

Video Flex 7700 Specifications (Network Interface)

Model		7700
Hardware	CPU	32Bit RISC Processor
	OS	Embedded Linux
	Flash Memory	4MB
Viewer		Web Browser based Monitoring
Network	Protocol	TCP/IP, HTTP, FTP, SMTP, PPP, UDP
	Interface	10 base-T Ethernet (RJ-45)
Compression	Algorithm	M-JPEG
	Rate	1/10 ~ 1/200
Video	Input	1CH. NTSC/PAL
	Output	1CH. NTSC/PAL
	Size	640 × 480, 320 × 240, 160 × 120
	Frame Rate	30 frame/sec (320 × 240)
Power	DC12V / 500mA	
Operating Temperature		0°C ~ 40°C

* Specification & design are subject to change without notice

Ken-A-Vision Support

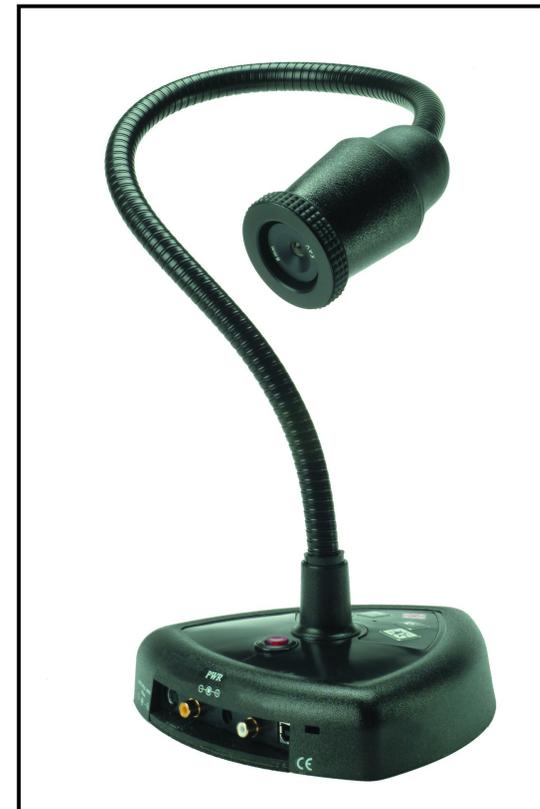
In the event that you experience difficulty in the operation or configuration of your unit, we would be happy to assist you. Before you contact us, please read through the manual and the Frequently Asked Questions first to see if your question is already addressed.

Email Support: support@ken-a-vision.com

Phone Support: 1-800-627-1953 (8:00AM to 4:30PM CST, M-F)

Be sure to visit our website for resources, downloads, and troubleshooting information:

<http://www.ken-a-vision.com/servicesupport.htm>



Network Video Flex®

Instruction Manual

7700

1. Introduction	3	
About This Manual		3
Notes Before Starting	3	
2. 7700 Installation	4	
Product Description	4	
Quick Start		6
3. 7700 Setup	8	
7700 Initial Setup via a Crossover Cable	8	
4. Network Setup	10	
Guide to Network Setup	10	
Case A : Static IP on Private LAN		11
Case B : Static IP + Personal Router		12
Case C : Static IP Direct to Modem		13
Port Forwarding		14
Starting the 7700	15	
5. Web Viewer	16	
6. Admin Tool	17	
Video Tool	17	
TCP/IP Tool		18
SMTP Tool	19	
Date & Time Tool		20
Users Tool		21
7. Appendix	22	
A : Determining Current TCP/IP setting		22
B : Changing your computer's IP address and subnet mask		23
C : Port Forwarding		24
8. FAQ	25	
9. Notes	28	
Specifications	28	
Support	28	

I want to prevent users from viewing my camera.

- ◆ Go into Administration Tools of the 7700.
- ◆ Click on Users.
- ◆ Delete the user or all users by deleting the ID and password associated with that user.

Can I record the video?

Yes, you can record, but you will need to purchase a separate software program to allow PC-based recording. This software is available by contacting us. The software will connect up to 16 separate 7700s for remote viewing, remote controlling, and remote recording without the loss of quality or size (up to 640 480 resolution).

I can access the video server on my LAN, but not from the Internet.

Verify that your router (if applicable) has port forwarding properly configured. Firewall issues may prevent user access.

Can I use Applied Vision or Vision Explorer with the 7700?

