GERBER SCIENTIFIC PRODUCTS

TITLE:	**EDGE FX Network configuration**
Category:	GERBER EDGE
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Summary:	In order to connect an EDGE FX to your PC or network several network configuration items must be correctly set for the environment you are using.

Connecting the GERBER EDGE FX to your computer

The GERBER EDGE FX is a network device which has a 10/100 Mbps auto-switch network interface that can communicate with your computer's 10/100 Mbps network card. (A network interface board is in most new computers or is readily available for your computer at local computer stores.) Data needs to be supplied above a minimum rate to prevent printing anomalies. Gerber strongly recommends communicating via the 100 Mbps interface. An EDGE FX connected directly to a computer via a crossover cable should function properly using a 10 Mbps interface. When connected to a larger network, you will obtain more reliable communication when communicating via the 100 Mbps interface. The 10 Mbps interface is not recommended for larger network situations.

In addition to the GERBER EDGE FX computer requirements needed for network connectivity, Gerber OMEGA™ software has additional system requirements regarding computer speed, memory, hard disk space, etc. Please refer to the OMEGA software literature for current specifications.

IMPORTANT NOTE: In much of this Fast Fact there is reference to other procedures, you can find these additional procedures in the EDGE FX Owner's Manual.
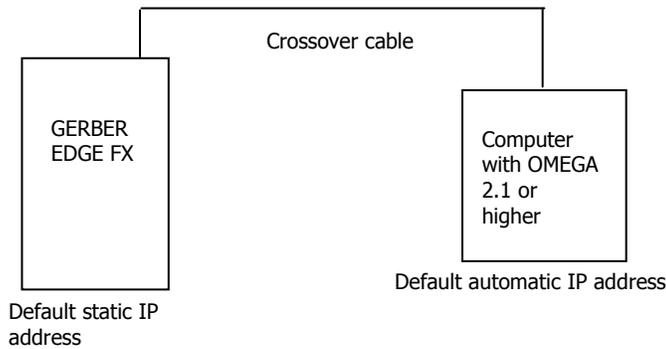
The following illustrations depict three ways to connect the GERBER EDGE FX to your computer:

- Direct connection to the computer with a crossover cable using static addresses
- Network connection to a network hub or switch using static addresses
- Network connection to a network router equipped with DHCP

Direct connection to the computer with a crossover cable

When the GERBER EDGE FX ships its default network setting is a static network address designed for direct connection to a computer using a crossover cable. See the following illustration. Refer to "Using direct connection". If your computer uses high speed internet access via a DSL modem, you will need to obtain a switch to connect the GERBER EDGE FX and the modem to the computer. See the following scenarios "Network connection to a network hub or switch using static addresses" or "Network connection to a network router equipped with DHCP."

Direct Connection

Crossover cable

GERBER
EDGE FX

Computer
with OMEGA
2.1 or
higher

Default static IP
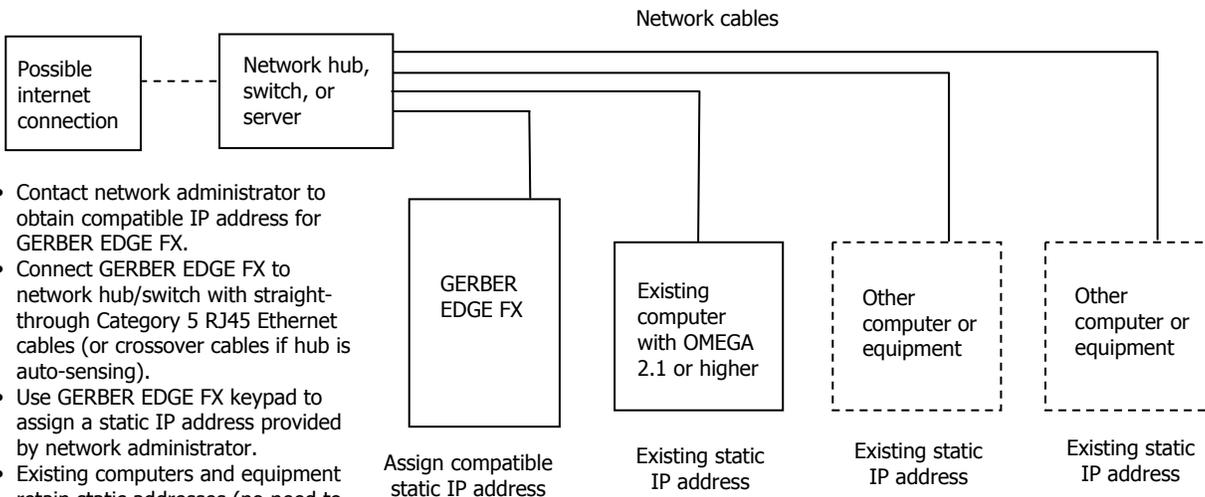address

Default automatic IP address

- Connect computer and GERBER EDGE FX with crossover cable.
- GERBER EDGE FX uses default static network address (no need to change settings.)
- Computer uses default Automatic Private IP Addressing (no need to assign network addresses).
- Install OMEGA 2.1 or higher.
- Install GERBER EDGE FX in OMEGA using the Browse button in GSPTray.
- Turn on GERBER EDGE FX before turning on computer.
- TIP: Assign static address to computer if boot times are excessive.

