Table of Contents

INTRODUCTION ................................................................................................................................. 4

THE ROUTER CONFIGURATION......................................................................................................... 4

PORT FORWARDING AND DMZ OPTIONS .......................................................................................... 5

BEFORE YOU START .......................................................................................................................... 5

1. THE PORT FORWARDING RULES ................................................................................................ 5

2. THE DMZ feature ........................................................................................................................ 6

LIST OF PORTS FOR LOREX NETWORK DEVICES .......................................................................... 7

ROUTERS SECTION ........................................................................................................................ 9

LINKSYS ........................................................................................................................................... 10

BEFDSR41W, BEFNPS4, BEFSRUI31, BEFSRU31, BEFSR41 V1 & V2, BEFSR V2FW 1.40.2, BEFSR41 V3 V4 & V5, BEFSR81, BEFSX41, BEFSX41-CA, BEFVP41 V1 & V2, BEFVP41-CA, BEFW11S4, BEFW11S4 v2, v3, & 3.2, BEFW11S4 V4, BEFW11S4-CA v2 & v4, WRT51AB, WRT55AG ................................................................................................................................. 10

LINKSYS, WIRELESS ..................................................................................................................... 12

BEFSR41-CA, BEFSX41 V1.50, BEFW11S4 v1.50.10, BEFW11S4 v1.50.14, RT31P2, WAG54G, WRK54G, WRT54G, WRT54G v1.1 v2 & CA, WRT54G v2.04, WRV54G, WRV54G-CA ................................................................................................................................. 12

DLINK .................................................................................................................................................. 14


SMC .................................................................................................................................................... 15

2804WBRP-G, 2804WBR V1, V2, 7804WBRB .......................................................................................... 15

ACTIONTEC ..................................................................................................................................... 16

GT701-WG, GT704WR, R1020S, R1020S(U), R1520SU, R1524SU-1 ................................................................................................................................................................................................. 16

NETOPIA ......................................................................................................................................... 18

CAYMAN 3300 .................................................................................................................................. 18

WESTELL DSL MODEM/ROUTER ..................................................................................................... 20

B90-2200- 30-05 (BELLSOUTH) ....................................................................................................... 20

2200 (VERIZON) ............................................................................................................................. 23

VERSALINK 327W ........................................................................................................................... 23

BELKIN ............................................................................................................................................. 25

F5D5231-1 ....................................................................................................................................... 25

NETGEAR ........................................................................................................................................ 27

RP614V1 & V2, WGR614, WGT624V1 & 2, ..................................................................................... 27

DG824M V1.3 ..................................................................................................................................... 28

2 WIRE ......................................................................................................................................... 29

1000HW, 1000S, 1000SW, 1800HG .................................................................................................. 29

ZOOM ............................................................................................................................................ 31

X4 5551 .......................................................................................................................................... 31

EFFICIENT (SIEMENS) .................................................................................................................. 33
INTRODUCTION

The purpose of this manual is to help distributors, installers and customers in general to configure their routers for use with a network device such as a digital video recorder, video server etc. Our goal is to provide enough information to configure the router and successfully connect to the cameras over the internet. This manual shows most common router models on the market. If your router is not listed in the manual identify the other routers listed and see if there is a similar one. Let us know if your router is not listed so we may add it in future revisions.

THE ROUTER CONFIGURATION.

The router configuration screen is the last step in the process to view and access the cameras over the Internet (WAN). The connection and configuration will depend from the network topology, configuration and environment. Most digital video recorders and Network devices commonly are connected in a Local Area Network (LAN) and the Router is connected usually to a DSL modem or cable modem. The Router configuration is vital to connect properly to the internet and view the cameras from a remote location.

ROUTER with 4 ports switch in a WAN / LAN environment.

Router: A router is a device that forwards data packets along networks. A router is connected to at least two networks, commonly two LANs or WANs or a LAN and its ISP network. Routers are located at gateways, the places where two or more networks connect, and are the critical device that keeps data flowing between networks and keeps the networks connected to the Internet. When data is sent between locations on one network or from one network to a second network the data is always seen and directed to the correct location by the router. They accomplish this by using headers and forwarding tables to determine the best path for forwarding the data packets; and they use protocols such as ICMP to communicate with each other and configure the best route between any two hosts. The Internet itself is a global network connecting millions of computers and smaller networks — so you can see how crucial the role of a router is to our way of communicating and computing.
PORT FOWARDING AND DMZ OPTIONS

Before you start working with your router is important to:

1. Assign a **static IP address** and select the ports to your **network device** ( * ), ( See Appendix B for more information ).
2. Have ready your **router (gateway) IP address** to access the router menus ( See appendix A for more information).
3. Have the **port list** ready according with your product needs to create the forwarding rules. ( See page 7 with all products listed).