Ken-A-Vision's Applied Vision and Vision Explorer software applications were designed for USB cameras, and unfortunately they cannot interface directly with network cameras. However, if you wish to add USB connectivity to your 7700, you can purchase our USB Adapter (VFUSBAD2) which will allow you to connect the analog output of the 7700 to your computer, after which you will be able to use our software.

Can I use the 7700 on my dial-up Internet connection?

No, we recommend a high-speed broadband connection of at least 128Kb/sec.

I'm accessing my 7700 remotely over the Internet and the video stream is choppy, is this normal?

Yes. The frames per second received remotely are determined by your bandwidth capabilities both at your site where the 7700 is installed and your remote location. The lower of the two sites will determine how fast your video stream is received. It is recommended to have at least a 256Kb/sec upstream connection from the site where the 7700 is installed. Lower speeds will operate properly, but provide poor remote performance. The faster the Internet connection at both ends, the faster the video stream.

Can I view multiple cameras at once?

You can view multiple cameras only if you purchase the new Ken-A-Vision network camera software, which will connect up to 16 separate 7700s.



How do I find out my IP address information if my settings were automatically detected?

Windows 98 / ME Users

- ◆ Open an MS-DOS Prompt
- ◆ At the prompt type: "winipcfg" (without the quotation marks)
- ◆ Use the drop down list to select your 10/100 Ethernet Adapter (not a PPP adapter)
- ◆ Now you will see your IP Address, Subnet Mask, and Default Gateway information
- ◆ For DNS information contact your Internet Service Provider

Windows 2000 / XP Users

- ◆ Open a Command Prompt
- ◆ At the prompt type - "ipconfig /all" (without the quotes)
- ◆ Near the end of the information supplied, should be your current IP address, subnet mask, default gateway and DNS servers

How do I choose a private IP address?

Assign your 7700 a private IP address that matches your current network. Below lists the available ranges for private addresses:

- ◆ Private Class A address space: 192.168.0.0 - 192.168.255.255
- ◆ Private Class B address space: 172.16.0.0 - 172.31.255.255
- ◆ Private Class C address space: 10.0.0.0 - 10.255.255.255

My power switch is not lit.

Power is not being supplied to the unit. Verify the switch is pushed in. Please use the power supply shipped with the unit and verify that a power source is active from the attached power outlet used to connect the adapter. You can test this by plugging in any other electrical device and verify its operation. After using the power supply shipped with the product, checking the power source, and reinserting the power connector into the 7700, please contact Ken-A-Vision for support. The power supply may be defective.

My 10M light is not flashing or solid.

Verify the cable connection. 99% of the time the cable's connection to the unit is causing this problem. Try using a different network cable or crossover cable (for PC connection only). Try reinserting the cable, if this still doesn't solve the problem, contact Ken-A-Vision for support.



About This Document

If you have previous knowledge of networking, you will most likely be best served by the Quick Start Guide (page 6).

If you are new to networking and have no previous knowledge of the subject, please follow the step-by-step procedures for configuring, installing, and accessing your 7700 Video Flex.

Please follow the entire walk-through without skipping any steps. The walk-through was designed to teach the typical inexperienced user how to configure their 7700 using the simplest techniques and terminology. Some of these techniques or terms may actually be considered technically inaccurate, but should suit the needs of most users. Consult the FAQ and Appendices for further information when required.

If, after following the walk-through and exhausting all literature, additional assistance is still required, please contact Ken-A-Vision for technical support.

Notes Before Starting

- ◆ This product is only compatible with current versions of the Microsoft Windows OS.
- ◆ This product operates with Microsoft's Internet Explorer only.
- ◆ You must have ActiveX controls enabled on your browser, found in the Options menu.
- ◆ Some pop-up blockers may block legitimate configuration screens, please disable these blockers when configuring the 7700.
- ◆ Some hardware manufacturers include a cable/DSL modem, router/firewall, and Ethernet switch in one device.
- ◆ If you have no available ports on your router (with integrated switch) you can purchase a 10/100 Ethernet switch to "expand" your Local Area Network.
- ◆ The crossover cable is not wired as a typical straight-through network cable. This cable (or any crossover) should be used for initial setup of the 7700 via a PC/laptop.
- ◆ Please temporarily disconnect any proxy servers associated with Internet Explorer while configuring the 7700.