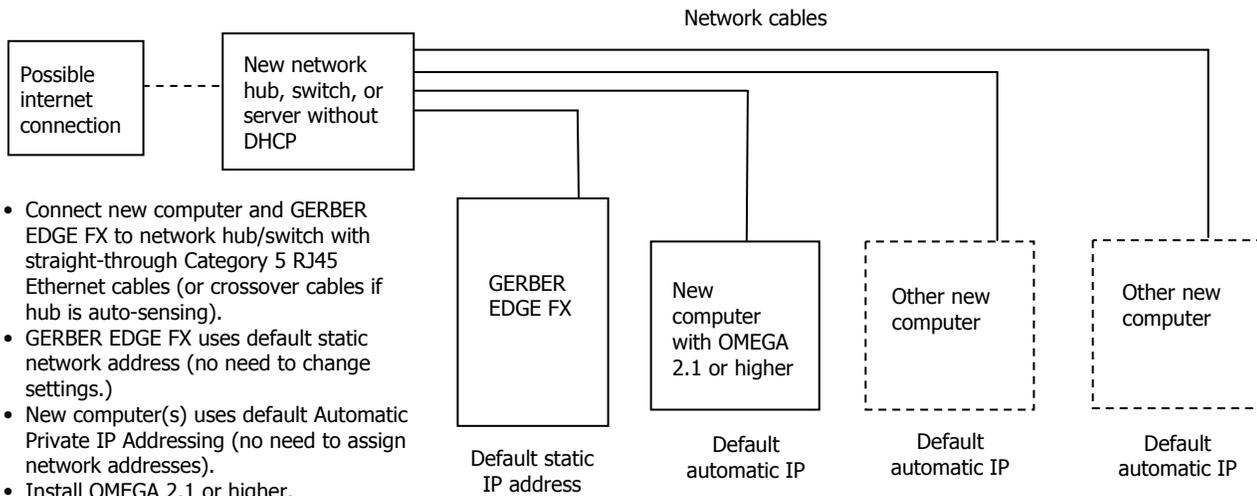# Network connection to a network hub or switch using static addresses

Some locations may connect the EDGE FX to a new or existing network that uses static network addresses. Two typical scenarios are shown in the following illustrations: a new network or an existing network. See "Using network connection with static addresses".

Existing Network using Static IP Addresses

Network cables

Possible
internet
connection

Network hub,
switch, or
server

GERBER
EDGE FX

Existing
computer
with OMEGA
2.1 or higher

Other
computer or
equipment

Other
computer or
equipment

Assign compatible
static IP address

Existing static
IP address

Existing static
IP address

Existing static
IP address

- Contact network administrator to obtain compatible IP address for GERBER EDGE FX.
- Connect GERBER EDGE FX to network hub/switch with straight-through Category 5 RJ45 Ethernet cables (or crossover cables if hub is auto-sensing).
- Use GERBER EDGE FX keypad to assign a static IP address provided by network administrator.
- Existing computers and equipment retain static addresses (no need to change).
- Install OMEGA 2.1 or higher.
- Install GERBER EDGE FX in OMEGA using the Browse button in GSPTray.
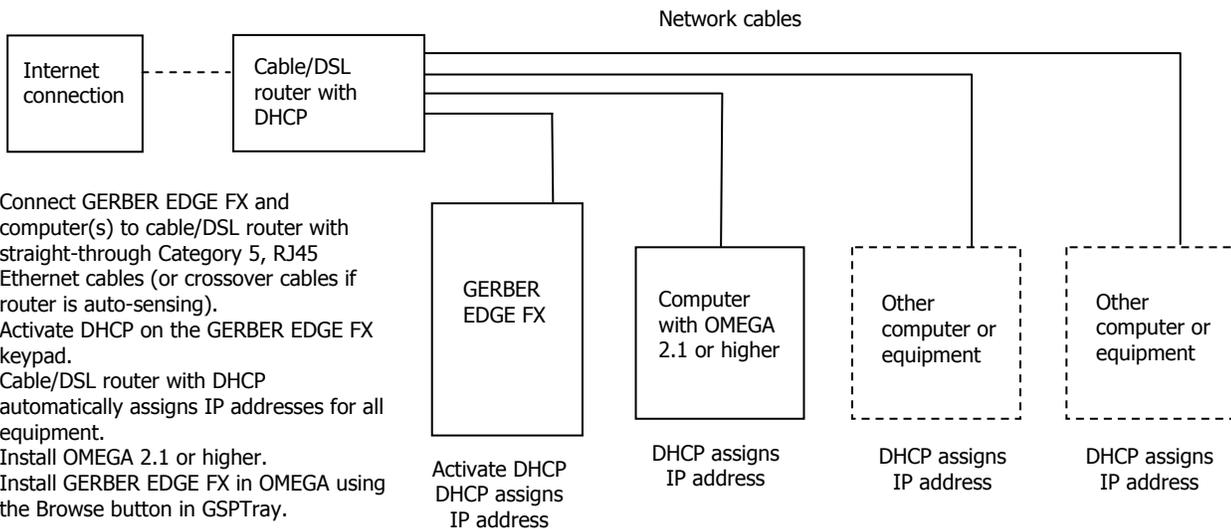
New Network Connection using Static IP Addresses

Network cables

| Possible internet connection | New network hub, switch, or server without DHCP |

- GERBER EDGE FX — Default static IP address
- New computer with OMEGA 2.1 or higher — Default automatic IP
- Other new computer — Default automatic IP
- Other new computer — Default automatic IP

- Connect new computer and GERBER EDGE FX to network hub/switch with straight-through Category 5 RJ45 Ethernet cables (or crossover cables if hub is auto-sensing).
- GERBER EDGE FX uses default static network address (no need to change settings.)
- New computer(s) uses default Automatic Private IP Addressing (no need to assign network addresses).
- Install OMEGA 2.1 or higher.
- Install GERBER EDGE FX in OMEGA using the Browse button in GSPTray.
- TIP: Assign static address to computers if boot times are excessive.

