAN.

Connecting Remotely (Remote Client)

In order for the Remote Client to Connect and work properly there are some Minimum Hardware and Software Requirements.

- Pentium 233 (or equivalent)
- 32MB System Memory
- Compatible Video Card with the Latest Video Drivers Installed. (Refer to the PC Manual or manufacturer for instructions on upgrading the Drivers. Virtually all ATI Video Cards are compatible.
- Microsoft DirectX 8.0 (To find the current version, Press the Start Button, click the Run option and type **dxdiag**. DirectX Diagnostics will open. Near the bottom the version will be displayed.
- 1024x768 resolution. This setting must be changed before running the Remote Software for the first time.
- 16 Bit color depth.

- Make sure the Client Machine is connected to a LAN or the Internet (depending on the DVR connection)
- Install the Toshiba DVR Remote software on a client machine.
- Run the Software and press the **NEW** button.
- Enter the Site Code and Site Name (these names are for descriptive purposes only and do not affect the connection)
- Enter the IP address of the DVR Server.
- Enter the Center Port.
- Press **OK**.
- Click the Icon of the connection you just created and enter the user name and password.
- Press the **CONNECT** button.

Enable the DVR to Accept incoming Remote Connections

- Connect a 10/100 cable (RJ-45) to the DVR for LAN or Internet Connections.
- Set the IP address and any necessary DNS information by selecting the **RESTART IN WINDOWS MODE** option then enter M**y Network Places**.
- Restart the DVR.
- Press the **SETUP** button and open **COMMUNICATION SETUP**.
- Make sure the **DISABLE REMOTE CONTROL** option is not selected.
- Select the Center Port, the Image Port and the Search Port (or use the defaults).
- Adjust the Quality and Resolution for the images that will be transferred to the Remote Client.
- Press **OK** and Exit Setup.
- The system is now ready to receive Remote Connections

How Much Bandwidth does the Surveillix® DVR use?

The Surveillix® DVR bandwidth usage varies greatly depending on the available bandwidth. In general the DVR sends approximately 25-40 Frames per second to the Client PC. Each Frame can range between 2-5k. As a general rule the bandwidth usage is between 25Kb and 418Kb per second. Refer to the Bandwidth Usage document for more detailed information.

The Video Plays Slow over the Remote Connection

The Surveillix® DVR transmits between 25-40 frames per second across the LAN. Depending on the available bandwidth this can be greatly reduced.

Static IP VS Dynamic (DHCP)

The DVR Unit *MUST* be configured with a Static IP Address. Many networks use DHCP to assign IP Addresses. On this type of network the Server must be configured to allow the DVR unit to have a Static IP Address

How Many Remote Connections at One Time?

Up to five Remote Software connections can be made at one time. An unlimited amount of connections can be made using the IDVR remote software.

TROUBLESHOOTING

CANNOT CONNECT TO THE DVR. '*SITE CONNECTION FAIL'* ERROR APPEARS.

- Check first to make sure that that both the DVR and the Client PC are connected to the network properly. PING the DVR from the remote client. Do this by opening the command prompt (Windows 2000 - START>RUN>cmd) (Windows 95,98,Me – START>RUN>command). Type:

  ping 10.0.0.130

  (where **10.0.0.130** is the IP Address of the DVR). Press Enter.

- If there is a reply then the connection is set up properly. Check to make sure the DVR is set to allow incoming remote connections (See **Enable the DVR to Accept incoming Remote Connections** on this document) Also, check to make sure the PC meets the minimum system requirements (as described in the **Connecting Remotely (Remote Client)** section of this manual).
- If there is no reply, check the hardware configuration (Hub, Cables, Link-Lights on the Network Interface Cards, etc). Check the Software IP configuration. This includes the IP Address, Subnet Mask, and Default Gateway. Contact your Network Administrator for more information. Check to see if the Firewall is set up correctly to allow the PC and DVR to interact (If applicable).

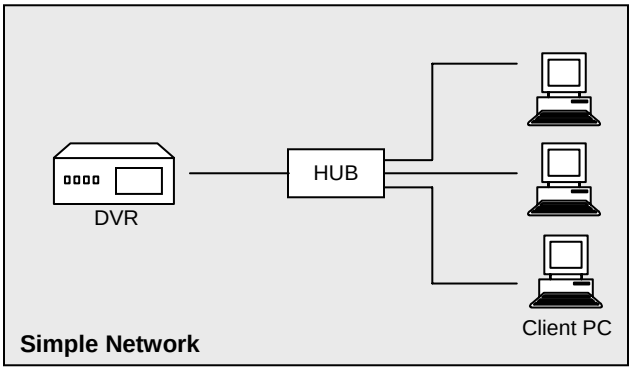
CANNOT SEE THE DVR SYSTEM ON THE NETWORK

The Surveillix® DVR does not use the NetBEUI protocol. The TCP/IP protocol is all that is used to connect the DVR to the Client machines. Since the NetBEUI protocol is not installed you may not be able to see the DVR listed on the network. You can however perform a computer search for the DVR and then the DVR will be listed and accessed.

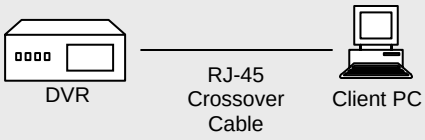
I AM CONNECTED TO THE DVR BUT DO NOT SEE ANY VIDEO

This could mean one of several things.

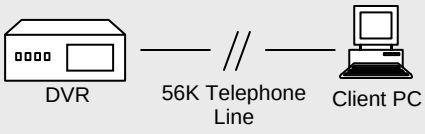
- First check to see if there are buttons located on the right side of the screen (Remote Client). If there are no visible buttons and the screen looks a little 'off' it is possible that the resolution is set to something smaller than 1024x768. To correct this press the **Ctrl Alt Del** keys and select Task Manager. Close the DVR Client Software. Open the Display Properties from the Control Panel and adjust the resolution to 1024x768. Run the Client Software again.
- Check to make sure the latest version of DirectX is installed. Also, check to make sure the latest video card drivers are installed. (See the **Connecting Remotely (Remote Connection)** section in this document)
- Check to make sure the cameras are in the 'ON' position on the Remote Software. Refer to the Remote Connection portion of the Operations Manual for more information



Simple Network



Direct PC to PC



Phone Line (56K Modem to 56k modem)

TOSHIBA

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