

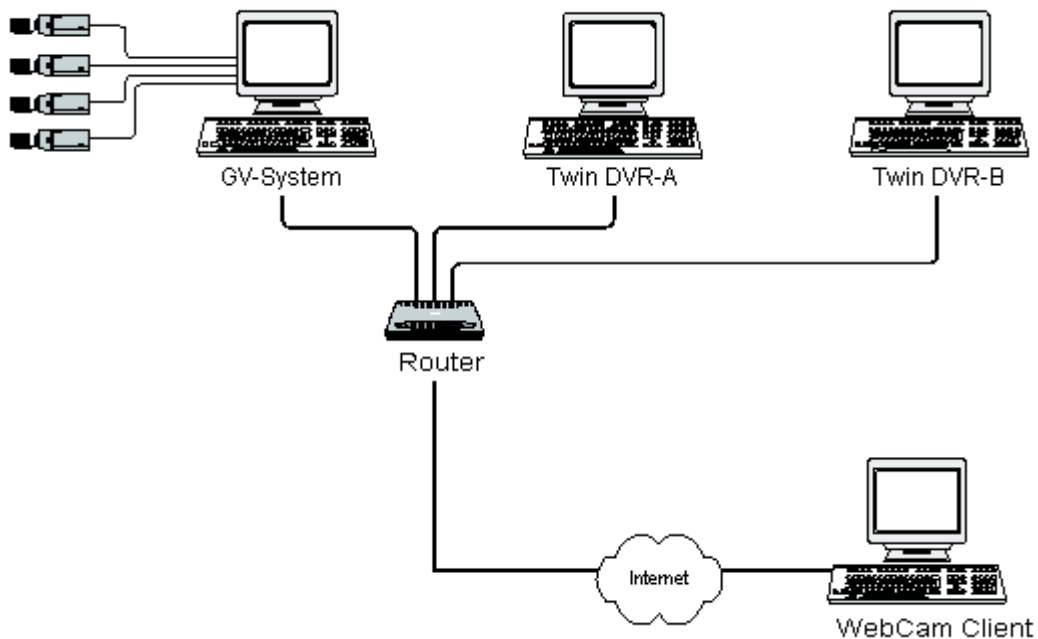
## 11.2 TwinDVR System

TwinServer is an external application that helps sharing the networking liability from the GV-System. A complete TwinServer concept requires at least two computers: a TwinServer, which should be run on the computer where GV-System is installed, and a TwinDVR, which should be run on a separate computer connected to the same LAN as the TwinServer. The TwinServer sends video stream to TwinDVR, while TwinDVR acts as a WebCam Server and serves all WebCam clients over the Internet. One TwinDVR can serve approximately 200 channels over the Internet. Multiple TwinDVRs can be added to the network as online traffic increases.

There are two ways to connect TwinServer and TwinDVR: TCP/IP mode and Multicast mode. Both have its advantages and disadvantages; choose the one that suits your application mostly.

### TCP/IP Mode

TCP/IP is a simpler and cost-effective solution. In the TCP/IP mode, the TwinServer and TwinDVRs are connected in a point-to-point connection. It means that video streams are sent from TwinServer to TwinDVR-A, then TwinDVR-A duplicates the video streams and sends them to TwinDVR-B. If the connection between TwinServer and TwinDVR-A is broken, TwinDVR-B will not be able to receive video streams as well.



**Figure 11-5**

## MultiCast Mode

Multicast Network is more complicated and expensive to setup. In the Multicast mode, the TwinServer transmits video streams in packets to a virtual buffer of the Multicast network. The virtual buffer then broadcasts the video streams to all TwinDVRs under the network. Each TwinDVR should be installed with two network cards. One is for the hub where TwinServer is plugged in, and the other for a DSL or ISDN modem with dedicated ISP service to the Internet. Each TwinDVR serves its own group of WebCam Clients.

