

Connecting the LSA1000 to its Host

This chapter describes connecting the LSA1000 to the host PC or network over the standard 10/100Base-T Ethernet. Windows NT and Windows 95 operating systems are supported. *For more about the LSA1000 and the Ethernet, see Chapter 3 of the accompanying Remote Control Manual.*

PC Requirements

For acceptable operational performance with the LSA1000, the following are the minimum PC requirements:

- Pentium class PC
- 32 MB RAM
- 10MB free disk space
- Windows 95 or Windows NT, and
- Ethernet Adapter supporting 10/100Base-T, with a standard RJ45 connection.

Ethernet Connection

The LSA1000 operates over a standard 10/100BaseT Ethernet connection. The instrument can be plugged into a network or operated from a direct connection to a host computer. A different type of cable is required for each of these connections. For a direct connection of LSA1000 to PC, a *cross-over* cable is required, whereas the network connection is made using a *straight* cable.

The LSA1000 has an IP address assigned to it at the factory: it *does not* support Dynamic Host Configuration Protocol (DHCP) or any other automatic address resolution scheme. This IP address may be changed by the user after the connection has been established.

The LSA1000's factory-assigned IP address is: **172.25.1.2**
The LSA1000's factory-assigned Mask is: **255.255.0.0**
The LSA1000's factory-assigned Gateway is: **172.25.0.1**

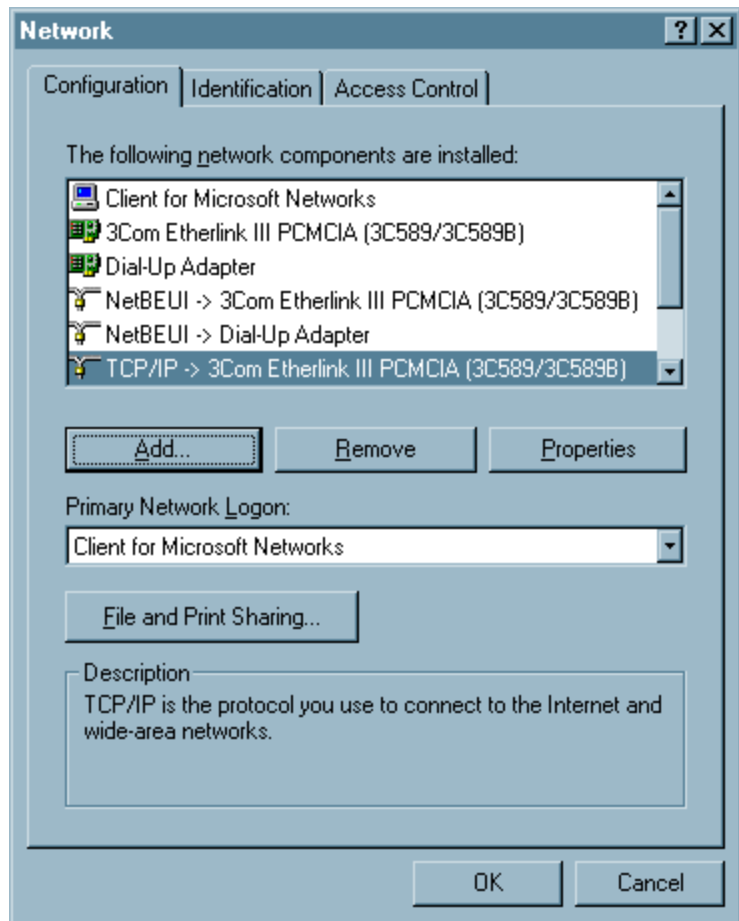
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Configuring the PC

