



INTERNET CONNECTIVITY REFERENCE GUIDE

Revision D
Date: 12/1/14



Important Information - MUST READ

VERY IMPORTANT: This document is a general guide. You must have networking knowledge and be familiar with all network components to properly follow this document.

Continental Access is not responsible and will not support the configuration of the network components (ex. routers, switches, hubs, firewalls and DSL modems).

Notes:

- 1) It is highly recommended to design and document your network.
- 2) Prior to configuration, verify you have obtained the required network settings (ex. static IP addresses, subnet masks and gateway IP addresses).

Scope

This document contains information regarding the configuration of communications via the internet. As previously noted, you must have networking knowledge and be familiar with all network components including routers, switches, hubs, firewalls and DSL modems. Continental Access will not support the configuration of the network components. This document covers multiple configurations. Refer to the appropriate section for your configuration. Refer to appendix A for some basic networking terms.

Prerequisites

Prior to configuring internet communications, these are things you will need:

- DSL Modem/Cable Box
- ISP (Internet Service Provider)
- Static IP Addresses from ISP
- Router (Must support port forwarding)
- Ethernet cables

PORTS USED BY CA3000

Note: If the following ports are blocked anywhere in the network, a massive amount of wasted time will be spent troubleshooting internet connection problems. Please consult the network administrator to prevent this from occurring.

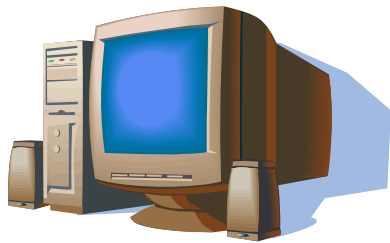
- **ECHO PORT 7:** This port is used by ICMP for Ping Request. This port is also used to keep existing lines of communication open.
- **Port 80:** This port is used by the graphical user interface for the Lantronix device (GUI). It is also the standard http port.
- **Port 1433:** This port is used by Microsoft SQL Server and MSDE, TCP/IP
- **Port 1434:** This port is used by Microsoft SQL and MSDE, UDP, TCP/IP
- **Port 3001:** This port is used by CardAccess 3000 to communicate with panels through Lantronix devices. The redirector software is not used in this case.
- **Port 9000:** This port is used by CICDataserver for broadcasting information to the workstations.
- **Port 9999:** This port is used by the Lantronix Device for the use of the Telnet feature.
- **Port 14001:** This port is used by CardAccess 3000 to communicate with the panels through Lantronix devices using the Lantronix Redirector software. Only required for older operating systems. Port 3001 is used on current OS and software.

CONGURATION 1: (see notes for this configuration)

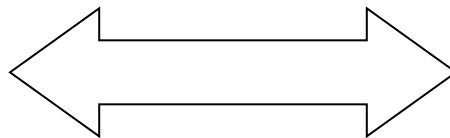
BASIC CONFIGURATION SUPPORTED BY CONTINENTAL ACCESS.

Note: It is highly recommended to start with this basic configuration. This configuration will verify the Continental software is installed and configured properly on each end.

Static IP = 192.168.1.100
Subnet Mask 255.255.255.0

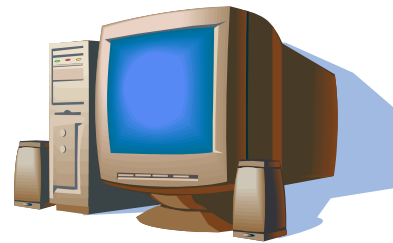


CA3000 Host



Cross Over Ethernet cable

Static IP = 192.168.1.200
Subnet Mask 255.255.255.0



CA3000 Workstation

CONFIGURATION 1 notes:

- 1) The CA3000 host must have a static IP address. It is also recommended to have a static IP address on the workstation. The two IP addresses must be on the same subnet.
- 2) The CardAccess utility (database utility) on the workstation, must point to the static IP address of the CA3000 host (refer to figure 1).
- 3) You must be able to ping the CA3000 host from the CA3000 workstation. Verify you can ping by IP address and host name. If you are not able to ping by hostname, you must make an entry in the hosts file on the CA3000 workstation.

The entry in the hosts file will look as follows: 192.168.1.100 CA3000HOST

- 4) It is highly recommended to open all ports (Allow All Ports) on the Windows firewall on both the CA3000 host and the CA3000 workstation. The Windows firewall settings can be found under Control Panel. Refer to the Continental Document Library for documents regarding configuring the Windows firewall.