The information provided in this manual is to guide and help the customer create **forwarding rules or port forwarding for** specific ports on a router.

There are two ways to work with the router ports. The procedure may vary with the router manufacturer option screens. The two options are:

1. **PORT FORWARDING RULES**
2. **THE DMZ**

1. **THE PORT FORWARDING RULES.**

In order to allow users to access your **Network Device** ( * ) on the Internet (WAN) we need to create forwarding rules. That means we need to open ports on the Router and forward ( Port forwarding ) the data from a specific IP address. Once the Router has the ports opened the data will pass-through the Router. Every router internally works and interacts with two IP addresses. One is the internal IP address or gateway. The one works with your LAN and the other one is the external IP for the internet communications.

When a **Network Device** sends data to a remote router on the internet, the router receive the information and needs to know what to do with the data. The port forwarding feature what it does is to tells the router where to send the data with the computer or network device attached to the LAN.

**Network device: Any IP addressable device or electronic equipment connected in a LAN such a Digital video recorder, video server or computer.**

When you create and enable the ports on the router ( **The term is referred as forwarding rules** ), the router takes the data off the external **IP address: port** number ( this is called a socket) and sends that data to an internal **IP address: port** number. The port forwarding rules are created per port.

**Example using port 2000:** When the router receives the data from the **external IP address**, the router works with the internal **NAT** ( Network address translation) and communicates the information from the external IP to the internal IP address. The information from a distant **router** comes with a specific
forwarding rule and that rule contains information related to port 2000. That means the internal IP address (gateway) on your LAN will communicate only with the network device on the LAN configured to receive the data for port 2000. If you have one network device working with port 2000, only this device will be able to use port 2000. That means only a port number can be used for a program or network device. For example if you have a customer using 2 video servers connected on the same LAN, you have to give each one a different port to communicate on the same network or over the internet.

2. THE DMZ feature. (demilitarized zone)

This feature allows you to open all the ports at once in your router for your Network device IP address. The DMZ takes the IP address of the device on your network and forwards all ports. This is really a nice feature if you are having problems forwarding ports for some program or device. It can be a life saver if your router will not allow you to properly forward ports. The Network Device with the DMZ enabled is now wide open to internet traffic. If the network device attached to the router is a Digital video recorder or a Video server for example, the unit will not be able to catch a virus, or risk being hacked because these units are stand alone and designed with an embedded operating systems. On the other hand there is a risk if you are using a computer instead. If you are using a computer on your LAN it is better to forward the ports only and not use the DMZ option.

The router #2 is been configured to do port forwarding for the port 2000 for the internal IP address 192.168.1.125 on the LAN. The router # 2 has the port 2000 open. When the user from router #1 access the video server, the data will go directly to the local IP 192.168.1.125 using port 2000.

If the user has installed the network viewer application to view the camera. The application will try to access the IP address from router #2. (24.116.50.6)

The network viewer application must have the IP from router #2 address (24.116.50.6) and the port 2000 to view the camera.

For a more detailed explanation of the port forwarding procedures visit:
http://www.portforward.com/help/portforwarding.htm
## LIST OF PORTS FOR LOREX NETWORK DEVICES