Product Description

Back Panel

Power Supply Connector

Use the power jack to connect your regulated 12V DC power adapter.

10M LED

This green indicator should be flashing or glowing during normal operation. During a reboot or power cycling, it may take up to 30 seconds to initialize, negotiate your network speed, and begin operation at 10Mbps. If this light is not lit after 30 seconds of operation, check the network cable to ensure a proper connection. When a proper connection is met, the green indicator should immediately glow.

Network RJ45 Jack

The server is designed to operate on a 10/100 Mbps Ethernet network. Currently the server operates at 10 Mbps until future upgrades become available. This accepts standard RJ45 plugs and works with Ethernet CAT5 cables.

Analog Video Jack

With this port you can connect the 7700 to an analog video device such as a TV monitor, a LCD projector, or any other device that can accept an analog video input. Use a standard video RCA cable.



Frequently Asked Questions

I can't connect!

In the case of a connection failure, follow this sequence, letting each device finish fully rebooting:

- Modem Reboot
- Router Reboot
- 7700 Reboot

How do I choose a unique IP address that matches my network?

For your home or small office, ensure that all devices on your network are running. PING an IP address that you plan to assign to the 7700. If you receive a "Request timed out", then you may use that IP address. To ensure the IP address that you will assign the 7700 matches your network, review your "Current TCP/IP Settings" that you had recorded earlier. See some examples below:

- ♦ If your "IP Address" entry in "Current TCP/IP Settings" was 192.168.0.y, and your "Subnet Mask" was 255.255.255.0 then use 192.168.0.x for your 7700's IP Address ("x" meaning any number between 2-254 that you wish, as long as it passes the "PING" test).
- ♦ Other private IP ranges are 10.0.0.0 - 10.255.255.255 and 172.16.0.0 - 172.31.255.255.

How do I open an MS-DOS or Command Prompt?

- ♦ Windows 98 / ME Users:
Start ' Programs ' Accessories ' MS-DOS prompt
- ♦ Windows 2000 / XP Users:
Start ' (All) Programs ' Accessories ' Command Prompt

How do I "PING" an IP address?

- ♦ Open an MS-DOS (or Command) prompt
- ♦ At the prompt type - "ping xxx.xxx.xxx.xxx" (without the quotes and replace the "x"s with an IP address)
- ♦ Press Enter

How do I enable or check ActiveX on my browser

Open Internet Explorer ' Tools on the menu bar ' Internet Options ' Security Tab ' Custom Level ' Scroll down and verify that you are prompted or have enabled ActiveX controls and plug-ins to be downloaded and executed ' Click OK ' Restart browser.



C: Port Forwarding

After assigning the 7700 a web server port and video server port you must use Port Forwarding for Case B (using a router with a static IP address provided by the ISP).

Please consult your router's user guide on how to correctly configure Port Forwarding.

For your convenience, we have provided two example configurations.

For D-Link DI-604 broadband routers:

1. Open a web browser and type <http://192.168.0.1> into your address bar (the default IP address to access the router).
2. You will have to supply your User Name and Password to log onto the router. (Default from factory, Username: admin Password: [leave blank])
3. Select the Advanced tab.
4. Click the "Enabled" option button.
5. Give a description to the "Virtual Server".
6. Set the Private IP address the IP address you have assigned the 7700.
7. Select TCP as the Protocol Type.
8. Set both the Private Port and Public Port the same value that you set the Web Server Port on the 7700.
9. Set the schedule for when you will allow access to the 7700.
10. Click Apply.
11. Repeat steps 5-10 for the Video Server Port that was configured on the 7700.
12. After the settings on the router have saved, you can exit the browser. Port Forwarding is complete.

For Linksys BEFSR41 Cable/DSL routers:

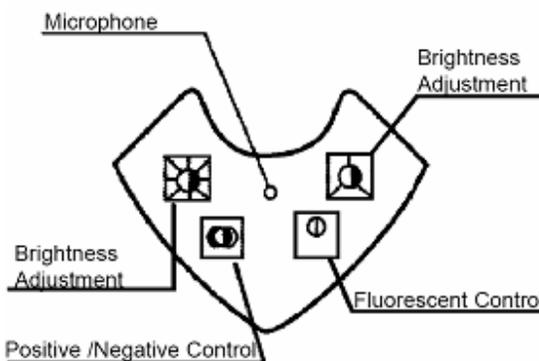
1. Open a web browser and type <http://192.168.1.1> into your address bar (the default IP address to access the router).
2. You will have to supply your User Name and Password to log onto the router. (Default from factory, Username:[leave blank] Password: admin)
3. Select Applications & Gaming from the menu bar.
4. Enter a description for your 7700 Web Port in the Application entry.
5. Enter the Web Port number you have assigned the 7700 into the Start and End fields.
6. Select TCP as the Protocol.
7. Enter the IP address of the 7700.
8. Check the "Enabled" checkbox.
9. Repeat steps 4-8 for the Video Server Port that you have assigned the 7700.
10. Click "Save Settings".
11. After the settings have been saved exit the browser. Port Forwarding is complete.



Top View

Power Indicator

This red switch becomes illuminated when 12V DC power is supplied to the unit and the switch is depressed. This indicator should always be lit when in use. If it is not lit, verify the adapter is plugged in to a good power source and the switch is depressed.



◆ **Brightness Adjustment**

The amount of light can be adjusted using the manual contrast controls on the base of the Video Flex. There are two sunburst buttons that allow you to adjust the brightness. Hold the desired button until maximum clarity is achieved.

◆ **Positive/Negative**

The positive/negative switch allows the video image to be reversed, like film negatives or

the Darkfield control on microscopes. This feature is excellent for multimedia applications and use in forensics.

◆ **Fluorescent Control**

This will eliminate the flicker found with certain fluorescent lighting conditions. When using this feature with a microscope, it may be necessary to adjust or filter the light on the microscope, for the correct amount of light. This can be accomplished with the iris on the microscope, the 5 hole diaphragm, or by using frosted filters. Under prolonged fluorescent lighting conditions, color may slowly change. Please note that touching either brightness control button will disable this capability.



Crossover Cable

The crossover cable is not wired as a typical straight-through network cable. This cable (or any crossover) should be used for initial setup of the 7700 via a PC/laptop. After initial setup of 7700, use straight-through cable in normal operation. The crossover cable only works when connecting two network devices directly to one another (in this case, the PC used for configuration and the 7700 itself). When connecting the 7700 to a hub, router, switch, or modem, be sure to use a standard patch cable.



Quick Start

Please follow the steps below to complete the initial setup of the Video Flex 7700.

- ◆ Please do not power on the 7700 until instructed.
 - ◆ Temporarily disable any proxy servers configured in Internet Explorer.
 - ◆ If connecting the 7700 directly to a modem, power down and reset the modem. Leave the modem powered down until configurations are finalized with the 7700 and the 7700 has been correctly connected to the modem.
1. You will need to access a PC/laptop and should configure that PC in order to communicate with the 7700. Record the current TCP/IP properties of that PC (IP address, subnet mask, gateway, DNS, etc.).
 - ◆ If your PC obtains its IP address automatically, then there is no need to record any information.
 2. Change the IP address of that host PC to 192.168.1.11 and subnet mask to 255.255.255.0 (leave all other entries blank).
 3. Connect the 7700 to your PC's Ethernet port via the supplied crossover cable (it does not matter what end is used for the PC).
 4. Power on the 7700 using the supplied power adapter.
 5. After 1 minute of power, verify a solid POWER indicator and a flashing or solid 10M indicator. After the corresponding indicator lights are properly displayed, open Internet Explorer.
 6. Type <http://192.168.1.80> (the default IP of the 7700) into your address bar.
 7. Default ID/Password to access 7700 are both the word "admin".
 8. Familiarize yourself with the Viewer Interface Screen.
 9. Locate the TCP/IP configuration under Administration Tools. Supply the same ID and Password to enter Administration Tools (admin:admin).
 10. Under "Network Type" select STATIC.

**B: Changing your computer's IP address and subnet mask****For Windows 98 / ME Users**

Start
 Setting
 Control Panel
 Network
 Configuration tab
 TCP/IP 10/100 Protocol
 Properties

- ◆ Select 'Use the following IP address' and change the IP address and subnet mask.

For Windows 2000 or Windows XP

Start
 Control Panel
 Network Connection
 Right-click Local Area Connection
 Properties
 Select TCP/IP in General tab
 Properties

- ◆ Select 'Use the following IP address' and change the IP address and subnet mask.