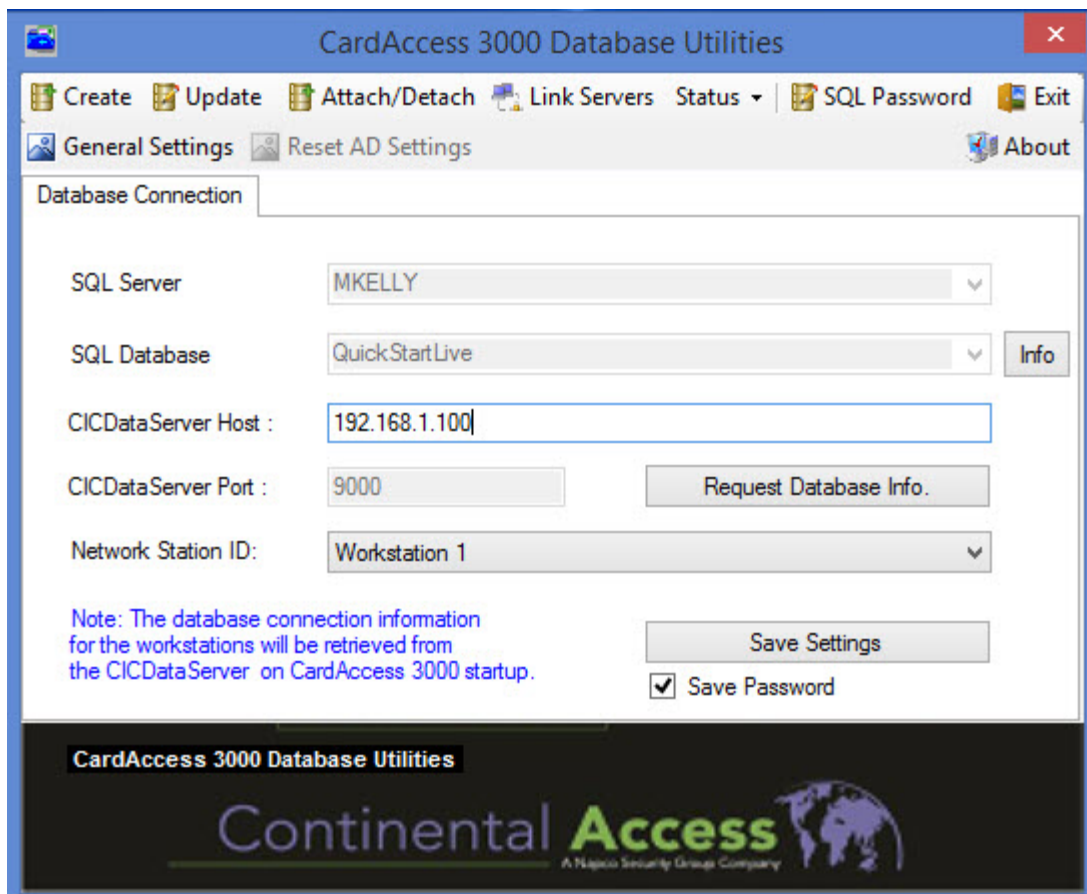
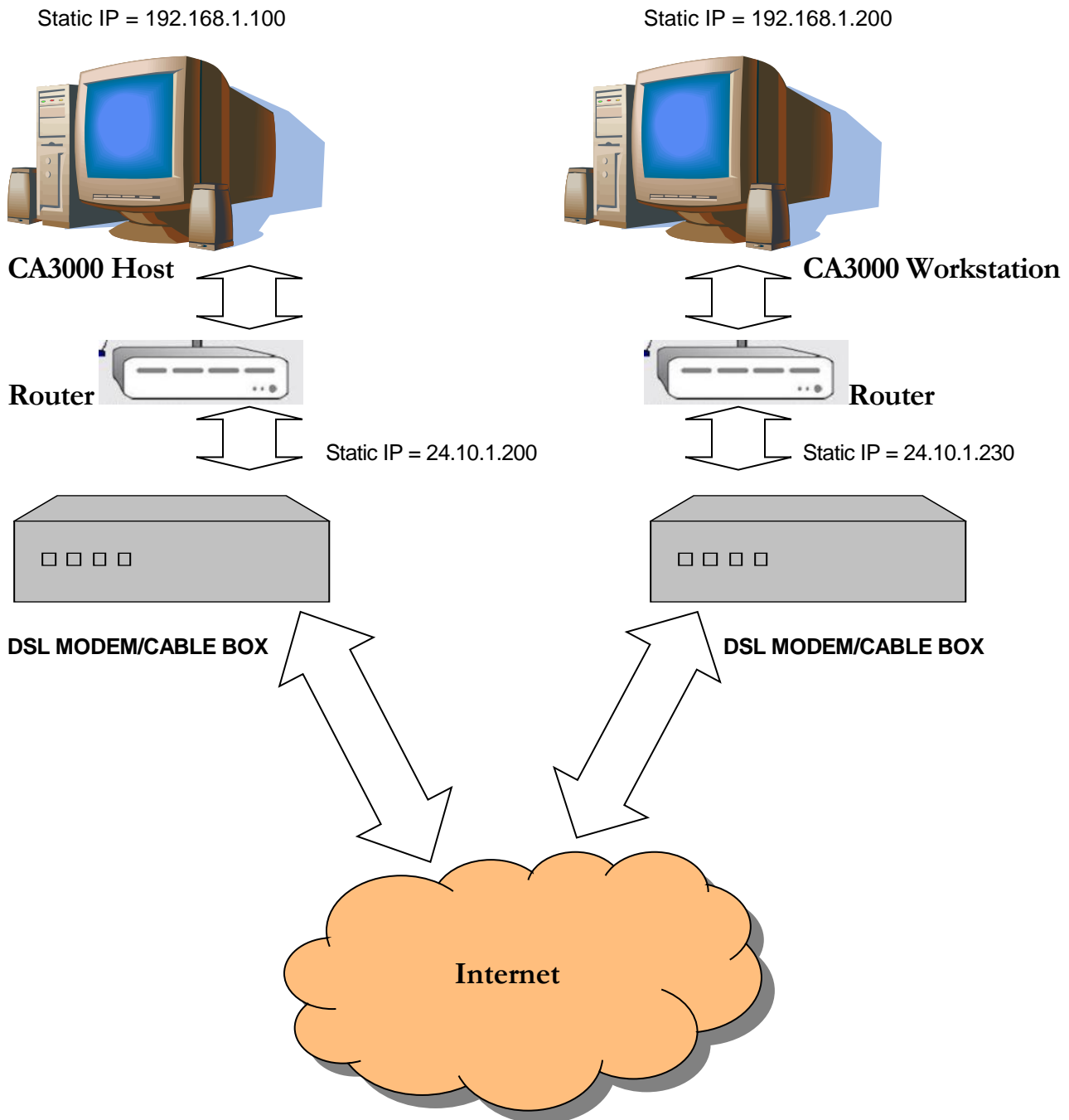