<table>
<thead>
<tr>
<th>FAMILY</th>
<th>MODELS</th>
<th>PORTS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPSC</td>
<td>IPSC2230 Day Night Camera</td>
<td>TCP port 80 UDP Port 9001</td>
<td>Default Port : 80</td>
</tr>
<tr>
<td>IPSC</td>
<td>IPSC2206 PAN/TILT DIGITAL ZOOM NETWORK CAMERA</td>
<td>TCP port 80 UDP Port 9001</td>
<td>Default Port : 80</td>
</tr>
<tr>
<td>Video server</td>
<td>L4202</td>
<td>Any</td>
<td>Default port is 80. Only one port is needed. Suggested alternated port : 2000</td>
</tr>
<tr>
<td>DVM Software</td>
<td></td>
<td>5600-5700</td>
<td>Default ports : 5600 and 5700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TCP ports:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Video</strong>: The default value is port 5700. Users can modify this value. However, it should generally have a value between 5501 and 64000. Values below 5501 are considered reserve values for Windows and routers. Values above 6400 are not valid. <strong>Send data port</strong> - All communication must be done through a designated port. By default data is sent out from the local system through port 5600. Users can modify this value. However, it should generally have a value between 5501 and 64000. Values below 5501 are considered reserve values for Windows and routers. Values above 6400 are not valid. communicated can also designate a specific port through which it communicates data. By default the target system data port is also set to port 5600. Users can modify this value. However, it should generally have a value between 5501 and 64000. Values below 5501 are considered reserve values for Windows and routers. Values above 6400 are not valid.</td>
</tr>
<tr>
<td>4 channel PCI Video capture card</td>
<td>QLR0450</td>
<td>4 ports needed Any port from a range from 2000-65000</td>
<td>Default ports:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Video port</strong> :2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Audio port</strong>: 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>PTZ control</strong> : 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Remote Search</strong> :2003</td>
</tr>
<tr>
<td>4 channel USB video capture card</td>
<td>QDU470</td>
<td>4 ports needed Any port from a port range from 2000-65000</td>
<td>Default ports:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Video port</strong> :2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Audio port</strong>: 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>PTZ control</strong> : 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• <strong>Remote Search</strong> :2003</td>
</tr>
<tr>
<td>Device Description</td>
<td>Model</td>
<td>Port</td>
<td>Additional Information</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>--------</td>
<td>------</td>
<td>-----------------------------------------------</td>
</tr>
</tbody>
</table>
| NETWORKABLE 2 PAGE - 8 CHANNEL 21" COLOR QUAD WITH 4 NIGHT VISION CAMERAS | L21Q784 | 80   | http1 : 80 TCP  
|                                                          |        |      | http2 : blank ( any port )                   |
| NETWORKABLE 2 PAGE - 8 CHANNEL 14" COLOR QUAD WITH 4 COLOR NIGHT VISION CAMERAS | L14Q684C | 80   | http1 : 80 TCP  
|                                                          |        |      | http2 : blank ( any port )                   |
| IP Camera                                              | IPSC1240 | 80   | http1 : 80 TCP  
|                                                          |        |      | http2 : blank ( any port )                   |

- **Note**: Port 80 is the http port for the Internet browser and it is usually blocked by the Internet Service Provider. We recommend using a different port like 2000 to avoid possible problems.

This section shows the procedure to create port forwarding rules. The information is presented by manufacturer and model.
Log in to the Router's Web-based Utility. (This is usually done by opening your web browser, entering 192.168.1.1 in the Address field (or your “default gateway” IP address from your PC), and pressing the Enter key. You should see the following screen.

Press the **STATUS** Tab and write the WAN IP address for future reference for the remote connection.

To open the ports press on the **ADVANCE** tab on the top and Select **Port Range Forwarding**

On the left hand side put the name of the application.

**Application name**: can be any description of your Network Device attached on you LAN

You are forwarding ports in the **Customized Application** box.

In the **Ext. Ports** box put the port ranges you wish to forward. If you are unsure of the port range/ranges check the Ports list page or the **network device**(*) model you are working with.

**Example**: For **port 1080**, start with port 1080, and end with port 1080.

Check on the protocol type **TCP**, **UDP**, or just both. Check both if you are unsure of the protocol type. In the **IP Address** box, enter your **Network device**(*) IP address

Click the **Enable** check box on the right hand side.

If you have more ports continue with the next line.

Click **Apply** at the bottom of your screen to save your changes

(*) See page 5 for more information
DISABLE BLOCK WAN REQUEST FEATURE.

Press the Advance tab and select the Filters tab.

Click and disable the Block Wan request feature.

When finish click on Apply to save the changes.

DMZ OPTION

If you don’t want to enable the port range forward feature you can use the DMZ option to open all the port at once.

Click on the Advance tab on the top

Click on the DMZ Host option

Enter your network device (*) IP address and press apply.

(*) See page 5 for more information
Log in to the Router's Web-based Utility. (This is usually done by opening your web browser, entering 192.168.1.1 in the Address field (or your “default gateway” IP address from your PC), and pressing the Enter key.) You should see the following screen.

Press the **STATUS** Tab and write the WAN IP address for future reference for the remote connection.

To open the ports press on the **Applications and Gaming** Tab on the top. Click on **Port Range Forward** Option.

On the left hand side put the name **Application name** of the application. You are forwarding ports in the **Application** box.

**Application name:** can be any description of your Network Device attached on your LAN

In the Start and End boxes put the port ranges you wish to forward. If you are unsure of the port range/ranges check the Ports list page or the network device model you are working with.