## Network connection to a network router equipped with DHCP

Some locations may activate DHCP (dynamic host configuration protocol) on the GERBER EDGE FX and allowing a network equipped with a DHCP server to automatically assign addresses. Two typical scenarios are shown in the following illustrations: a new network with DHCP cable/DSL router or an existing DHCP network. See "Using DHCP to assign network addresses".

New Network with a DHCP Cable/DSL Router

Network cables

| Internet connection | Cable/DSL router with DHCP |

- GERBER EDGE FX — Activate DHCP DHCP assigns IP address
- Computer with OMEGA 2.1 or higher — DHCP assigns IP address
- Other computer or equipment — DHCP assigns IP address
- Other computer or equipment — DHCP assigns IP address

- Connect GERBER EDGE FX and computer(s) to cable/DSL router with straight-through Category 5, RJ45 Ethernet cables (or crossover cables if router is auto-sensing).
- Activate DHCP on the GERBER EDGE FX keypad.
- Cable/DSL router with DHCP automatically assigns IP addresses for all equipment.
- Install OMEGA 2.1 or higher.
- Install GERBER EDGE FX in OMEGA using the Browse button in GSPTray.

DHCP Network

Network cables
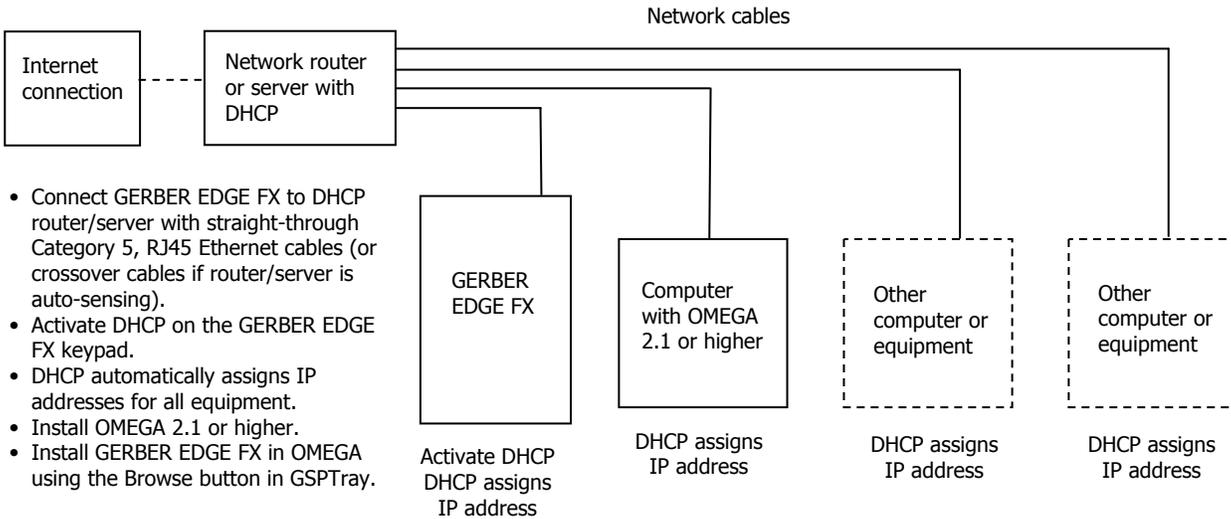
- Connect GERBER EDGE FX to DHCP router/server with straight-through Category 5, RJ45 Ethernet cables (or crossover cables if router/server is auto-sensing).
- Activate DHCP on the GERBER EDGE FX keypad.
- DHCP automatically assigns IP addresses for all equipment.
- Install OMEGA 2.1 or higher.
- Install GERBER EDGE FX in OMEGA using the Browse button in GSPTray.

Using direct connection

A new computer defaults to DHCP (dynamic host configuration protocol) for network addressing. When the computer initializes it first searches for a DHCP server. If it fails to find a DHCP server, the computer automatically selects a network address using Windows Automatic IP Addressing. The range of IP addresses in Automatic Private IP Addressing are as follows:

♦   169.254.000.000 to 169.254.255.255

The default network address of the GERBER EDGE FX falls with in the range of Automatic Private IP Addressing:

♦   GERBER EDGE FX IP Address: 169.254.128.129

♦   Subnet Mask for GERBER EDGE FX: 255.255.0.0

A new (unconfigured) computer connected directly to the printer via a crossover cable should be able to communicate without altering the network address of either piece of equipment.

To directly connect the GERBER EDGE FX to the computer

1   Connect one end of the supplied Category 5 crossover cable to the RJ45 jack on the back of the GERBER EDGE FX and the other end into the network interface board RJ45 jack on the computer.