Figure 1.

CONGURATION 2: (see notes for this configuration)

CA3000 HOST COMMUNICATING TO A CA3000 WORKSTATION OVER THE INTERNET.



CONFIGURATION 2 notes:

- 1) Some DSL modems have built in routers. If this is the case, you will not need standalone routers as per Configuration 2.
- 2) Your ISP (Internet Service Provider) must supply you with static IP addresses. The 24.x.x.x addresses are the static outside IP addresses supplied by the ISP. This address will be the wan address (outside address) of router.
- 3) The CA3000 host and the CA3000 workstation must have a static IP address. These are considered inside IP addresses. You must verify these addresses are not part of the DHCP range of the router.
- 4) Verify you can ping the outside address on the host side (24.10.1.200) from the workstation
- 5) Verify you can ping the outside address on the workstation side (24.10.1.230) from the host.
- 6) The appropriate ports must be forwarded in the host side router. They must be forwarded to the static IP addresses of the CA3000 host. Refer to figure 5 below for an example port forwarding screen. There are many types of routers. You must be familiar with your particular router and how to configure it.
- 7) The appropriate ports must be forwarded in the workstation side router. They must point to the static IP addresses of the CA3000 workstation. Refer to figure 4 below for an example port forwarding screen. There are many types of routers. You must be familiar with your particular router and how to configure it.
- 8) The CardAccess utility (database utility) on the CA3000 workstation, must point to the outside IP address of the CA3000 host router (refer to figures 2 and 3).