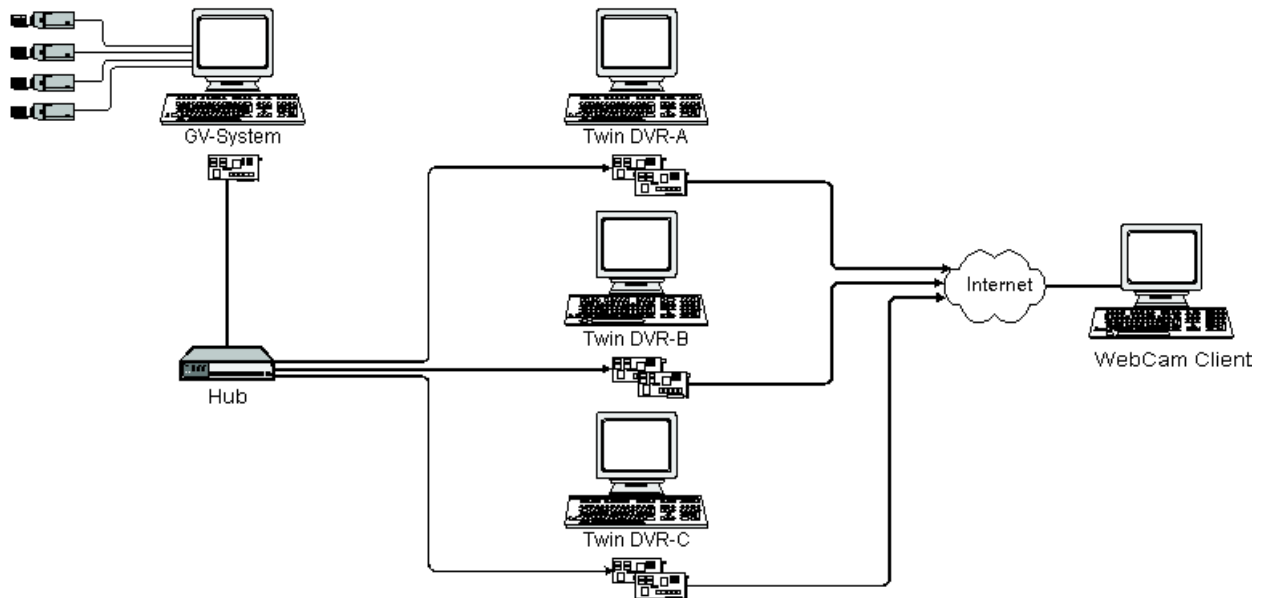
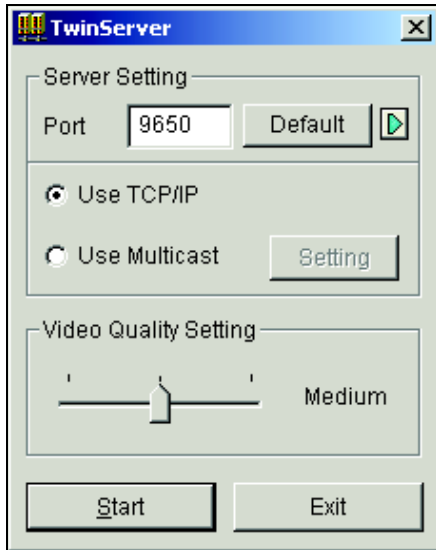


Figure 11-6

## 11.2.1 Starting TwinServer

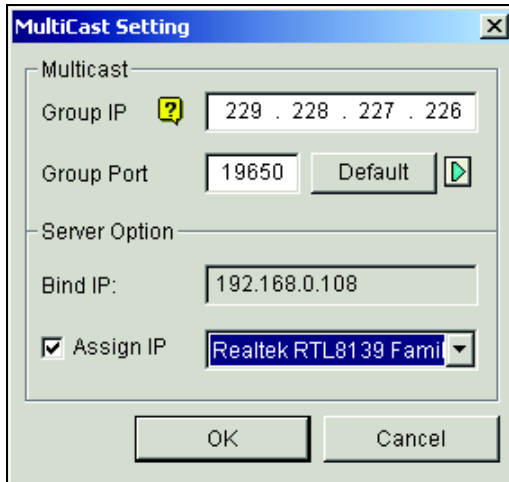
1. In the Main System, click the **Network** button (No. 11, Figure 1-2), and then select **TwinServer**. This dialog box appears.



**Figure 11-7** TwinServer Settings

2. The default port 9650 is for video transmission. Keep it as default or modify it if necessary. Using UPnP for automatic port configuration to your router, click the **Arrow** button. For details, see *UPnP Settings* in Chapter 8.
3. Select the type of network to be used: **Use TCP/IP** or **Use Multicast**. If **Use Multicast** is enabled, click the **Setting** button to display the Multicast Setting dialog box. See *Multicast Settings* later in this chapter.
4. Use the **Video Quality Setting** slider to adjust video quality for Low, Med, or High.
5. Click the **Start** button to activate the TwinServer.