2   When connecting directly to a computer that has not been configured for networking, the default IP Address and Network Mask of the GERBER EDGE FX should be correct and will not need to be changed.

3   If the computer is running under Windows default networking scheme, the computer's network address will be assigned by Windows Automatic Private IP Addressing and should not need to be changed.

If the computer has been previously configured for networking, you may need to set your computer's network address or GERBER EDGE FX network address to be compatible with each other. See "Setting the network address of the GERBER EDGE FX from the printer keypad" or "Setting the IP Address and Network Mask of your computer for direct connection" for detailed instructions.

4   Install the GERBER EDGE FX using GSPTray. The software should automatically find the printer on the network. See "Installing the GERBER EDGE FX in OMEGA software".

5 If you have trouble finding or communicating with the GERBER EDGE FX, check if the network jack LEDs light when the cable is connected. You can also check connectivity between the computer and printer as described in "Checking network connections".

Tip: If you have connected the computer directly to the GERBER EDGE FX using the Windows default network addressing scheme, and the computer initialization time seems to be excessive, you can assign a static IP address. Follow the procedure "Setting the IP Address and Network Mask of your computer for direct connection".

Note: Turn on and allow the GERBER EDGE FX to initialize before starting the computer that is connected via the crossover cable. Some computers ignore Ethernet connections if they are not live when the computer is initialized.

Setting the network address of the GERBER EDGE FX from the printer keypad

The default address for the GERBER EDGE FX was chosen to work with a crossover cable and Windows Automatic Private IP Addressing. For computers that have not been configured for networking, the default address should be acceptable. For existing networks, the defaults may not apply. Contact your network administrator or IT professional for assistance in assigning the correct address.

This procedure uses the following default network address:

- ♦ GERBER EDGE FX IP Address: 169.254.128.129

- ♦ GERBER EDGE FX Subnet Mask: 255.255.0.0

If necessary, replace the network address in this procedure with the proper address obtained from your network administrator or IT professional.

To set the network address of the GERBER EDGE FX from the printer keypad

1 From the MAIN MENU use F1 to toggle to OFFLINE.

	MAIN MENU		
F1	OFFLINE	CANCEL	**F3**
F2	Mode: Single	SYSTEM	**F4**

2 Press F4, SYSTEM to display the SYSYEM MENU.

	SYSTEM MENU		
F1	NETWORK	CANCEL	**F3**
F2	DIAG	MOTION	**F4**

3 Press F1, NETWORK to display the NETWORK MENU.

	NETWORK MENU		
F1	TCP/IP	CANCEL	**F3**
F2	ETHERNET		**F4**

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4   Press F1, TCP/IP to display the TCP/IP MENU where you can change the IP Address of the GERBER EDGE FX.

```
                      TCP/IP MENU

F1    IP ADDR.                     CANCEL     F3

F2    SUBNET MASK                    DHCP     F4
```

5   Press F1, IP ADDR. to open the IP ADDRESS MENU where you change the IP address. The ▬▬ designates which octet (three digit section of the address ranging from 000 to 255) is available to be changed. Use F4, NEXT to move the active designation to the octet that you wish to update.

```
                   IP ADDRESS MENU

F1    SAVE                        CANCEL     F3

F2    ▬▬▬                           NEXT     F4

      169 . 254 . 128 . 129
```

6   Use the Left or Right Slew keys to change the value of the octet. Press F4, NEXT to move the active designation to the next octet and change that value. Continue until the entire IP Address is updated.

Note: This procedure uses the default IP address of the GERBER EDGE FX as an example. Your IP address for the printer may be different.

7   Press F1, SAVE to set the displayed IP Address. The display changes to: **IP Address used after reboot.** Continue with step 8. The address will be active after cycling the printer power at the end of the procedure.

8   Press F3, CANCEL to leave the IP Address Menu and return to the SYSTEM MENU.

9   Press F1, NETWORK to display the NETWORK MENU.

```
                    NETWORK MENU

F1    TCP/IP                      CANCEL     F3

F2    ETHERNET                               F4
```

10   Press F1, TCP/IP to display the TCP/IP MENU where you can change the Subnet Mask of the GERBER EDGE FX.

```
                     TCP/IP MENU

F1    IP ADDR.                     CANCEL     F3

F2    SUBNET MASK                    DHCP     F4
```

11   Press F2, SUBNET MASK to open the SUBNET MASK MENU where you can change the Subnet mask of the printer. The ▬▬ designates which octet is available to be changed. Use F4, NEXT to move the active designation to the octet you wish to update.

```
                  SUBNET MASK MENU

F1    SAVE                        CANCEL     F3

F2    ▬▬▬                           NEXT     F4

      255 . 255 . 000 . 000
```

12   Use the Left or Right Slew keys to change the value of the octet. Press F4, NEXT to move the active designation to the next octet and change that value. Continue until the entire Subnet Mask is updated.