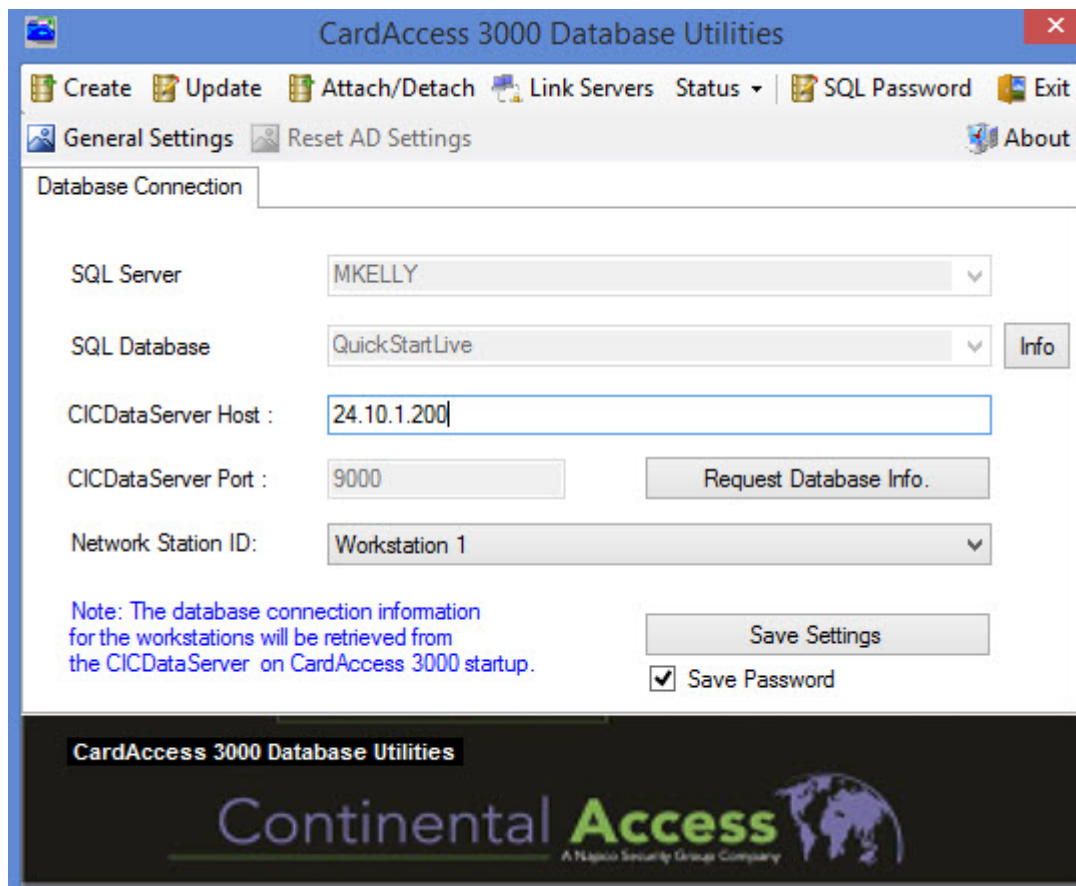



Figure 2.



CA3000 Host Router

Outside Static IP = 24.10.1.200

Figure 3.



A Division of Cisco Systems, Inc.
Firmware Version: 1.04.06

Applications & Gaming

Setup

Security

Applications & Gaming

Administration

Status

Port Range Forwarding

Port Triggering

UPnP Forwarding

DMZ

QoS

Port Range Forwarding

Port Range					
Application	Start	End	Protocol	IP Address	Enabled
Echo	7	to 7	Both	192.168.1.200	<input checked="" type="checkbox"/>
SOL	1433	to 1434	Both	192.168.1.200	<input checked="" type="checkbox"/>
CICDATA	9000	to 9000	Both	192.168.1.200	<input checked="" type="checkbox"/>
HTTP	8080	to 8080	Both	192.168.1.200	<input checked="" type="checkbox"/>
TELNET	9999	to 9999	Both	192.168.1.200	<input checked="" type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
	0	to 0	Both	192.168.1.0	<input type="checkbox"/>

Port Range Forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. **It is recommended that the computer use static IP address.**

You may use this function to establish a web server or FTP server via an IP Gateway. Be sure that you enter a valid

[More...](#)

Save Settings

Cancel Changes




Figure 4.