A: Determining Current TCP/IP settings**For Windows 98 / ME Users**

Start
 Setting
 Control Panel
 Network
 Configuration tab
 TCP/IP 10/100 Protocol
 Properties

- ◆ Note the settings under the IP Address, DNS Configuration, and Gateway tabs
 - ◆ If your IP settings are obtained automatically, you could use the MS-DOS prompt (or Command Prompt) to determine your IP address. For information on how to do this, please read the FAQ.

For Windows 2000 or Windows XP

Start
 Control Panel
 Network Connection
 Right-click Local Area Connection
 Properties
 Select TCP/IP in General tab
 Properties

- ◆ Under the "General" tab of the TCP/IP Properties you will see your IP address information.
 - ◆ If your IP settings are obtained automatically, you could use the MS-DOS prompt (or Command Prompt) to determine your IP address. For information on how to do this, please read the FAQ.

11. Configure the 7700's TCP/IP settings as you would any other PC on your network, providing a proper IP address, subnet mask, default gateway, and DNS server.
 - ◆ If this is standalone unit with a direct connection to a cable/DSL/Broadband modem then input the addresses you have received from your ISP.
12. The 7700 utilizes two TCP ports - a Web Server Port for utilizing Internet Explorer and a Video Server Port to support the streaming video. If this 7700 will be directly attached to a cable/DSL/Broadband modem or has been assigned a static IP from your ISP, then leave the default port settings. If you are installing the 7700 on a network, you must define a Web Server Port other than 80. The Video Server Port can remain unchanged.
13. If the 7700 is connected to a network which utilizes a router, you must have Port Forwarding configured on your personal router to forward both the Web Server Port and Video Server Port to the IP address you have assigned the 7700.
14. After configuring Port Forwarding on your router (if necessary), you may then access your 7700 on your local network by opening Internet Explorer and specifying the IP address and Web Server Port that you have assigned to the 7700.
 - ◆ Examples: <http://192.168.0.200:8888> or <http://24.106.88.123>
 - ◆ If you left your Web Server Port set to 80, then you don't need to specify the port in the Address Bar when accessing the 7700.
15. Access your 7700 via the Internet or Local Area Network:
 - A. If you used a static IP address assigned by your ISP
 - ◆ Open Internet Explorer on a computer with Internet access.
 - ◆ Type the IP of the 7700.
 - ◆ If you use a router, type the routers' static IP and the web port number of the 7700.
 - ◆ Log in using admin/admin.
 - B. If you used a static IP address on your private Local Area Network
 - ◆ Open Internet Explorer on a computer on the same subnet.
 - ◆ Type the IP of the 7700.
 - ◆ Log in using admin/admin.



7700 Initial Setup via a Crossover Cable

This section provides a guide on how to connect the 7700 to your PC/laptop for initial setup.

Please follow the instructions in the order they appear, without skipping steps. Do not supply power to the 7700, until instructed.

In order to access the 7700's firmware you will need to connect the 7700 directly to a PC or laptop computer via the supplied crossover cable.

1. Before you begin, you must determine the current network/INTERNET (TCP/IP) settings on the PC or laptop you plan to use to set up the 7700. Jot down your entries below for quick reference.
 - A. For information on how to determine your current settings, see Appendix A.

Current TCP/IP Settings	
IP Address	
Subnet Mask	
Default Gateway	
1st DNS Server	
2nd DNS Server (Option)	

2. In order for the 7700 to communicate with your PC, you have to change your PC's IP address and subnet mask.
 - A. We recommend that you change your IP address to 192.168.1.11 and change the subnet mask to 255.255.255.0. Leave all other entries (Default Gateway, DNS Servers, etc.) blank.
 - B. For information on how to change your IP address and subnet mask, see Appendix B.
3. After you have made the changes to your IP address and subnet mask, you may then attach the 7700 to your PC via the supplied crossover cable. Plug in either end of the crossover cable into the PC's network card and the other end into your 7700.
4. After connecting the PC and 7700 using the crossover cable, power on the 7700 by plugging in the power supply shipped with the 7700.
5. No longer than 1 minute after powering on the 7700, verify that the POWER indicator light is solid and the 10M indicator light is flickering or solid. If they are not, please read the FAQ.



Users Tool

System Manager

Specify an ID and Password for the System Administrator of the 7700. The System Administrator will have all rights and privileges to manage the system.