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13 Press F1, SAVE to set the displayed Subnet Mask. The display changes to: **Subnet Mask used after reboot.**

14 Press F3, CANCEL to exit the menu and return to the MAIN MENU.

15 Cycle the power to the GERBER EDGE FX. The network address will be active after cycling the printer power.

Setting the IP Address and Network Mask of your computer for direct connection

If you need to change the network address of you computer that is directly connected to the GERBER EDGE FX, follow the procedure for your Windows operating system (Windows 98 SE (with Internet Explorer 5.5 or higher), Windows XP, or Windows 2000). These procedures use the following address for the computer:

♦ Computer IP address: 169.254.128.130

♦ Computer Network Mask: 255.255.0.0

To set the IP Address and Network Mask for Windows 98 SE with IE 5.5 or higher

1 Click Start > Settings > Control Panel.

2 Double-click the Network icon.

3 Click the Configuration tab.

4 Click TCP/IP.

5 Click Properties to open the TCP/IP Properties dialog box.

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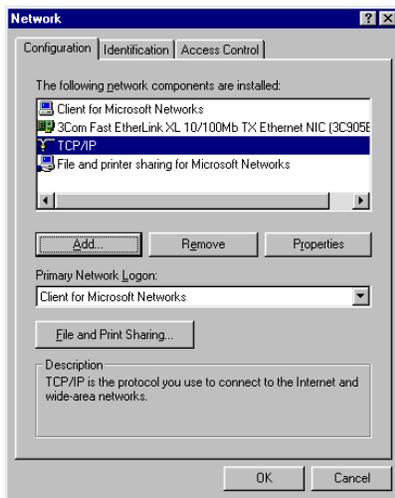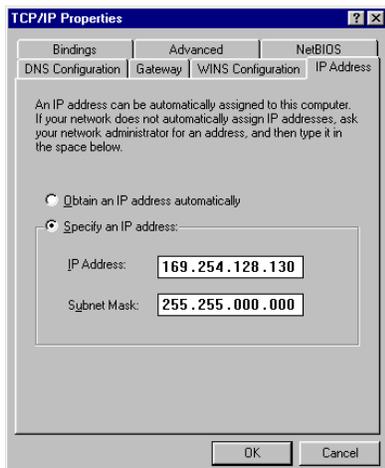
Note: Depending on your setup, your computer's IP address may vary.

6 On the IP Address tab, click Specify an IP Address:

7 Enter 169.254.128.130 for the IP Address.

8 Enter 255.255.000.000 for Network Mask.

9 Do not enter a Gateway address; it is not required for direct connection.

10 Click OK to close the TCP/IP Properties dialog box.
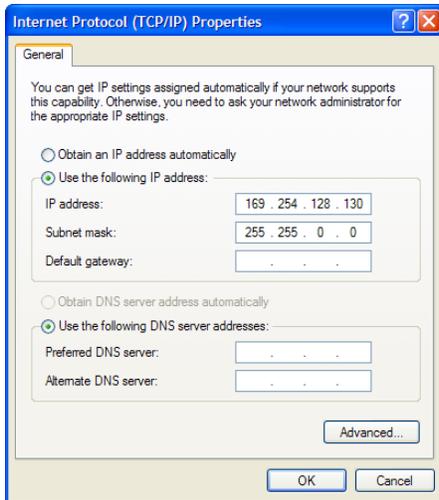
11 Click OK to close the Network dialog box.

To set the IP Address and Network Mask for Windows XP

1 Click Start > Control Panel.

2 Click Network and Internet Connections.

3 Click the Network Connections icon.

4 Right click the Local Area Connections icon and choose Properties to open the Local Area Connections Properties dialog box.

5 Click Internet Protocol (TCP/IP) in the list.

6 Click Properties to open the Internet Protocol (TCP/IP) Properties dialog box.
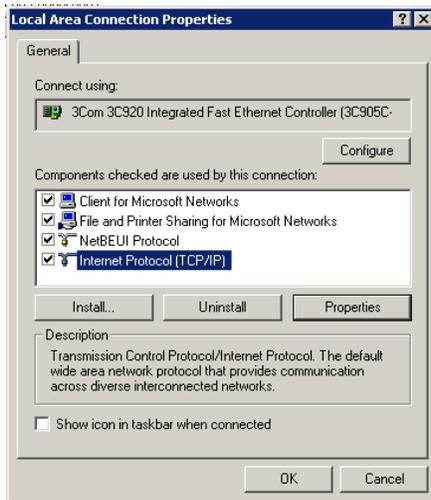
Note: Depending on your setup, your computer's IP address may vary.

7 Click **Use the following IP address**.

8 Enter 169.254.128.130 for IP Address.

9 Enter 255.255.000.000 for Network Mask.

10 Do not enter a Default Gateway; it is not required for direct connection. Leave the fields blank.

11 Click OK to save the settings and exit the Internet Protocol (TCP/IP) Properties dialog box.

12 Click OK to close the Local Area Connections Properties dialog box.

To set the IP Address and Network Mask for Windows 2000

1 Click Start > Settings > Control Panel.

2 Double-click the Network and Dial up Connections icon.

3 Right-click the Local Area Connection icon and choose Properties from the context menu to display the Local Area Connection Properties dialog box.