LINKSYS®

A Division of Cisco Systems, Inc.

Firmware Version: 1.04.06

Applications & Gaming

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Port Range Forwarding

Port Triggering

UPnP Forwarding

DMZ

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Port Range Forwarding

Port Range Forwarding

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[More...](#)

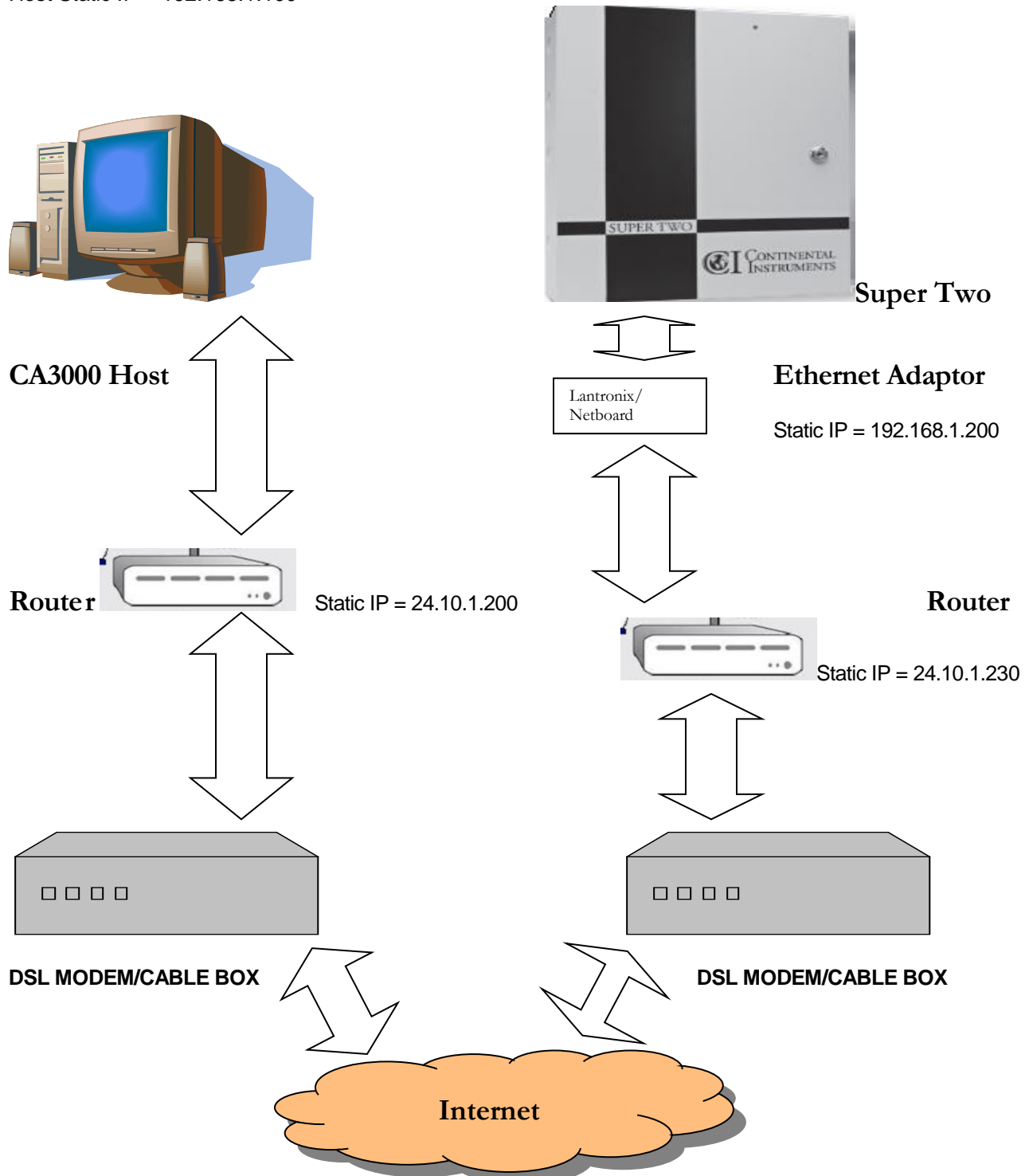
Port Range						
Application	Start	End	Protocol	IP Address	Enabled	
Echo	7	to 7	Both	192.168.1.100	<input checked="" type="checkbox"/>	
SQL	1433	to 1434	Both	192.168.1.100	<input checked="" type="checkbox"/>	
CICDATA	9000	to 9000	Both	192.168.1.100	<input checked="" type="checkbox"/>	
HTTP	8080	to 8080	Both	192.168.1.100	<input checked="" type="checkbox"/>	
TELNET	9999	to 9999	Both	192.168.1.100	<input checked="" type="checkbox"/>	
		to	Both	192.168.1.	<input type="checkbox"/>	
		to	Both	192.168.1.	<input type="checkbox"/>	
		to	Both	192.168.1.	<input type="checkbox"/>	
		to	Both	192.168.1.	<input type="checkbox"/>	
	0	to 0	Both	192.168.1.0	<input type="checkbox"/>	