General Manager

Give access privileges up to 40 separate user accounts.

- ◆ Only 20 users may be logged on simultaneously, regardless of what user identities are logged on.

To add a user

Input an ID and Password, verify Password, select Authority, and click ADD.

To edit a user

Select the user from the list of users, make necessary changes, click EDIT.

To delete a user

Select the user from the list of users, click DELETE.

Viewer Authority

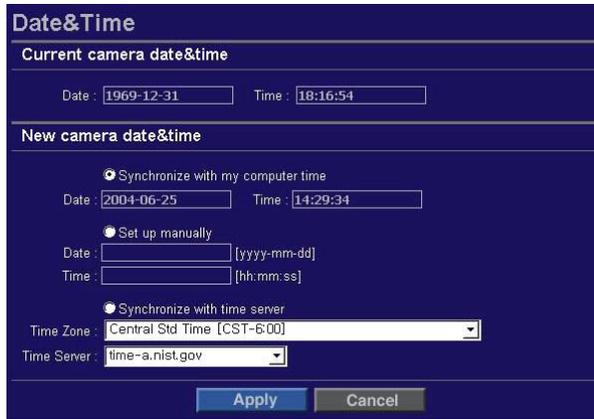
This privilege gives the user rights to operate only the icons associated with digital 2 zoom, stretch, OSD, and video capture. These options only affect that current user. The changes made there will have no effect on the other users logged on.

Auto Login

Only one user/administrator may have Auto Login enabled. When the video server is accessed, it will bypass the login screen and logon automatically.



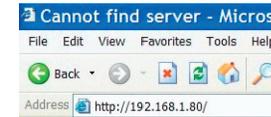
Date & Time Tool



Current Date/Time It shows the current Date/Time setting stored in the 7700.

New Date/Time Date/Time can be set by the local computer, synchronized to an online time server, or manually set.

6. Now you will be able to access the viewer software with in the 7700
 - A. Open Internet Explorer and type the IP address of 192.168.1.80 (default IP of the 7700 from the factory) into the Address Bar of the web browser (as seen below). Press Enter.



- B. If a message appears after pressing "Enter" similar to the image depicted below, choose "Try Again". This message will vary depending on the operating system.



7. Now you will be able to see the login screen for the 7700.



8. The default ID and Password are both "admin".
9. If at any time you are prompted to download ActiveX controls, you must click 'Yes', all content is safe.
 - A. You will have to click "Yes" twice to two individual prompts. This allows your video to be displayed in Internet Explorer.



Guide to Network Setup

Please configure the 7700 at the location of its installation. You must determine your network scenario in order to configure the 7700 with the proper TCP/IP settings. This tutorial will guide you through the process. Before actually configuring the 7700, determine what settings you will apply. Record those settings that you will use to configure your 7700 for reference.

When configuring your 7700, treat the 7700 as an independent network device (such as another PC) on your network. You will assign it an address and other TCP/IP properties to match your current network.

This step-by-step tutorial will teach what IP addresses and network configurations you should assign your 7700 based upon your network scenario. If you plan to use the 7700 in the context of a Local Area Network, you will need to use Case A (most common scenario). If you connect your 7700 to a router and have a static IP address assigned from your Internet Service Provider that you wish to use to access the 7700 over the Internet, use Case B. If you connect the 7700 directly to a modem to use with a static IP address from the ISP, use Case C.

1. Before you begin, if you are using Case B or C, you will need to locate any information and settings that you have received from your Internet Service Provider (ISP). You may need to refer to these IP addresses at a later time during the configuration.

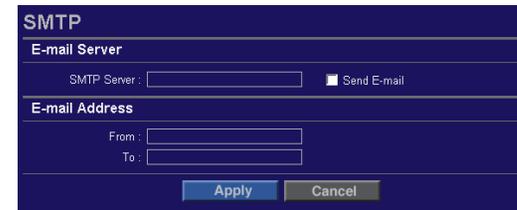
Assigned IP Address	
IP Address	
Subnet Mask	
Default Gateway	
1st DNS Server	
2nd DNS Server (Option)	

2. You must determine whether the IP address that you were assigned from the ISP is STATIC, DYNAMIC, or using PPPoE. You will need a static IP to use the 7700 over the Internet, or else you will need to use a DDNS service for video servers (i.e. www.netcam4u.net).
3. Configure your 7700's TCP/IP settings for network connectivity by selecting Administration Tools from the main interface and selecting TCP/IP located on the left of the Administration Tools screen.
4. If prompted for an ID and Password, use "admin" for both entries. The default web port number is 80. If your ISP blocks port 80 you must use a value between 1025-30000. Please consult your ISP and determine if they block TCP port 80.
5. Depicted below are several basic network scenarios. Determine which scenario describes your network. If your network does not match one of the scenarios below and are unsure how to setup your 7700, please contact your network administrator.



