

## COM-5004 -> COM-7001-> COM-7001 -> COM-5004

### Objective:

This test demonstrates the transmission of UDP real-time streaming video over a synchronous serial link using two ComBlock COM-5004 IP router modules and COM-7001 turbo-product code error correction codecs.

### Setup:

An easy way to stream video is to use the VideoLan VLC media player.

The VLC media player is freely available for download at [www.videolan.org/vlc/](http://www.videolan.org/vlc/)

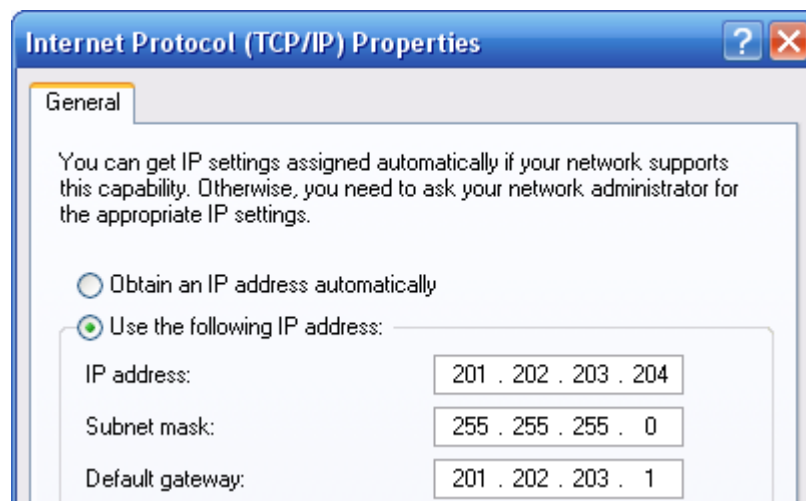
The test involves two PCs, one for streaming video (LAN side), one for playing the received video stream (WAN side).

The test uses two COM-5004s: one on the same network as the video streaming PC (network IP addresses 201.202.203.x) and the other on the same network as the video playing PC (network IP addresses 172.16.1.x or your current network settings). The former is referred to as local LAN while the latter is referred to as remote WAN.

The IP configuration is thus

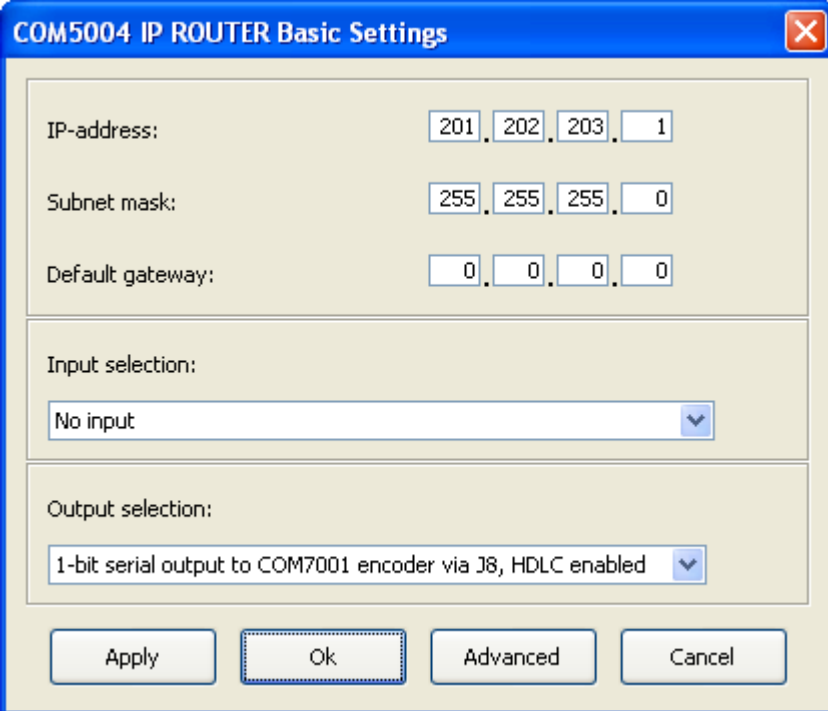
Streaming PC -> COM-5004 (LAN) -> serial bit stream -> COM-5004 (WAN) -> Playing PC  
201.202.203.204 -> 201.202.203.1 -> ..... -> 172.16.1.1 -> 172.16.1.49

**Step 1:** IP configuration of the video streaming PC as follows:



The PC will therefore route the video stream to the COM-5004 IP router with address 201.202.203.1 when the VLC player is streaming to a WAN IP address out of the local network (i.e. not in the form 201.202.203.x).