Example:
For **port 1080**, start with port 1080, and end with port 1080.

Check the protocol type **TCP,UDP**, or just both. Check both if you are unsure of the protocol type. In the **IP Address** box, enter your **Network Device (*)** IP address to forward the ports to.

Click the **Enable** check box on the right hand side.

If you have more ports continue with the next line.

Click **Save Settings** at the bottom of your screen to save your changes.

(*) See page 5 for more information
DISABLE BLOCK WAN REQUEST FEATURE.

Press the SECURITY tab

Click and disable the Block Wan request feature.

When finish click on Save Settings to save the changes.

DMZ OPTION

If you don’t want to enable the port range forward feature you can use the DMZ option to open all the port at once.

Click on the APPLICATIONS AND GAMMING Tab on the top.

Click on the DMZ option

Enter your local network device IP address and press Save Settings
DLINK


Open your web browser and enter the IP address of your router (192.168.0.1). Enter username (admin) and your password (leave blank).

Press the STATUS Tab and write the WAN IP address for future reference for the remote connection.

To open the ports press on the ADVANCE Tab on the top. Click on Virtual Server Option

Enter the name of the service (Ex. Your DVR description) you are trying to forward ports for in the Name box.

Enter the private network device (*) IP address into the Private IP box.

Select the protocol type from the Protocol type drop down box. If you are unsure of the protocol type select both if available. If both is not an option you would need to create a duplicate configuration, one with TCP selected the other with UDP selected.

Enter the private port into the Private Port box. Generally you should enter the same port into the Public Port box. For port information check the Ports list page or the Network Device (*) model

Example using port 1080:
- Private Port 1080
- Public Port 1080.

The schedule should be set to Always. Put a dot in the Enable circle at the top to enable your profile. If you have more ports continue with the next line. Click Apply at the bottom of your screen to save your changes.

DMZ OPTION
If you don’t want to enable the ports feature you can use the DMZ option to open all the ports at once.

Click on the Advance Tab and select the DMZ Option.

Enter your network device local IP address click on enable and press Apply.

(*) See page 5 for more information
**DMZ Option Only**

Open a web browser. In the address bar type the IP address of your router. This IP address is **192.168.1.2** by default. Press enter.

**Step 2:**
You should now see a login screen and it should be prompting you for a password. We want to log in as administrator, so enter your administrator password here. By default the administrator password is **smcadmin**. Click the login button to log into the router.

**Step 3:**
Click **Firewall** on the left hand menu. This will drop down a sub-menu on the left hand side.

**Step 4:**
Click **DMZ** in the left hand menu. This will open up the screen below.

**Step 5:**
A Static IP address is need for this function. Click in the **Enable DMZ Yes** radial button. In the **Public IP address** box, you enter the **network device IP (*)** address you wish to open to the internet.

Click **Apply** at the bottom of the page.

Click the **STATUS** menu at the left and write the **WAN Internet IP address** for future reference for the remote connection.

(*) See page 5 for more information
Enter the IP address of your router in the address bar of your browser. By default, the IP address should be set to 192.168.0.1.

Click *setup/configuration*. You should see the following menu.

Click *ADVANCE* at the side of the menu. You will see the following menu.

Click on *Port Forward* on the left hand side. You should see the following menu.

**Port Forwarding**

Some Internet applications require certain ports to be forwarded. Please enter the required port ranges and IP Address of the computer running the application into the space below, then click *Add*. Click *Advanced* for more options, or click *Next* to continue.

<table>
<thead>
<tr>
<th>IP Port Range</th>
<th>Protocol</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Click on *ADD* to add the settings to the box below.

If you have more ports to open repeat the procedure.

To finish click on *Save and RESTART*

(*) See page 5 for more information
DMZ OPTION.

If you don’t want to use the port forward feature you can use the DMZ option to open all the ports at once.

Click setup/configuration. You should see the following menu.

Click ADVANCE at the side of the menu. You will see the following menu.

Click on DMZ Hosting option

Enter the Network device (*) IP address, Then you click in the On radial button.

Now click on Save and Restart on the left hand side. The following menu should appear.

To finish click Save and Restart.

Click the STATUS menu and write the WAN Internet IP address for future reference for the remote connection .

(*) See page 5 for more information
Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.1.254.

Enter your user name and password. By default the username is **admin**, and the password is blank. Click the **OK** button to log in to your router.

Click the **Expert Mode** link on the left hand side of your screen.

Click OK to enter the export mode

On the **ADVANCE** Network menu click on the **PINHOLES** Option.