4 Click Internet Protocol (TCP/IP) in the list.

5 Click Properties to open the Internet Protocol (TCP/IP) Properties dialog box.
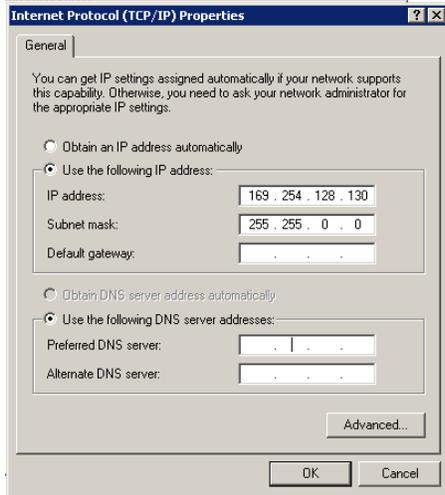
Note: Depending on your setup, your computer's IP address may vary.

6. Click Use the following IP address:

7. Enter 169.254.128.130 for IP Address.

8. Enter 255.255.000.000 for Network Mask.

9. Do not enter a Default Gateway; it is not required for direct connection. Leave the fields blank.

10. Click OK to save the settings and exit the Internet Protocol (TCP/IP) Properties dialog box.

11. Click OK to exit the Local Area Connection Properties dialog box.

Using network connection with static addresses

The GERBER EDGE FX is a network device which has a 10/100 Mbps auto-switch network interface board that can communicate with computer's 10/100 Mbps network card. Data needs to be supplied above the minimum rate to prevent printing anomalies. You will obtain more reliable communication when communicating via the 100 Mbps interface.

Gerber supplies a crossover Ethernet cable with RJ45 connectors to use with direct connection to the computer. Modern hubs or switches which are auto-sensing work equally well with crossover or straight-through cables. When connecting to a network hub or switch that is *not* auto-sensing you will need to obtain a straight-through Category 5 (or better) Ethernet cable from a local computer store.

Tip: If your computer is not on a network you can create your own network with a separately purchased network switch and connect one or more devices to your computer. Your computer must have a 10/100 Mbps (or auto-switching) network interface board and you will need to obtain a 10/100 Mpbs Ethernet switch with several ports. Use straight-through Category 5 Ethernet cables with RJ45 connectors (or crossover cables if the switch is auto-sensing): one cable to connect the GERBER EDGE FX and the switch and one to connect the computer and the switch. The Ethernet switch, network interface board, and additional cables are readily available at local computer stores.

To connect the GERBER EDGE FX to the computer on a network using a static address

1. If not already connected, connect the computer to your Ethernet hub or switch using the appropriate RJ45 cable. Modern hubs or switches which are auto-sensing work equally well with crossover or straight-through cables. Straight-through Category 5 Ethernet cables are readily available at local computer stores.

2. Connect the GERBER EDGE FX to your Ethernet hub or switch using the appropriate network cable. Install one end of the cable into the RJ45 receptacle on the back of the GERBER EDGE FX and the other end in the hub or switch.

3 Assign the correct IP Address and Network Mask to the GERBER EDGE FX via the printer's keypad. See "To set the network address of the GERBER EDGE FX from the printer keypad". The default IP Address is 169.254.128.129 and the default Network Mask is 255.255.0.0. Contact your network administrator or IT professional for assistance in assigning the correct address.

4 If necessary, configure your computer's IP Address and Network Mask as described in "Setting the IP Address and Network Mask of your computer for network connection".

5 Install the GERBER EDGE FX using GSPTray. See "Installing the GERBER EDGE FX in OMEGA software".

6 If you are having trouble finding or communicating with the GERBER EDGE FX, check network connectivity of the computer and printer as described in "Checking network connections".

Setting the IP Address and Network Mask of your computer for connection to a larger (or existing) network

For a computer on an *existing* network, the IP Address and Network Mask (and Gateway if required) should already be assigned and should not need to be changed. When setting up a new computer or a new network you may need to assign the IP Address and Network Mask of the computer as describe in the following procedures.

⚠ **CAUTION: Use care when entering addresses for the equipment. Entering an incorrect address could damage the network. In a large existing network, obtain the correct address for the computer and the GERBER EDGE FX from the network administrator or IT professional.**

This procedure describes the process of setting the computer network address using the following address as an example:
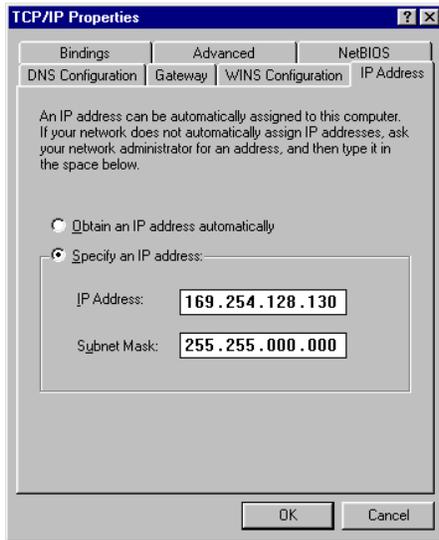
♦ Computer IP address: 169.254.128.130