## 11.2.2 Multicast Settings



*Figure 11-8 MultiCast Settings*

### [MultiCast]

- **Group IP:** Displays the IP address for the virtual buffer that stores the video streams in Multicast network.
- **Group Port:** Used for transferring video streams over the Multicast network. To enable the UPnP function, click the **Arrow** button. For details, see *UPnP Settings* in Chapter 8.

**[Server Option]** Only necessary if more than one network card is installed in your GV-System.

Select **Assign IP** and select one network card. This will automatically bring up Bind IP of the network card.

### 11.2.3 Installing TwinDVR

The TwinDVR is included in the Surveillance System Software DVD. This application should be installed in a separate PC within the same Local Area Network as the TwinServer. Before installation, make sure your computer meets the following minimum system requirements:

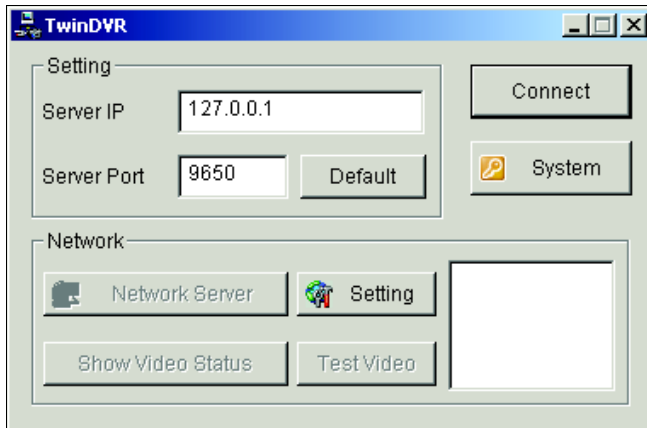
OS	32-bit	Windows XP, Vista, 7, Server 2008
	64-bit	Windows 7, Server 2008
CPU		Pentium 4, 2.0 GHz
Memory	Windows XP	2 x 512 MB Dual Channels
	Windows Vista / 7 / Server 2008	2 x 1 GB Dual Channels
Hard Disk		80 GB
VGA		ATI Radeon X600 / NVIDIA 6200
Network		TCP/IP
DirectX		9.0c

1. Insert the Surveillance System Software DVD to the PC where TwinDVR will be installed. It runs automatically, and a window appears.
2. Click **Install V 8.5.0.0 System**.
3. Click **TwinDVR System**, and follow the on-screen instructions.

During the installation, you may be prompted to install GeoMPEG4 codec; simply click **Yes**.

## 11.2.4 Starting TwinDVR

1. Run **TwinDVR.exe**. The TwinDVR dialog box appears.



**Figure 11-9** *TwinDVR Setup*

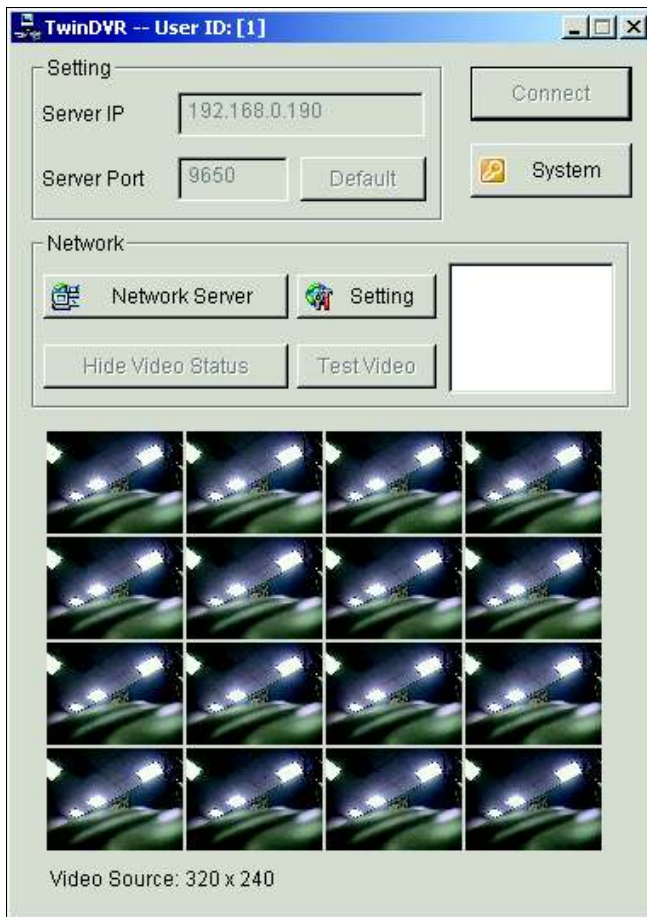
2. Type the IP address of TwinServer in the Server IP field.
3. Keep the server port in default, or it should match the TwinServer port. See Figure 11-7.
4. Click the **Connect** button to establish the connection between TwinDVR and TwinServer. A valid user ID and password are required.

