

*Instant EtherFast® Series*

# EtherFast 10/100 Instant GigaDrive



*Use this Guide to install these Linksys products:*

- 10/100 Instant GigaDrive - 20 Gigabytes (EFG20)
- 10/100 Instant GigaDrive - 40 Gigabytes (EFG40)

**User Guide**

**LINKSYS®**

## COPYRIGHT & TRADEMARKS

Copyright © 2000 Linksys. All Rights Reserved. Instant EtherFast is a trademark of Linksys, Microsoft, Windows, and the Windows logo are registered trademarks of Microsoft Corporation. All other trademarks and brand names are the property of their respective proprietors.

## LIMITED WARRANTY

Linksys guarantees that every EtherFast 10/100 Instant GigADrive is free from physical defects in material and workmanship under normal use for two years from the date of purchase. If the product proves defective during this two year warranty period, call Linksys Customer Support in order to obtain a Return Authorization number. Warranty is for repair or replacement only. Linksys does not issue any refunds. BE SURE TO HAVE YOUR PROOF OF PURCHASE AND A BAR CODE FROM THE PRODUCT'S PACKAGING ON HAND WHEN CALLING. RETURN REQUESTS CANNOT BE PROCESSED WITHOUT PROOF OF PURCHASE AND BAR CODE. When returning a product, mark the Return Authorization Number clearly on the outside of the package and include your original proof of purchase and bar code. All customers located outside of the United States of America and Canada shall be held responsible for shipping and handling charges.

IN NO EVENT SHALL LINKSYS' LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, ITS ACCOMPANYING SOFTWARE, OR ITS DOCUMENTATION. LINKSYS DOES NOT OFFER REFUNDS FOR ANY PRODUCT.

Linksys makes no warranty or representation, expressed, implied, or statutory, with respect to its products or the contents or use of this documentation and all accompanying software, and specifically disclaims its quality, performance, merchantability, or fitness for any particular purpose. Linksys reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity. Please direct all inquiries to: Linksys P.O. Box 18558, Irvine, CA 92623.

## FCC STATEMENT

This equipment has been tested and complies with the specification for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or device
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

# Table of Contents

Introduction	1
Package Contents & System Requirements	2
Getting to Know Your Instant GigaDrive	3
Rear Panel	3
Front Panel	5
Beeper Codes	6
Basic Installation & Setup	7
Connecting Everything Together & Booting Up	7
Configuring Your Instant GigaDrive	9
Quick Setup with the Instant GigaDrive Utility	10
Administration	14
The Web-based Administrative Interface	15
The Administrative Menu — Configuration	16
The Administrative Menu — Storage Management	18
Managing Shares, Groups and Users	19
Nested Shares	21
Common Administrative Tasks	22
Windows Client Setup	24
Introduction	24
TCP/IP Setup for Windows 95 & 98	24
TCP/IP Setup for Windows 2000	29
Using the Instant GigaDrive's Print Server	34
Troubleshooting	36
Appendix	38
Specifications	38
Environmental Specifications	38
Customer Support	39
The 10/100 Instant GigaDrive's Return Policy	39

*Linksys highly recommends that you back up the files on your Instant GigaDrive on a regular basis. In no instance will Linksys be responsible for any data loss, nor will Linksys perform any recovery on lost data or files.*

# Introduction

## The Linksys EtherFast 10/100 Instant GigaDrive

Congratulations on the purchase of your new EtherFast 10/100 Instant GigaDrive from Linksys. The Instant GigaDrive adds 20 or 40 Gigabytes of storage space onto your network without the cost, space, and maintenance hassles of a full-fledged file server. The Instant GigaDrive provides solid data transfer performance for multiple client connections. It is also equipped with a built-in PrintServer for the quick and economical addition of a network printer. Plus, you can add as many Instant GigaDrives to your network as you like.

The EtherFast 10/100 Instant GigaDrive automatically toggles between 10Mbps and 100Mbps speeds. Its comprehensive utility software—conveniently accessed from your web browser—offers a wide array of management options. The Instant GigaDrive can also function as a stand-alone DHCP (Dynamic Host Configuration Protocol) server or client for easy installation. The EtherFast 10/100 Instant GigaDrive can do just about anything a standard PC can do on a network at a fraction of the size, a fraction of the hassle, and a fraction of the cost.