SMTP Tool

This function is used to email the specified email recipient and notify that individual of the IP address / web port number used to access the 7700. This email function only activates when the 7700 is powered on and reset.



- SMTP Server Enter an SMTP server used to send email.
- Send E-mail If this check box is set to on, email function is enabled.
- From Input the email address of sender. The email address should be admitted to the SMTP sever.
- To Input the email address of the recipient.



TCP/IP Tool

- Network Type Select a Static or Dynamic address scheme (static recommended).
- Internet Address Input a value to assign an IP address to the 7700.
- Subnet Mask Input a value to assign a subnet mask to the 7700.
- Default Gateway Input the IP address of the default gateway.
- Primary DNS Server Input the IP address of an ISP's DNS server.
- Web Server Port Input a TCP port number to assign a Web Interface port number to the 7700.
- Video Server Port Input a TCP port number to assign a Video Server port number to the 7700.
- DDNS Server Input DDNS server address.



Case A: Static (Fixed) IP on a LAN (Local Area Network)

Configure your 7700's TCP/IP properties as follows:

- Network Type STATIC
- Internet Address A private IP address such as 192.168.0.200 [Example]
 - A. You need to assign the 7700 an IP address, just as you would assign a PC.
 - B. The IP address you assign must be unique on your network as assigned by a network administrator to avoid IP conflicts.
 - C. The IP address you assign the 7700 must be a private IP. For information on how to choose a private IP please read the FAQ.
- Subnet Mask 255.255.255.0 [Example]
 - A. You must use the same subnet mask as the one you noted under "Current TCP/IP Settings".
- Default Gateway 192.168.0.1 [Example]
 - A. This IP address must be the IP address of your router (private or LAN side)
 - B. Use the same Default Gateway you noted under "Current TCP/IP Settings"
- Primary DNS Server Use the 1st DNS Server from "Assigned IP Address from My ISP"
 - A. If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server.
- Web Server Port 80 [default]
 - A. You may select any number between 1025-30000.
- Video Server Port 7777
 - A. You may select any number between 1025-30000.



Case B: Static (Fixed) IP + Personal Router

Must have at least 2 static IP's received from your ISP.

Configure your 7700's TCP/IP properties as follows:

- | | |
|--------------------|--|
| Network Type | STATIC |
| Internet Address | A private IP address such as 192.168.0.200 [Example]
A. You need to assign the 7700 an IP address, just as you would assign a PC.
B. The IP address you assign must be unique to your network as well as match your network. For information how to choose a unique IP and match your network please read the FAQ.
C. The IP address you assign the 7700 must be a private IP. For information on how to chose a private IP please read the FAQ |
| Subnet Mask | 255.255.255.0 [Example]
A. You must use the same subnet mask as the one you noted under "Current TCP/IP Settings". |
| Default Gateway | 192.168.0.1 [Example]
A. This IP address must be the IP address of your router (private or LAN side)
B. Use the same Default Gateway you noted under "Current TCP/IP Settings" |
| Primary DNS Server | Use the 1st DNS Server from "Assigned IP Address from My ISP"
A. If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server. |
| Web Server Port | 8888
A. Do NOT use the default port 80, you must change this number.
B. You may select any number between 1025-30000. |
| Video Server Port | 7777
A. You may select any number between 1025-30000. |



This section is provided to familiarize the user with the administration tools. Intuitive options are not explained in detail.

All the options under Administration Tools take effect in real time the instant the new settings are applied. These settings will be global, affecting all users currently logged on.

All settings are global and take place immediately except for the 'Caption' settings which require all users to logout or refresh their browser before noticing a change on the OSD.