If the connection is established, the **Network Server**, **Show Video Status**, and **Test Video** buttons will be available. You can now use them to set up TwinDVR for:

- Testing Video Stream
- Starting WebCam Server at TwinDVR
- Setting Multiple TwinDVRs in TCP/IP Mode
- Setting Multiple TwinDVRs in Multicast Mode

## Testing Video Stream

This function allows you to test the video transmission between TwinServer and TwinDVR. Click the **Show Video Status** button to display 16 monitoring windows beneath the TwinDVR dialog box. Click the **Test Video** button and video streams from the connected TwinServer will be streamed to the monitoring windows for 10 seconds. You may click the **Hide Video Status** button to close the monitoring windows.



*Figure 11-10 Testing Video Stream*

### Starting WebCam Server at TwinDVR

Click the **Network Server** button, and then select **WebCam Server** to display the Server Setup dialog box (Figure 8-4).

### Setting Multiple TwinDVRs in TCP/IP Mode

Click the **Network Server** button, and then select **Extended Server**. The Extended Server is to duplicate TwinServer's video stream and transmit it to the next TwinDVR in the same network. If there are five TwinDVRs in the network, you should activate the **Extended Server** function in TwinDVR 1, 2, 3, and 4 respectively. It's not necessary to activate TwinDVR 5 since there are no more TwinDVR running behind it.

### Setting Multiple TwinDVRs in Multicast Mode

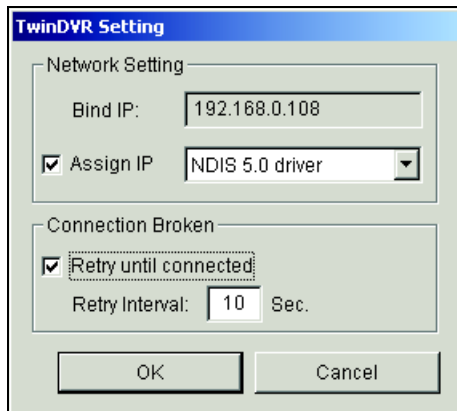
Click the **Network Server** button, and then select **Use Multicast Mode**. The Multicast mode is now activated. The Multicast Server is to instruct TwinDVR to obtain video streams from the virtual buffer. If there are five TwinDVRs connected to the network, all TwinDVRs will be required to select the **Use Multicast Mode** option.



## 11.2.5 TwinDVR Settings

### Network Card Settings

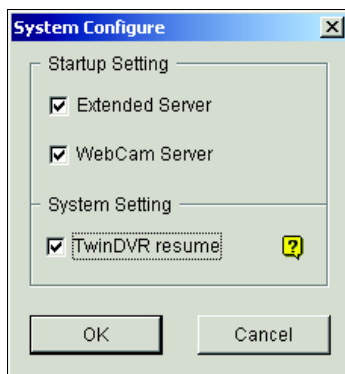
In Figure 11-9, click the **Setting** button, and then select **Network Setting** to display the following dialog box. The Network Setting option is only necessary when your TwinDVR has more than one network card. Select **Assign IP** and select one network card. This will automatically bring up Blind IP of the network card. The network card will be used for connecting to TwinServer; the other network card will be assigned for connecting to Internet. If you want the TwinDVR to automatically reconnect to TwinServer, select **Retry until connected** and set the time interval.



*Figure 11-11 TwinDVR Setting*

### System Settings

In Figure 11-9, click the **Setting** button, and then select **System Configure** to display the following dialog box. The option is only available when TwinDVR is connecting to TwinServer.



*Figure 11-12 System Settings*

#### [Startup Setting]

- **Extended Server:** Activates Extended Server on TwinDVR startup.
- **WebCam Server:** Activates WebCam Server on TwinDVR startup.

#### [System Setting]

- **TwinDVR resume:** Resumes TwinDVR connection when the system shuts down unexpectedly.