Figure 5.

CONGURATION 3:

CA3000 host communicating to a Continental Panel over the internet.

Host Static IP = 192.168.1.100



CONFIGURATION 3 notes:

- 1) Some DSL modems have built in routers. If this is the case, you will not need standalone routers as per Configuration 3.
- 2) Your ISP (Internet Service Provider) must supply you with static IP addresses. The 24.x.x.x addresses are the static outside IP addresses supplied by the ISP. This address will be the wan address (outside address) of router.
- 3) The CA3000 host and the Lantronix Ethernet adaptor must have a static IP address. These are considered inside IP addresses. You must verify these addresses are not part of the DHCP range of the router.
- 4) Verify you can ping the outside address on the host side (24.10.1.200) from the Super Two/Lantronix side.
- 5) Verify you can ping the outside address on the Super Two/Lantronix side (24.10.1.230) from the host.
- 6) The appropriate ports must be forwarded in the host side router. They must be forwarded to the static IP addresses of the CA3000 host. Refer to figure 8 below for an example port forwarding screen. There are many types of routers. You must be familiar with your particular router and how to configure it.
- 7) The appropriate ports must be forwarded in the Lantronix side router. They must point to the static IP addresses of the CA3000 workstation. Refer to figure 7 below for an example port forwarding screen. There are many types of routers. You must be familiar with your particular router and how to configure it.
- 8) The com port setting in the CA3000 host software must point to the outside address of the Super Two side router, not the address of the Lantronix/Netboard (refer to figure 6).

Communication Ports

New Delete Edit Save Cancel Close

Workstation No.	Description Text	Last Edit
0	Host Com Ports	8/2/2010 4:38:01 PM

Station Name: Host PC Description: Host Com Ports

Compressed Mode is only available for Super2/Supertemis with firmware versions 2.0 or higher.

Com Port No.	Type	Baud	IP Address	UTC Zone	Password	Compressed Mo
1	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
2	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
3	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
4	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
5	Network		24.10.1.230	(GMT-05:00) Eastern Time (<input type="checkbox"/>
6	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
7	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
8	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>
9	Not Used			(GMT-05:00) Eastern Time (<input type="checkbox"/>

Figure 6.