This menu option will allow you to enable the port forwarding option.

Click the **ADD** button to add a new pinhole configuration to your Router.
- **Pinhole Name**: your network device name (ex DVR, video server, or PC)
- **Protocol type**: TCP or UDP
- **External port start**: Enter your start port
- **External port end**: Enter your end port

**Example using port 1080.**
- External start port 1080
- External end port: 1080

- **Internal IP address**: Enter your Network device (*) IP address. (ex DVR, video server or PC attached)

- **Internal port**: Enter the lowest port.

**Example**: If you open a range of ports from **80 to 1080**, use 80 as the lowest port.

Click the **Submit** button

If you need to open more ports click on the **ADD** button and repeat the procedure.

(*) See page 5 for more information
Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.1.1.

You should see a box prompting you for your username and password. Enter your username and password now. By default the username is blank, and the password is NOLOGIN. Click the OK button to log in to your router.

Click the Expert Mode button on the left hand side of your screen.

Then under Home click the Service Configuration button on the left hand side of your screen.

In the new menu that appeared under Configuration, click the NAT button.

Continue on next page…….
Click the Define Customer Service button to move to the next page.

Custom Service
Set Up a Port Forwarding entry based on your specific ports

- Port Forwarding Ranges of Ports - Forward a range of WAN ports to an IP address on the LAN
- Trigger Ports - Forward a range of ports to an IP address on the LAN only after specific outbound traffic

Put a dot in the Port Forwarding Ranges of Ports radial button. Then click next at the bottom of this page.

Port Range
Set Up a Port Forwarding range entry based on your specific ports

Service Name: MyNewService
The above name will be saved as this service description
Global Port Range: 0 - 0
Base Host Port: 0
Protocol: TCP, UDP

Enter a name for the program or device you are forwarding ports for in the Service Name box. Ex: DVR

Enter the ports to forward into the Global Port Range boxes.

Example: for port 2000-2000

The smallest port number should go into the box on the left, while the largest port number should go into the box on the right.

Main port the program uses into the Base Port box. This is your lower port from your list.

Examples: If you are using only one port like 2000 enter 2000-2000. If your are using a range of port like 80-1080, the base port is 80

Select the protocol type using the UDP or TCP radial buttons.

Click the Next button when you are done making changes.

Service Details
Service Name: DVR
Type: Port Forwarding

Port 1
Protocol: TCP
Global Port(s): 2000
Base Host Port: 2000

After clicking 'Close' you can enable your new service from the 'Service Name' select box.

If you need to add additional ports, click the Add button.

When you are done adding ports/protocol types, click the Close button.

Continue on Next page....
Once you finished adding all the ports go back to the service configuration screen.

Use the Service Name drop down box to find and select the first configuration you just created for your network device name (Ex DVR).

Then click the Enable button to enable it. You will need to repeat this step for each service that you created.

Once you press enable the following screen will appear.

Select and find your network device (*) IP address or enter your IP address to forward the ports and complete the procedure.

Press Done to finish.

(*) See page 5 for more information
Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.1.1

You should see a box prompting you for your username and password. Enter your username and password now. By default the username is blank, and the password is NOLOGIN.

Click the Ok button to log in to your router.

Click on Configuration on the top Menu and Select Service configuration

Click the Define Customer Service button to move to the next page.

Custom Service

Set up a Port Forwarding entry based on your specific ports

- Port Forwarding Ranges of Ports
- Trigger Ports

Forward a range of WAN ports to an IP address on the LAN
Forward a range of ports to an IP address on the LAN only after specific outbound traffic

Put a dot in the Port Forwarding Ranges of Ports radial button. Then click next at the bottom of this page.

Port Range

Set up a Port Forwarding range entry based on your specific ports

Service Name: my New Service
The above name will be saved as this Service's description

Global Port Range: 0 - 0
Base Host Port: 0
Protocol: TCP 

Continue on next page.......
Enter a name for the program or device you are forwarding ports for in the **Service Name** box. Ex: DVR, Video server or PC.

Enter the ports to forward into the **Global Port Range** boxes.

Example: for port 2000-2000

The smallest port number should go into the box on the left, while the largest port number should go into the box on the right.

Main port the program uses into the **Base Port** box. This is your lower port from your list.

**Examples:** If you are using only one port, for example 2000, enter 2000-2000. Your base port will be 2000.

If you are using a range of port like 80-1080 the base port is 80.

Select the protocol type using the UDP or TCP radial buttons.