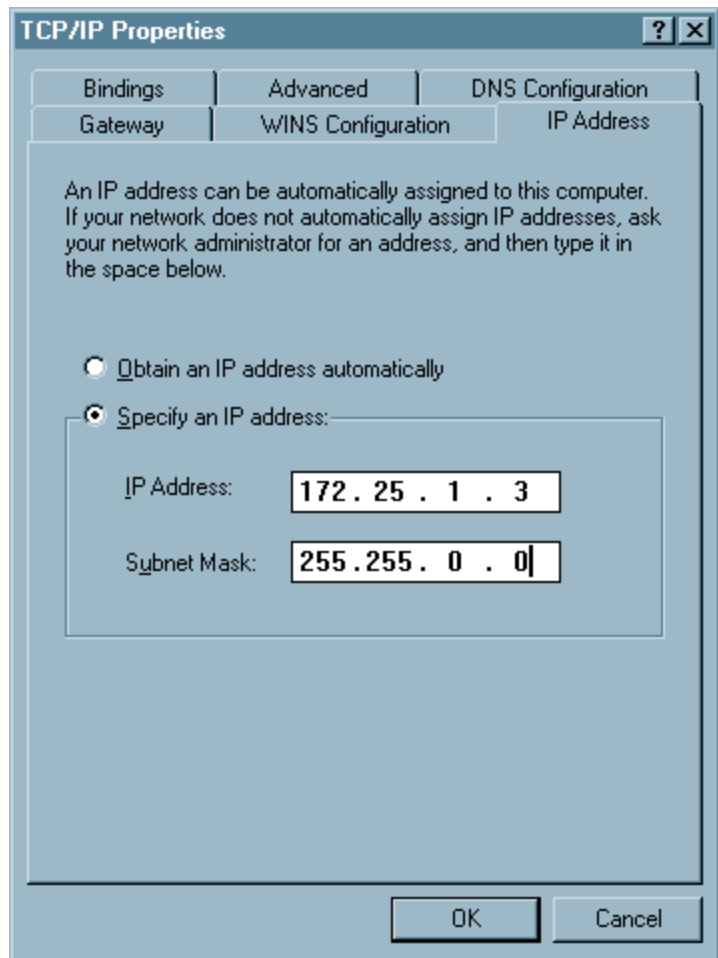
Note: The following examples assume that the host PC operates from Windows™ 95. The connection procedure for Windows NT is similar.

Before establishing a direct connection between the LSA1000 and the host computer, the PC must first be properly configured. A specific TCP/IP address must be assigned — known as "static addressing". But this means that the PC *cannot* be set up to obtain its IP address from a DHCP server. To set the host PC's static address with Windows 95:

1. **Select:** Start > Settings > Control Panel
2. **Double-click** on the Network icon in the Control Panel. A network dialog box similar to this one appears.



3. Double-click on the **TCP/IP ->** line. A dialog box similar to the one below appears. Select




Specify an IP address:

4. If this has already been selected, then the computer's static address is set and nothing more needs to be done.



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Cancel out of the TCP/IP and network dialog boxes and close the control panel.

5. However, if the address has not already been selected, fill in the IP address and subnet mask as shown above. The subnet mask for 172.25.x.x is 255.255.0.0. If the computer will not be plugged into a network, the above address (or almost any address within the chosen subnet) will do. The only address that will not work is the same one as that of the LSA1000 to be controlled.
6. Now click  in the TCP/IP Properties dialog box. Depending on the operating system and version, you may need to reboot the computer. If so, a dialog box should alert you to this.

Making Physical Connection To make the physical connection between the LSA1000 and the host computer:

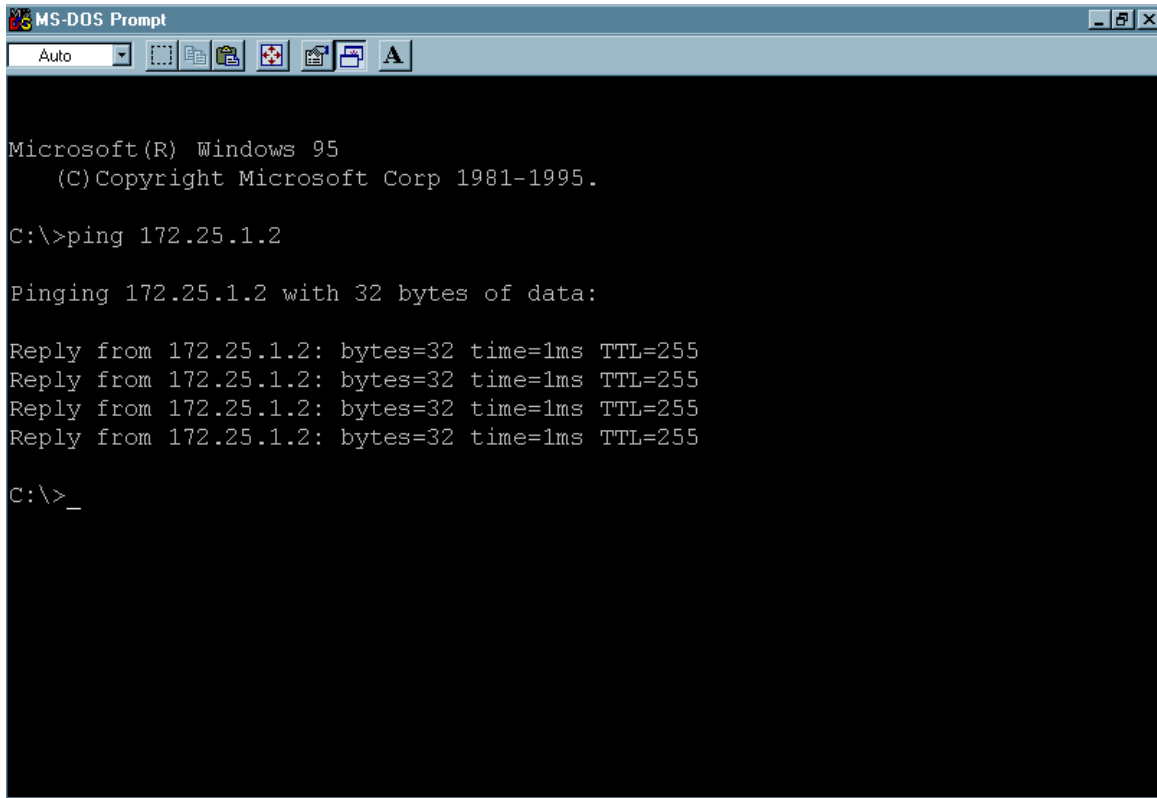
1. Connect the LSA1000 to the PC using a cross-over cable (for direct connection).
2. Power the LSA1000 unit on. The green LED power indicator on the front panel will light up.

Verifying Connection

Note: If your PC does not have TCP/IP, see the dedicated Windows™ 95 or NT User's Manuals for installation instructions.

The physical connection and the PC's TCP/IP configuration can be verified using the "ping" command, available on both Windows™ 95 and Windows™ NT with TCP/IP network protocol installed. In order to check the network connection between the PC and the LSA1000:

3. Start MS-DOS Prompt
4. Type `ping <ip_address>` where `<ip_address>` is the static address assigned to the LSA1000. The dialog box on the next page illustrates the result of a successful "ping", with the Ethernet connection shown established. The IP address of the LSA1000 in this case is 172.25.1.2, the factory default address.