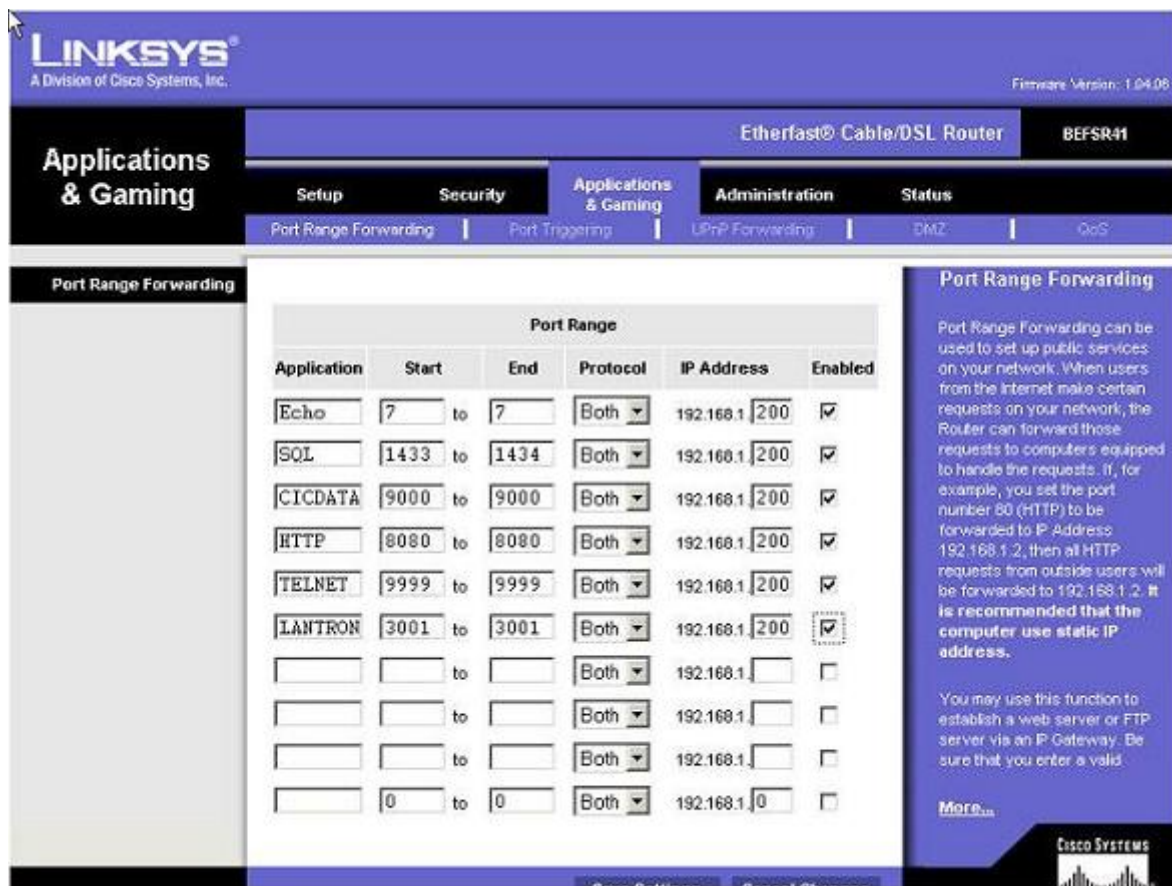



Figure 7.



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Firmware Version: 1.04.06

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		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
		to	Both	192.168.1.	<input type="checkbox"/>
	0	to 0	Both	192.168.1.0	<input type="checkbox"/>

Port Range Forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. **It is recommended that the computer use static IP address.**

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[More...](#)

Figure 8.

APPENDIX A

Networking Terms and Explanations

Internet Service Provider

Whether you are part of a LAN or you are trying to connect to the Internet as a single user, you will likely gain access to the Internet via an Internet Service Provider, or ISP. An ISP is essentially an off-ramp onto the Internet. ISPs are companies that allow you to connect to their computers, which in turn are connected to the Internet. ISPs are usually local companies that provide individuals and small companies with all the requirements to allow user to connect to the Internet. This may include software, domain names, user names and connectivity.

Router

A router is a computer that sits on a network. Its sole purpose is to direct messages to their final destination. Routers are important because messages do not always travel the same path to their final destination. As the Internet has gained in popularity, the various channels of the Internet have become increasingly busy. Often the channels that link computers become overloaded with traffic. Like a policeman on a very busy road, the router may detect that there is a backlog of traffic on one of the routes to a message's destination, in which case it will simply send the data along a different, more convenient route.

Firewall

A firewall is used on some networks to provide added security by blocking access to certain services in the private network from the rest of the internet. All TCP/IP applications communicate via an IP address and a port. If the port is blocked, the application will not run. By blocking ports, you prevent hackers from getting in. This will prevent the inside computers from getting viruses.

IP Address

This is an address used by the Internet Protocol to identify a computer or device's location on the network. This number is usually assigned to a computer by the Internet Service Provider (ISP) or the network administrator.

DHCP

This acronym stands for Dynamic Host Configuration Protocol. It is a protocol used on a TCP/IP network to send the client configuration data, including the IP address, subnet mask, gateway, and DNS configuration to the computers on the TCP/IP network. Using DHCP saves time by eliminating the need to manually configure each computer on the network.