Click the **Next** button when you are done making changes.

If you need to add additional ports or you need to specify both protocol types, click the **Add** button. Then repeat the above steps, and specify the other protocol or add another port.

Once you finished adding all the ports go back to the service configuration screen.

Use the **Service Name** drop down box to select the first configuration you just created at your device name (Example: DVR).

Then click the **Enable** button to enable it. You will need to repeat this step for each service that you created.

Once you press enable the following screen will appear:

Select and find your network device (*) **IP address** or enter your IP address to forward the ports and complete the procedure, Press **Done** to finish.

(*) See page 5 for more information.
Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.2.1.

You should prompted for your password. Enter your password now. By default the password is blank. Click the Ok button to log in to your router.

On the left hand side you will see a series of four menus.

In the one titled firewall click Virtual Servers. This will bring you to the following menu.

We are going to be working in the table portion of this menu to forward ports. All the settings to forward a port or series of ports will go on one line. If you want to forward additional ports you can fill out a second line with additional information.

**Description** box. A good description would be the name of the network device (*) (Ex DVR) you are forwarding ports for.

**Inbound Port** box. Enter the port range. This range would be specified by entering the starting port number in the first box under inbound ports and the ending port number in the second box under inbound ports. Do the same thing for the **Private Port** boxes.

- **Type** : Select the protocol type. TCP or UDP or Both.

**Note**: If you are unsure of the protocol type, just select both.

Continue on next page.......

(*) See page 5 for more information
- Enter your network device (*) **IP address** you wish to forward in the **Private IP Address** box.

  - Put a check in the **Enable** checkbox.

Click on **Apply changes** to finish

(*See page 5 for more information

------------------------

**DMZ Option**

On the Setup screen select DMZ at the left area of your menu

You will see the following menu

Enter your Network Device (*) **IP address** and click on **enable**.

Press **Apply changes** to finish

(*See page 5 for more information
Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.0.1.

You should see a box prompting you for your username and password. Enter your username and password now. By default the username is admin, and the password is blank. Click the Ok button to log in to your router

The basic settings window will be visible

On the menu bar to the left under Advanced click Port Forwarding
You should now be at the Port Forwarding menu as shown below.

To create a new port forward service click on Add Custom Service button.

Enter the information requested on the menu.

- **Service Name**: Enter the description of your DVR or device or service (PC) . Ex DGR200

- **Starting port**: Enter the lowest port

- **Ending port**: Enter the Highest port

- **Server IP address**: Enter your network device(*) IP address

- Click Apply at the bottom of the menu to finish.

(*) See page 5 for more information
DMZ Option

Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.0.1.

You should see a box prompting you for your username and password. Enter your username and password now. By default the username is admin, and the password is blank. Click the Ok button to log in to your router.

The basic settings window will be visible.

On the menu bar to the left under **WAN Setup Options**

You should see the WAN setup menu

Click on **Default DMZ server** and enter your network device (*) IP address.

Click on **Apply** to Save the settings.

(*) See page 5 for more information
Open a web browser like internet explorer or Netscape

Enter the IP address of your router in the address bar of your browser. By default the IP Address should be set to gateway.2wire.net

The basic settings window will be visible

Click on the FIREWALL button on the top

Click the Add a new user-defined application link in the Applications section.

Click FIREWALL SETTINGS in the firewall menu on the top of the screen

Continue on next page……..
Enter the following information:

- **Application name**: Enter the name of the program (Ex. Your DVR, video server description).

- **Protocol**: TCP or UDP.

- **Port Range**: From (the lowest port) To (the highest port)

- **Protocol timeout** (seconds):
  ----For TCP enter: 86400
  ----For UDP enter: 600

- **Map to Host port**: Leave it empty

- **Application type**: Set to None

Click **ADD Definition** to add this definition to your router.

Click the **BACK** button at the bottom page to go back to the previous menu.

**Select a computer option**: device (your network device(*) IP address) or computer you want to forward.

On the **Applications** list scroll down and find the Application you just created and highlight it.

Click the **ADD** button to move it to the **Hosted Application** box at your right.

Click **DONE** button at the bottom of the screen to finish

**Note**: If you have multiple ports, you have to create an application for every range of ports.

(*) See page 5 for more information
Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 10.0.0.3

You should prompt for your password. Enter your password now. By default the password is blank. Click the Ok button to log in to your router.

Click the Advanced Setup button at the top of your screen. You should now see the following screen.

Click the Advanced Setup button at the top of your screen. You should now see the following screen.