♦ Computer Network Mask: 255.255.000.000

♦ Computer Gateway: 000.000.000.000

☞ **To set the IP Address and Network Mask for Windows 98**

1 Click Start > Settings > Control Panel.

2 Double-click the Network icon.

3 Click the Configuration tab.

4 Click TCP/IP.
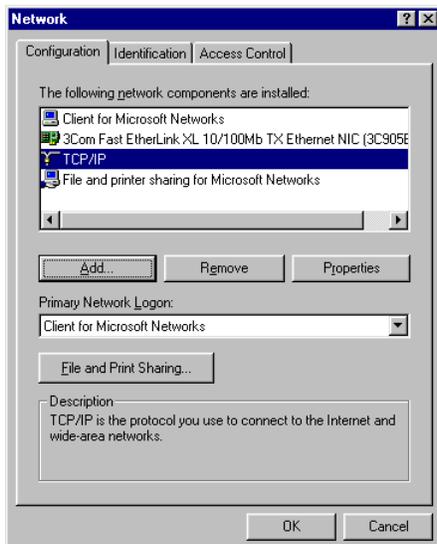
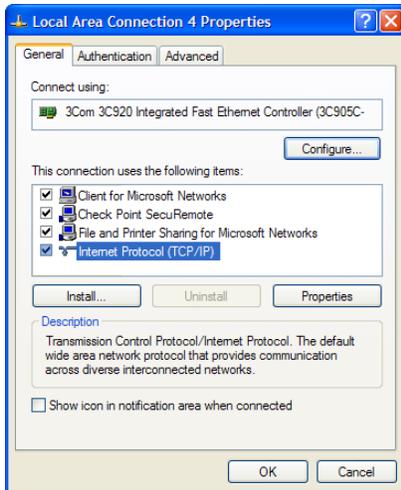**5** Click Properties to open the TCP/IP Properties dialog box.

Note: Depending on your network and other equipment currently residing on the network, your computer's IP address may vary. If necessary, replace the network address in this procedure with the proper address obtained from your network administrator or IT professional.

6 On the IP Address tab, click Specify an IP Address:

7 Enter 169.254.128.130 for the IP Address.

8 Enter 255.255.000.000 for Network Mask.

9 Do not enter a Gateway address unless directed by your network administrator.

10 Click OK to close the TCP/IP Properties dialog box.

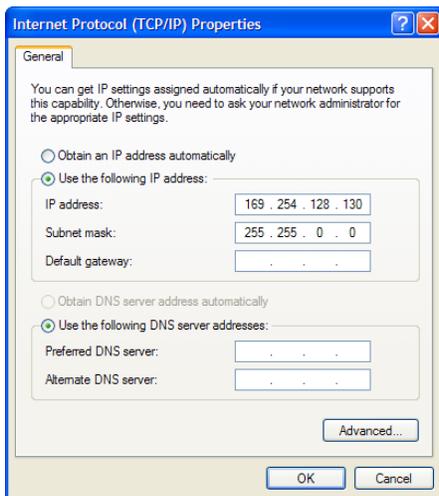**11** Click OK to close the Network dialog box.

To set the IP Address and Network Mask for Windows XP

1 Click Start > Control Panel.

2 Click Network and Internet Connections.

3 Click the Network Connections icon.

4 Right click the Local Area Connections icon and choose Properties to open the Local Area Connections Properties dialog box.

5   Click Internet Protocol (TCP/IP) in the list.

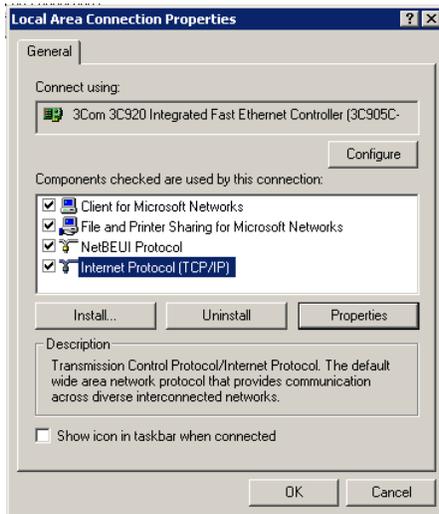**6**   Click Properties to open the Internet Protocol (TCP/IP) Properties dialog box.

Note: Depending on your network and other equipment currently residing on the network, your computer's IP address may vary. If necessary, replace the network address in this procedure with the proper address obtained from your network administrator or IT professional.
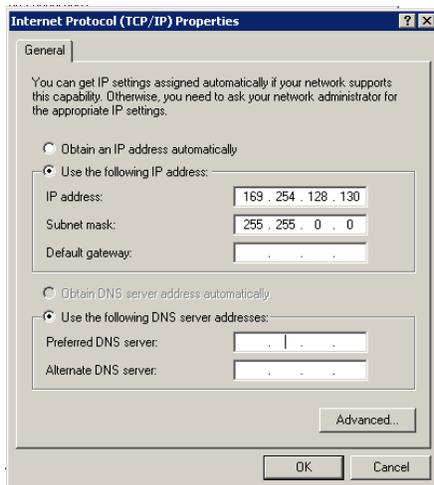
7   Click Use the following IP address:

8   Enter 169.254.128.130 for IP Address.

9   Enter 255.255.000.000 for Network Mask.

10   Do not enter a Gateway address unless directed by your network administrator. Leave the fields blank.

11   Click OK to save the settings and exit the Internet Protocol (TCP/IP) Properties dialog box.

12   Click OK to close the Local Area Connections Properties dialog box.

➜ **To set the IP Address and Network Mask for Windows 2000**

1 Click Start > Settings > Control Panel.

2 Double-click the Network and Dial up Connections icon.

3 Right-click the Local Area Connection icon and choose Properties from the context menu.

4 Click Internet Protocol (TCP/IP) in the list.

5 Click Properties to open the Internet Protocol (TCP/IP) Properties dialog box.

Note: Depending on your network and other equipment currently residing on the network, your computer's IP address may vary. If necessary, replace the network address in this procedure with the proper address obtained from your network administrator or IT professional.