## Features

- Adds 20 or 40 Gigabytes of external hard disk space to your network
- Built-in Print Server allows addition of a network printer
- Automatically adjusts to either 10Mbps or 100Mbps Ethernet speed
- Web-based Interface for Configuration and Diagnostics is accessible from any PC on the network
- Can act as a stand-alone DHCP server or client
- Divert traffic from your primary file server to increase network productivity
- Utility program allows for speedy configuration
- Built-in Pentium-grade CPU
- Automatically maintains itself to provide file system integrity
- The LAN Administrator can limit the amount of available disk space
- Access to shared data can be set by groups or individual users
- Small footprint minimizes space usage and ease of portability
- Additional Instant GigaDrives can be added to the network any time
- Windows Internet Naming Service (WINS)-Client supported
- Can be set for any time zone

## Instant Gigadrive Package Contents: 20 or 40 GBs



The following items should be included in the Instant GigaDrive packaging. If any of these items are damaged or missing, please contact your Linksys dealer for replacements.

- One Linksys EtherFast 10/100 Instant GigaDrive
- One AC Power Adapter and Power Cord
- One Driver CD-ROM, containing this User Guide and GigaDrive Drivers for Windows 95, 98, NT 4.0, 2000, and Millennium
- One User Guide and Registration Card
- Four Gigadrive Stands

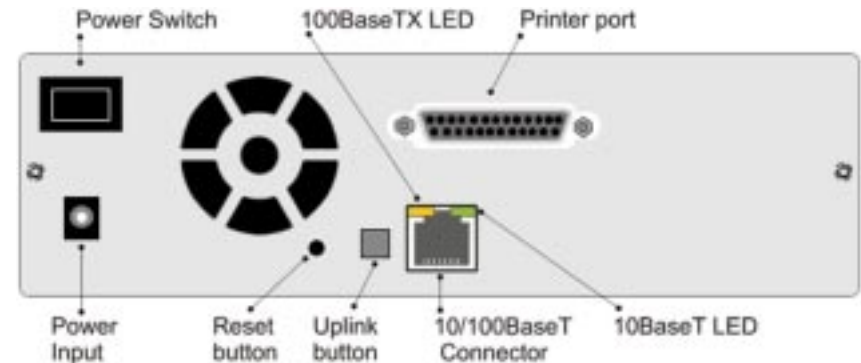
## System Requirements

- Windows 95, 98, NT 4.0, 2000, or Millennium
- 10BaseT or 100BaseTX Ethernet network
- TCP/IP protocol enabled

**Disclaimer:** Linksys highly recommends that you back up the files on your Instant GigaDrive on a regular basis. In no instance will Linksys be responsible for any data loss, nor will Linksys perform any recovery on lost data or files.

# Getting to Know the Instant GigaDrive

## Rear Panel



(picture for model EFG20 only)

All of the GigaDrive's connectors and switches are on the rear panel, as seen below.

### Power Switch

The **Power** switch is a spring-loaded soft switch which powers the GigaDrive on and off. If the GigaDrive is not powered on, pressing the power switch will initiate the GigaDrive's start-up process. Pressing the **Power** switch while the GigaDrive is turned on will begin the GigaDrive's internal shut-down process. The Instant GigaDrive must be powered off this way, or through its internal shutdown process.

### Power Input

The **Power Input** port is where the power adapter plugs in. Never remove or cut off the power supply while the Instant Gigadrive is turned on.

### Printer Port

You can also add a printer to your network through the Instant GigaDrive's **Printer** port.

<b>Reset Button</b>	If the Instant GigaDrive's IP Address or password is lost, press and hold this button down for three seconds, then release this button. The GigaDrive will beep once to indicate that a new IP Address (192.168.0.2, with a Network Mask of 255.255.255.0) has been provided. This function will also clear the GigaDrive's administrative passwords.
<b>Uplink Button</b>	This button toggles the GigaDrive's Ethernet Connector between an Uplink setting and a standard setting. If the GigaDrive is connected directly to a PC without a hub, then this button should be up. If connecting to a hub or switch, press this button.
<b>10/100BaseTX Connector</b>	Use this port to connect the Instant GigaDrive to your 10BaseT or 100BaseTX hub.
<b>100BaseTX LED</b>	This LED will glow red if the 10/100BaseTX connector is using 100BaseTX.
<b>10BaseT LED</b>	This LED will glow green if the 10/100BaseTX connector is using 10BaseT.

Front Panel

The Instant GigaDrive's front panel shown below displays the majority of the drive's status lights.



<b>System</b>	<i>Green - Normally on</i> If this light shines a steady green, then the Instant GigaDrive is working properly. It blinks during Startup or Shutdown, and turns off after the shutdown is completed. It will blink during a software upgrade.
<b>Status</b>	<i>Amber - Normally off</i> If this light is turned on, then there is a hardware error. It will also be on during the power-on self test. Once the self-test is completed, it should turn off. It will blink during a software upgrade.
<b>HD</b>	<i>Green</i> Flashes when the GigaDrive's hard drive is being accessed. Stays on during the self-test.
<b>LAN</b>	<i>Green</i> Flashes when data is transmitted or received via the network.