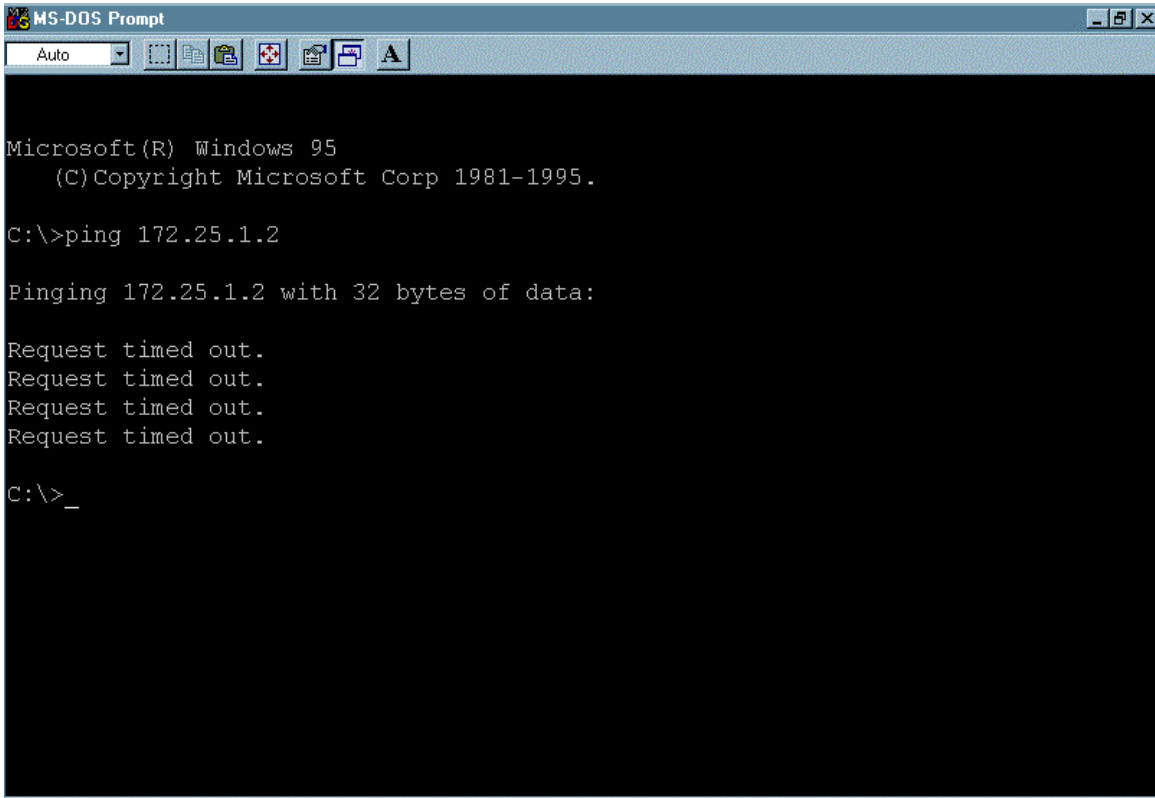


```
MS-DOS Prompt
Auto
Microsoft(R) Windows 95
(C) Copyright Microsoft Corp 1981-1995.
C:\>ping 172.25.1.2
Pinging 172.25.1.2 with 32 bytes of data:
Reply from 172.25.1.2: bytes=32 time=1ms TTL=255
Reply from 172.25.1.2: bytes=32 time=1ms TTL=255
Reply from 172.25.1.2: bytes=32 time=1ms TTL=255
Reply from 172.25.1.2: bytes=32 time=1ms TTL=255
C:\>_
```

The ping command has sent a message to the instrument and waited for a response. But if a timeout occurs, as is shown in box on the next page, the IP address used for the destination (the LSA1000) is *incorrect* or not within the subnet mask of the PC's IP address.