6 Click Use the following IP address:

7 Enter 169.254.128.130 for IP Address.

8 Enter 255.255.000.000 for Network Mask.

9 Do not enter a Gateway address unless directed by your network administrator. Leave the fields blank.

10 Click OK to save the settings and exit the Internet Protocol (TCP/IP) Properties dialog box.

11 Click OK to exit the Local Area Connection Properties dialog box.

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Using DHCP to assign network addresses

If your network is equipped with a DHCP (dynamic host configuration protocol) server you can have it automatically assign the IP Addresses to the computer and other devices on the network including the GERBER EDGE FX. When you turn on the equipment it will automatically load the proper TCP/IP settings provided by the server. The DHCP server automatically allocates an unused IP Address from the IP Address pool.

By default DHCP is disabled on the GERBER EDGE FX to allow you to assign a static network address. You can activate DHCP from the GERBER EDGE FX keypad, or from the web interface (if network connectivity has already been established). See "Modifying Network Settings" for instructions on using the web interface.

Note: If you KNOW that you are on a network that uses a DHCP server then proceed with this procedure. If you are unsure, contact your network administrator or IT professional.

To activate DHCP from the GERBER EDGE FX keypad

1 From the MAIN MENU use F1 to toggle to OFFLINE.

	MAIN MENU		
F1	OFFLINE	CANCEL	F3
F2	Mode: Single	SYSTEM	F4

2 Press F4, SYSTEM to display the SYSYEM MENU.

	SYSTEM MENU		
F1	NETWORK	CANCEL	F3
F2	DIAG	MOTION	F4

3 Press F1, NETWORK to display the NETWORK MENU.

	NETWORK MENU		
F1	TCP/IP	CANCEL	F3
F2	ETHERNET		F4

4 Press F1, TCP/IP to open the TCP/IP MENU.

	TCP/IP MENU		
F1	IP ADDRESS	CANCEL	F3
F2	SUBNET MASK	DHCP	F4

5 Press F4, DHCP to open the DHCP menu.

	DHCP MENU		
F1	ENABLE	CANCEL	F3
F2	DISABLE		F4
	Currently Disabled.		

6 Press F1, Enable to activate DHCP. The new setting will be in effect after cycling the power to the printer. The system displays the following message:

F1	DHCP enabled after	F3
F2	reboot.	F4
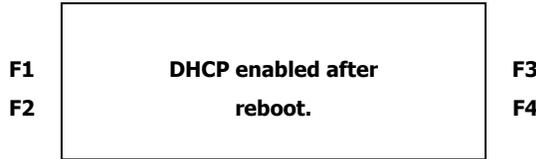
7 Cycle the printer power to change the DHCP setting.

Note: If you have enabled DHCP and the server successfully assigns an IP address, you will no longer be able to assign a static network address in the IP Address menu. If you return to the IP Address menu the --- symbol that designates the ability to change the address no longer appears. The lack of the --- symbol indicates that DHCP is enabled. You can disable DHCP if you later need to use a static IP address.
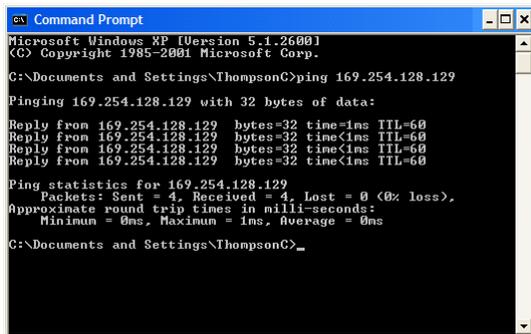
Checking network connections

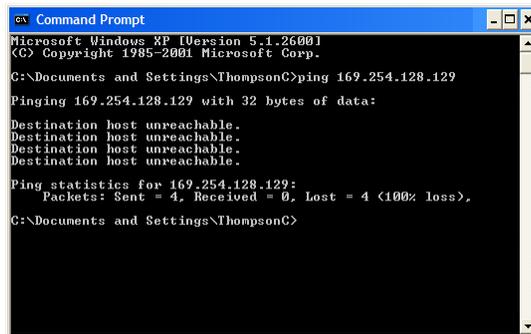You can check the network connections to be sure that the computer and GERBER EDGE FX can communicate.

Tip: When a live network cable is plugged into the computer, the RJ45 jack LEDs will light.

To check network connections

1 In Windows 98 click Start > Programs > MS-DOS to open the MS-DOS window. In Windows XP click Start > Programs > Accessories > Command Prompt to open the Command Prompt window. The display shows **C:\WINDOWS** where C is the letter of your hard drive.

2 Type **ping** followed by the IP address of the GERBER EDGE FX and press enter. Do not type any leading zeros that may be in the address. For example, to test a GERBER EDGE FX connected directly to a computer you would type:

   ping 169.254.128.129

3 If the network connection is working you will see a reply from the GERBER EDGE FX's network address. If there is a problem with the network connection you will see the message: **Request timed out** or **Destination host unreachable**. Check that the network cables are properly attached and that you have entered the correct IP Address, Network Mask and Gateway.

Network connection confirmed

Network connection timed out