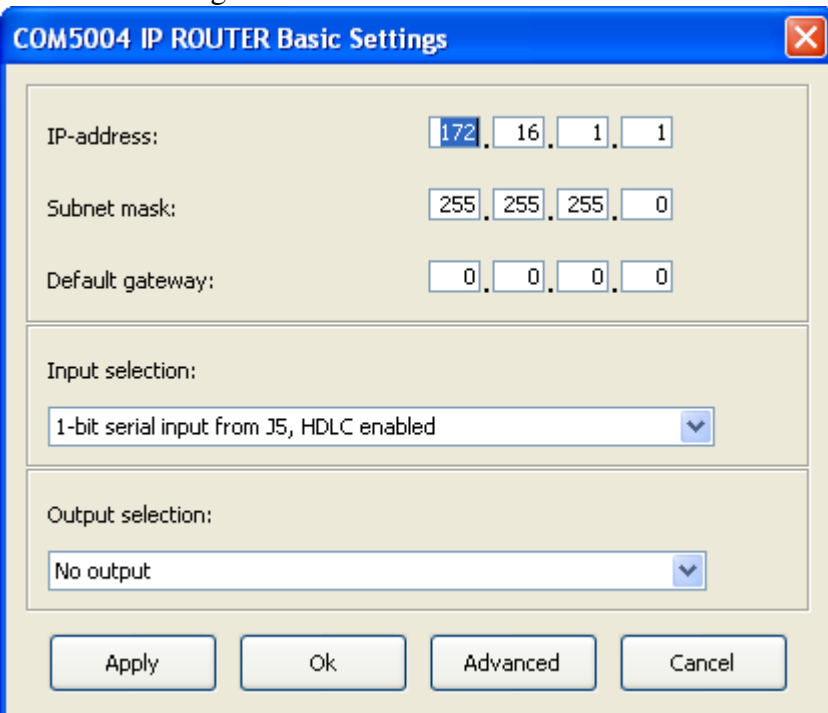
**Step 2:** The COM-5004 on the local LAN side is assigned the address 201.202.203.1 so that it acts as a gateway. It will forward the serialized bit stream to the J8 interface.



The dialog box is titled "COM5004 IP ROUTER Basic Settings" with a red close button in the top right corner. It contains three input fields for IP configuration: "IP-address:" with values 201, 202, 203, and 1; "Subnet mask:" with values 255, 255, 255, and 0; and "Default gateway:" with values 0, 0, 0, and 0. Below these are two dropdown menus: "Input selection:" set to "No input" and "Output selection:" set to "1-bit serial output to COM7001 encoder via J8, HDLC enabled". At the bottom are four buttons: "Apply", "Ok" (highlighted with a dashed border), "Advanced", and "Cancel".

**Step 3:** Remote (WAN)-side IP configuration. In our test, the network addresses on the WAN side are in the form 172.16.1.x. Please adjust the settings below to match your network IP addresses.

WAN-side COM-5004 configuration:



The dialog box is titled "COM5004 IP ROUTER Basic Settings" with a red close button in the top right corner. It contains three input fields for IP configuration: "IP-address:" with values 172, 16, 1, and 1; "Subnet mask:" with values 255, 255, 255, and 0; and "Default gateway:" with values 0, 0, 0, and 0. Below these are two dropdown menus: "Input selection:" set to "1-bit serial input from J5, HDLC enabled" and "Output selection:" set to "No output". At the bottom are four buttons: "Apply", "Ok", "Advanced", and "Cancel".

Video stream destination PC: find out the destination PC IP address (using the ipconfig command for example).

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Windows IP Configuration

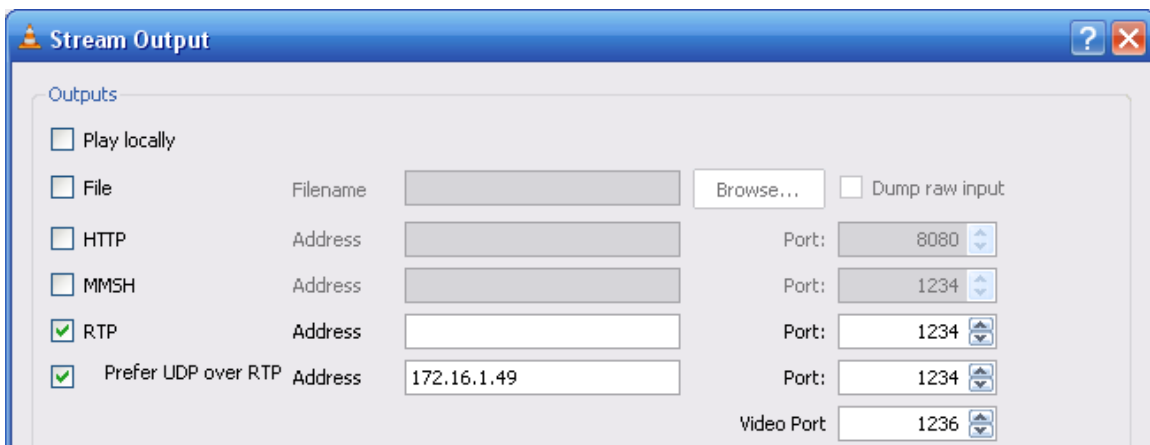
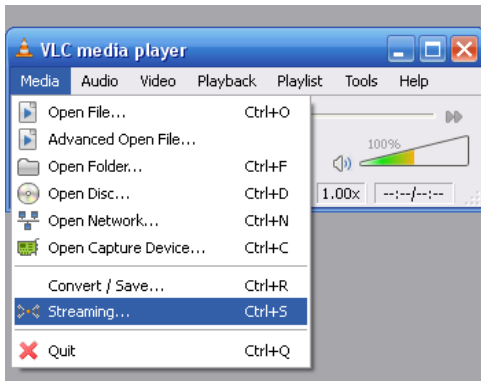
Ethernet adapter Local Area Connection:

    Media State . . . . . : Media disconnected
Ethernet adapter Wireless Network Connection:

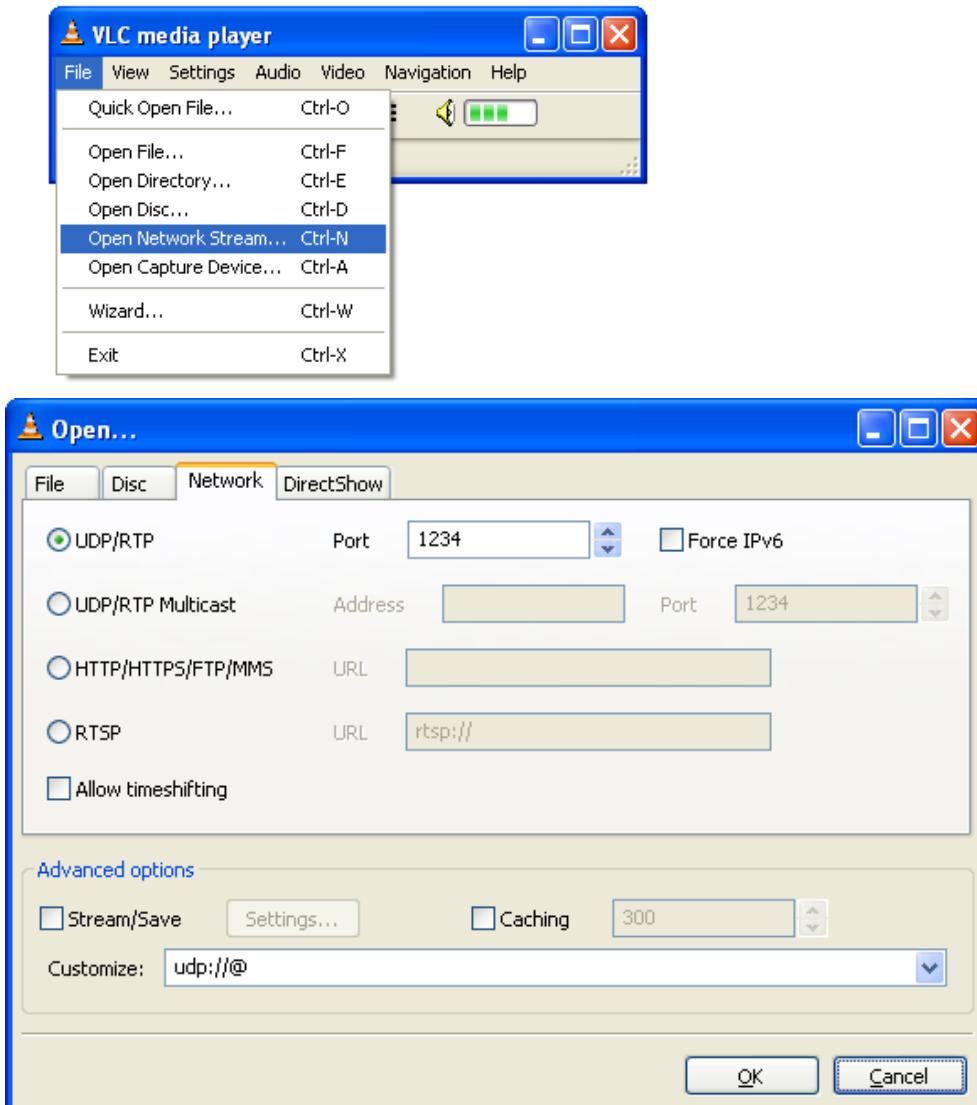
    Connection-specific DNS Suffix  . : myhome.westell.com
    IP Address . . . . . : 172.16.1.49
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 172.16.1.3
```

The video playing PC IP address is 172.16.1.49. This is the destination address that the VLC video streaming will need to know.

Step 4: pick a video and start the VLC streaming (LAN side)



Step 5: start the VLC player (WAN side)



The video should now be streaming through.

One can also verify that there are no frame errors.

Using the ComBlock Control Center, highlight the receiving COM-5004 on the WAN side. Click on the blue I button to check the status registers SREG9 through SREG12. The number of back packets should be constant (a handful of bad packets may occur at power up).

The total number of received packets is displayed in status registers SREG5 through SREG8.