Continue on Next page........
In the middle of this page you will see a **NAT Options** drop down box. Click the down arrow and select **NAT Rule Entry**

Take note of the **Rule ID's** that are in use.

Usually you want these rule numbers to increment by 10. So the new rule you create should be 10 more than the largest rule number here. At the bottom of the page click **Add**. You should now see another window.

Enter the following Settings

1. **Rule Flavor** drop down box. Select RDR from the list.
2. Enter a number in the **Rule ID** box. This number needs to be unique, so some number that was not listed on the services page. (any number not listed)
3. **IF Name** box. Select **ALL**
4. **Protocol** drop down box: Select the protocol type of the ports you are forwarding. (if you don't know select **ALL**)
5. **Local Address From**: Enter your local device network (*) IP address
6. **Local Address To**: Enter your local DVR IP address
7. **Global Address From**: Enter 0.0.0.0
8. **Global Address To**: Enter 0.0.0.0
9. **Destination Port From**: Enter your lower port of your port range
10. **Destination Port To**: Enter the highest port of your port list. 
    a. Example 80 - 1080
11. **Local Port** box: Put a zero in it.
12. Click the **Save Changes** button at the bottom of your screen.

Once again click on **Advance setup** button at the top of your screen. Click on the **IP filter button**

The **Security Level** drop down box should be set to none.

The **Private Default Action**, **Public Default Action** and **DMZ Default Action** should all be set to **Accept**.

Click the **submit** button at the bottom of the page. Now we are going to save these changes. **Make sure to write your settings to flash, and reboot your router before the settings will take effect.**

(*) See page 5 for more information.
Enter the IP address of your router in the address bar of your browser. By default the IP address should be set to 192.168.254.254

Enter your username and password now. By default both the username and password are blank. Click the Ok button to log in to your router.

On the main menu click Login. Select admin from the username drop down box. Enter the admin password in the Password box. Click the Okay button to get back to the main menu.

Click on the SETUP Menu .

Select Protocol drop down box. Then enter the port range in the TCP/UDP Ports box.

At the right side of the screen enter the lowest port number and highest port number should go in the box on the right.

Example TCP 80 - 1080

Click the Redirect selected protocol/service to IP address radio button.

Enter the IP address you wish to forward this service to in that box. ( your network device (*) IP address)

Then click Apply to save your changes.

(*) See page 5 for more information
Enter the IP address of your router in the address bar of your browser.

By default the IP address should be set to 192.168.1.1

You should be prompted for your password. Enter your password now. By default the password is 1234. Click the Ok button to log in to your router. In the left hand menu click SUA/NAT.

You should now see the following menu.

Enter the following information to open the ports:

-- Check on the Active check box
-Name: Enter the name of your network device (Example video server)
-Start Port: Enter your lower port of your list
  Example: opening ports from 80 to 1080
    --- Start port : 80
    --- End Port : 1080
End Port: Enter the highest port

Server IP address: Enter your network device (*) IP address.

Repeat the procedure to open more ports if needed.

Press Apply to finish.
DMZ Option only

Enter the IP address of your router in the address bar of your browser.

Enter your User name and password to access the main menu (if needed)

Click on LAN at the left side of the menu

Click on Internet on the Advanced menu at left side of the screen.

To enable the DMZ option, click enable on the first line.
Select a PC. Click the drop down menu at the right and locate your network device (*) IP address.
Press Save to save the settings

Click On the Status menu on the left

Write down your Internet IP address for reference. Press Restart to save the settings

(*) See page 5 for more information
DMZ Option only

Enter the IP address of your router in the address bar of your browser. The default IP address is 192.168.8.1

Enter your User name and password to access the main menu. By default the user name is blank and the password is **admin**.

By default the DMZ page is disabled. Click the **Enable** radio button.

Enter your Network device (*) IP address on the DMZ menu

Then click the **Save and Restart** button.

(*) See page 5 for more information

In the menu on the left hand side of your screen, click **Advanced**. In the menu under Advanced click the **DMZ** link.
Appendix A

HOW TO ACCESS THE ROUTER CONFIGURATION SCREEN.

The Router configuration is the most important step in the process to view the cameras on the Internet. Most of the routers are similar on the access, graphics interface and configuration. The first step to access the router configuration screen is to know the router IP address or “Gateway”. Usually the Web Browser is commonly used to access the router configuration.