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```
MS-DOS Prompt
Auto
Microsoft(R) Windows 95
(C) Copyright Microsoft Corp 1981-1995.
C:\>ping 172.25.1.2
Pinging 172.25.1.2 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
C:\>_
```

Network Connection

Check with your network administrator before connecting the LSA1000 to a network. Incorrect addresses on a network can cause both the network and the LSA1000 to behave strangely! However, a network connection ought to be as simple as plugging the LSA1000 into the network. *Proper connection can be verified by following the instructions on verification in the previous section.*

For those users concerned mainly with system throughput, network connection is *not* recommended as the network traffic will slow down the LSA1000 data transfer rate.



Note: The default Gateway is assigned as "172.25.0.1" unless your network has this Gateway available, you must ensure the computer and the LSA1000 are on the same subnet.

Changing IP Address

Once communication between the LSA1000 and host PC has been verified, the IP address can be easily reset to any address using the *Scope Explorer* remote control software tool provided in the Getting Started CD-ROM. To change the IP address, initiate the following remote commands from *ScopeExplorer's* Terminal. These are described in the *Remote Control Manual* (see *Chapter 5 of the present manual*).

- ***IDN?**: Retrieves the unit's name, serial number, and software revision level.
- **CONET?**: Returns the current IP address configuration including the mask and gateway. Default is IP, "172.25.1.2", Mask, "255.255.0.0", Gateway, "172.25.0.1".
- **CONET IP,"172.25.1.5",MASK,"255.255.0.0",GATEWAY,"172.25.0.1"**: Sets the IP address. This example changes the unit's IP address to 172.25.1.5.

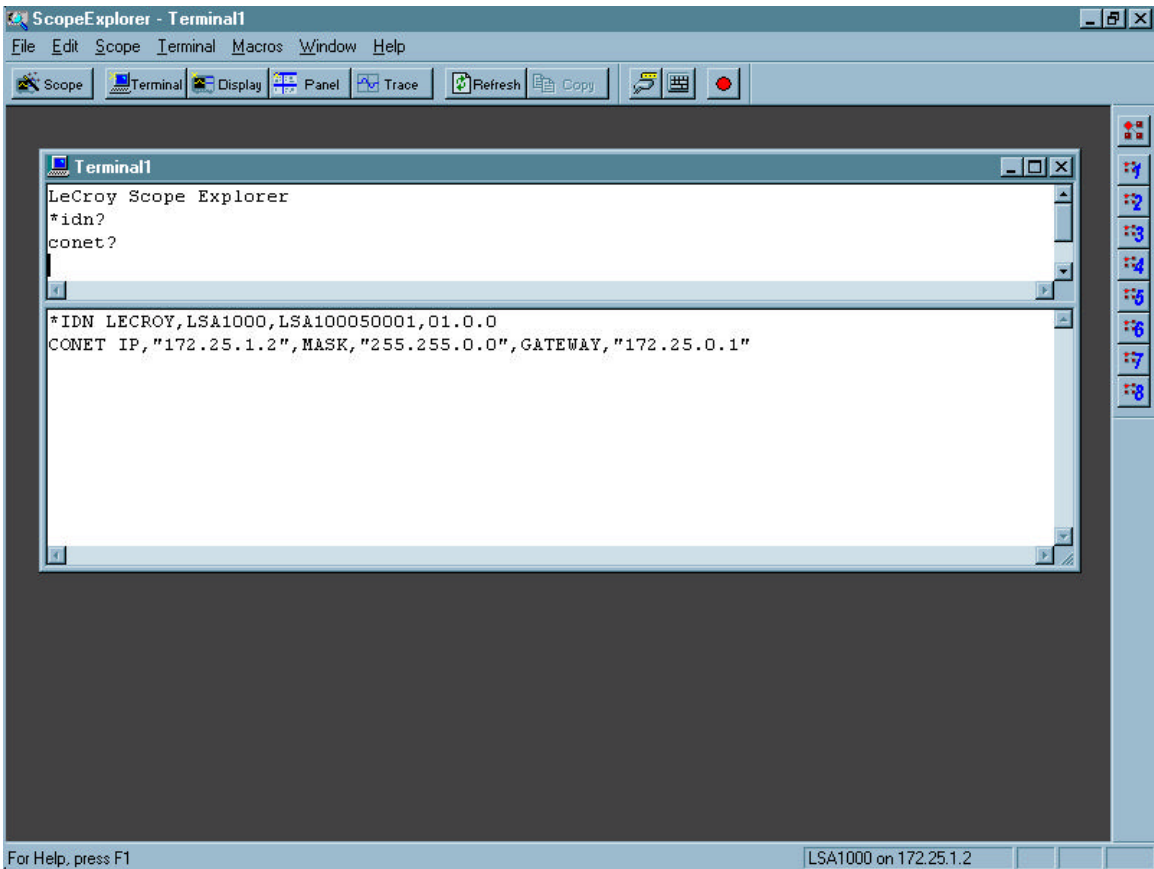
Once the IP address is changed, the unit will no longer respond to the original IP.

If the network settings are unknown or accidentally set to invalid values, the factory default network settings can be recovered by following the procedure below.

Restoring Default Network Settings

The factory default network settings can be restored by powering-up the unit with the Ethernet reset jumper closed. (The reset jumper is accessible through the small hole next to the Ethernet connector).

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The screenshot shows the 'Scope Explorer - Terminal1' window. The terminal displays the following text:

```
LeCroy Scope Explorer
*idn?
conet?

*IDN LECROY,LSA1000,LSA100050001,01.0.0
CONET IP,"172.25.1.2",MASK,"255.255.0.0",GATEWAY,"172.25.0.1"
```

The status bar at the bottom of the terminal window indicates 'LSA1000 on 172.25.1.2'. The main window title bar includes 'File Edit Scope Terminal Macros Window Help' and a toolbar with icons for Scope, Terminal, Display, Panel, Trace, Refresh, and Copy.

*Example of responses for * IDN and CONET? queries.*

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