Video Tool



- | | |
|-------------|--|
| Camera Name | Give a name to the 7700. Only affects what is displayed on the OSD. (Maximum 7 characters available) |
| Caption | Determine what items are displayed on the OSD. Changes will take effect only after the user logs out. |
| Color | Select this option to change the color picture to a black/white picture. Changing to "Gray" may increase FPS rates slightly when viewing remotely. |
| Resolution | Select the resolution (or screen size) of the video stream. Obtain maximum FPS at the 320x240 resolution. Higher the resolution, lower the FPS remotely. |
| Frame Rate | Select the frame rate of video stream to control the traffic of network. |
| Quality | Adjusts the quality setting. Higher the quality, lower the FPS remotely. |
| Brightness | Input a value to adjust the brightness of the video stream. |
| Contrast | Input a value to adjust the contrast of the video stream. |



Viewer Screen

This section is designed to familiarize you with the main interface of the 7700. Displaying the OSD and Digital Zoom are only taking place on the local machine, not on the unit itself. To make global changes on the 7700 and its video, you must login as an administrator.



1. Camera Image Display
2. OSD - Camera Name / Date / Time
3. Set Camera Name
4. Vertical Flip
5. Colour /Greyscale
6. Controls for Resolution, Frame rate, Quality, Brightness, and Contrast
7. Stretch (will fit the video to the viewer window regardless of resolution)
8. OSD (On Screen Display): Click this icon to display the captions.
9. Disconnect from or connect to the server
10. Log out
11. 2x Digital Zoom
12. Save an image
13. Administration Tools

Case C: Static (Fixed) IP [Dedicated line directly to the 7700]

Configure your 7700's TCP/IP properties as follows:

Network Type	STATIC
Internet Address	A static IP address received from your ISP, such as 24.107.88.125 [Example]
Subnet Mask	Subnet mask assigned from your ISP, such as 255.255.255.240 [Example]
Default Gateway	24.107.88.113 [Example] A. Use the assigned default gateway from your ISP
Primary DNS Server	Use the 1st DNS Server from "Assigned IP Addresses from My ISP" A. If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server.
Web Server Port	80 [default] A. You may select any number between 1025-30000.
Video Server Port	7777 A. You may select any number between 1025-30000.

Port Forwarding

After entering the correct TCP/IP settings you will be ready for "Port Forwarding" (Case B).

- ◆ Please record the TCP/IP settings of your 7700 for future reference. You may need this information to access your 7700 and to configure "Port Forwarding".

7700 TCP/IP Settings	
IP Address	
Subnet Mask	
Default Gateway	
Primary DNS Server	
DDNS Server	
Web Server Port	
Video Server Port	

- ◆ After clicking "Apply" the system will prompt for a reboot. Please allow the system 30 seconds to reboot and accept the changes. After 30 seconds, close the configuration screen. The view will display "Trying to Reconnect". If the ACTIVE light on the 7700 has gone off and is now back on again flashing, then the 7700 has rebooted. After the system reboots completely, remove the power supply from the unit and close Internet Explorer.
- ◆ Return your PC/Laptop TCP/IP properties to their original settings.
- ◆ Before installing the 7700, you must use "Port Forwarding" on your personal router if you used Case B (Static IP with Router).
You will need to forward 2 ports:
 - ◆ Web Server Port you assigned to the 7700.
 - ◆ Video Server Port you assigned to the 7700.
 Both of these ports will be forwarded to the IP address you assigned to the 7700.
 In the example above, you would forward:
 - 8888 - 192.168.0.200
 - 7777 - 192.168.0.200

For further information on how to use "Port Forwarding" please read Appendix C.



Starting the 7700

After correctly forwarding the Web Server Port and the Video Server Port through your router (if applicable), you may then install the 7700 in a proper location.

1. Connect the 7700 to your router, switch, hub, or cable/DSL modem (per your network scenario) via a Cat5/5e UTP Ethernet network cable.
2. Supply power to the 7700.
3. After 30 seconds, verify the indicators:

- POWER Solid
- 10M Flickering/Solid

4. After configuring Port Forwarding on your router (if necessary), you may then access your 7700 on your local network by opening Internet Explorer and specifying the IP address and Web Server Port that you have assigned to the 7700.
 - A. Examples: <http://192.168.0.200:8888> or <http://24.106.88.123>
 - B. If you left your Web Server Port set to 80, then you don't need to specify the port in the Address Bar when accessing the 7700.
5. Access your 7700 via the Internet or LAN:
 - A. Open Internet Explorer.
 - B. Type the IP of the 7700.