If you don’t know what is your router IP address (gateway) do the following procedure:

- Press on Start
- Click on RUN
- Type cmd and click OK

DOS command prompt window

In the DOS window type ipconfig and press ENTER

The information from your DOS prompt will show you the information related to your network. This information will be:
   a- Your computer IP address.
   b- Your Subnet mask
   c- Your Default gateway.

This information includes the Default Gateway IP address. This is the information we need to access the router menus. Write down this information for later use.

Once you have the router IP address (gateway), open the Internet Explorer and type in the address bar http://192.168.1.1 and press ENTER

You will see the LOGIN screen. Enter the user name and password to access the Router menus and configuration. (if needed).
Appendix B

SELECTING AND ASSIGNING AN IP ADDRESS FOR YOUR NETWORK DEVICE.

Selecting an IP address for your network device (DVR, Video server, PC) is important. With the IP address you will be able to communicate on the Network properly. To obtain an IP address for your Network device try the following options.

1. FROM THE IT ADMINISTRATOR.

1. FROM THE IT ADMINISTRATOR. Medium to large networks are administrated usually by an IT Administrator. In many cases is recommended to ask what IP address can be used on your network device (see page 5 for more information).

2. THE “GUESSING “ METHOD”

If it is difficult to get an IP address for the network, this method will help you to find an IP address easily for your network device (*).

2.1. ADDING A NUMERIC VALUE. First at all, we have to get some information from a computer connected to the same network. See Appendix A to see how to get the information off the computer.

Examples.
If the computer connected on the same network has an IP address (example) as 192.168.1.68, try adding 5 numbers to the last octet (example, -> 68 + 5 = 73). The resulting number will be 192.168.1.73.

2.2 CHECKING THE IP ADDRESS. Once we have an IP address we want to try, we have to check if someone is using the IP address before we assign it to the Network device (*).

Go back to the computer at the DOS prompt windows according with procedure on Appendix A.

On the DOS prompt
Type the following command:

ping 192.168.1.73
press ENTER

If you receive a “reply from” that means somebody is already using this IP address on the network.
Let’s try to use another IP address adding another number to the last octet (let’s add 4 numbers, \(73 + 4 = 77\)) and try again. Example 192.168.1.77

Type: `ping 192.168.1.77`
press ENTER

If you get a “**request timed out**”, the message means nobody is using the IP address and this means you can use it on your **network device**.

**2.3. APPLYING THE SETTINGS.** Once we selected the new IP address **192.168.1.77**, we will need to use the same **subnet mask** and the same **default gateway** from the computer. In addition to these values we need to make sure what port needs to be assigned to work properly according with the listed ports of your network device. (See page 7 for a complete list).

**The final values (example) for the Network device will be:**

**EXAMPLE**

<table>
<thead>
<tr>
<th>IP address</th>
<th>192.</th>
<th>168.</th>
<th>1</th>
<th>77</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subnet mask</td>
<td>255</td>
<td>255</td>
<td>255</td>
<td>0</td>
</tr>
<tr>
<td>Default Gateway</td>
<td>192</td>
<td>168</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Once you assigned the **IP address** on your network device. Perform a **ping** command to the device according with the ping procedure, If you have a **reply** from your respective device **IP address** that indicates your the connection is working properly on the LAN.
<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
</table>
| I can't access the router configuration screen                         | • Check your cable connections  
• Check if you entered the correct router (gateway) IP address  
• Check if your computer has a Firewall blocking the IP address                                                                                                                                 |
| I can access my router configuration screen but I don’t have internet connection | • If you are using a DSL modem, check if you connection is down. Call your ISP to solve the problem.                                                                                                    |
| I opened all the ports on the router and I can’t still connect to my remote Network device (DVR, video server) | • Check your DSL modem, make sure your connection is UP.  
• Check the information on your network device has the correct information: **IP address, subnet mask and default gateway** according with the Appendix A.  
• Check if you opened the correct ports. (see page 7)  
• Check your cable connections.  
• Call your router manufacturer.                                                                                                          |
| I installed the Network viewer program and entered the WAN IP address I still can’t see my cameras | • Check if your computer is using a Firewall application like Norton Firewall.  
• Check if you configured the correct port to receive the data from your remote location.  
• If your network device support web browser, try using the IP address and port (if needed) to see the cameras. If you can watch the cameras on your Internet browser, the problem could relate to an Internal firewall application.  
• Check if your password is correct.  
• Check if your wan IP address is correct                                                                                                    |
It’s all on the web

Product Information

User Manuals

Quick Start Guides

Specification Sheets

Software Upgrades

Firmware Upgrades

VISIT
www.lorexcctv.com

Lorex Technology Inc