<b>IP</b>	<i>Yellow</i> If this light is turned on, the GigaDrive is acting as a DHCP client and receiving an IP address from a DHCP server on the network. If this LED is flashing, no DHCP server responded to the client request.
<b>HD Usage</b>	This series of LEDs runs from green to red to show what percentage of the GigaDrive's hard drive is full.

## Beeper Codes

The Instant GigaDrive has an internal beeper that beeps to indicate certain events.

<b>1 Beep</b>	Signals that the <b>Reset</b> button or <b>Power</b> switch has been pressed.
<b>2 Beeps</b>	Repeated every 5 seconds for 1 minute. Signals that the GigaDrive is configured as a DHCP client, but no DHCP Server responded to the DHCP client request.
<b>3 Beeps</b>	Repeated every 15 seconds for 3 minutes. Signals that the GigaDrive's hard disk usage exceeds 98% capacity.
<b>5 Beeps</b>	Repeated every 15 seconds for 3 minutes. Signals that the GigaDrive is overheating. An automatic shutdown will be performed 3 minutes after the 1st beep.

# Basic Installation & Setup

## Overview

*Note: If you are a network administrator, please follow these Basic Installation & Setup steps, then proceed to the Administration section on page 14, which gives you the full available range of administrator options.*

The following section instructs you on how to physically connect the Instant GigaDrive to the network, and how to configure the Instant GigaDrive for basic operation in your Windows environment. Everything you need to do to get your Instant GigaDrive up and running is covered here.

This section also covers the hook-up of a printer on the GigaDrive's printer server port. Please note, however, that the GigaDrive will perform equally well as a storage device with or without an attached printer. If you aren't interested in taking advantage of the Instant GigaDrive's printer server function, skip any steps that deal with printer installation. The GigaDrive's installation process will work fine without them.

*Note: NEVER shut down the Instant GigaDrive by cutting off its power supply. Always use either the power button or the Shut Down feature in the GigaDrive's Utility.*

## Connecting Everything Together and Booting Up

### Requirements

Your system must meet the following requirements before you begin the Instant GigaDrive's installation.

- TCP/IP protocol enabled on the network
- If connecting to a network, an available port on a hub or switch
- If connecting to a PC, an installed and available Ethernet or Fast Ethernet port
- Internet Explorer 4.0 or higher, or Netscape Navigator 4.04 or higher
- CD-ROM drive, or access to a network PC with a CD-ROM drive

## Hardware Installation

If the conditions on the previous page are met, follow the steps below to install your Instant GigaDrive.

1. **Connect the network cable** to the Instant GigaDrive. Locate the network cable that came with your Instant GigaDrive. Plug it into the **RJ-45 port** on the GigaDrive's rear panel.
2. **Connect the Instant GigaDrive to your hub, switch, or PC.** If you plan to connect the GigaDrive to the network through a hub or switch, make sure that the **Uplink** button on the rear panel of the GigaDrive is up, then plug the other end of the network cable into one of the ports on your hub or switch. If you want to connect the GigaDrive directly to a PC, make sure that the uplink button is in the down position, and connect the network cable directly into the PC's network card.
3. **Connect a printer to the Instant GigaDrive.** Connect a standard printer cable to the GigaDrive's rear-panel printer port. Connect the other end of the cable to your printer.
4. **Connect the power supply.** Plug the supplied power adapter into the GigaDrive's **Power Input** port, located on the GigaDrive's rear panel. Connect the power adapter to a power outlet.
5. **Power on.** Locate the GigaDrive's power switch on the upper left of the GigaDrive's rear panel. Press it once to power on the GigaDrive. Power on the network printer, if you attached one to the GigaDrive.
6. **Now that its power is on,** the GigaDrive's boot process will begin. The GigaDrive will run a brief self-test (2 or 3 seconds) prior to actually booting up. During the Self-Check, most of the GigaDrive's LEDs will be lit up or flashing.
7. **When the self-test is complete,** most of the LEDs will turn off. The **System** LED will blink continuously, and the **LAN** LED will blink occasionally. This means that the GigaDrive is in the actual process of booting up. Bootup should take approximately 1-3 minutes. The initial bootup, will take a bit longer, as well as any bootup following an improper shutdown.

**IMPORTANT!** After an improper shutdown or a time period where a Self-Check was not done in a long time, it may take the GigaDrive up to 30 minutes to boot up.

8. **When most of the LEDs turn off,** leaving only the **System** LED lit up (and not blinking), the GigaDrive's boot up is complete. If the **Status** LED stays on, or if the GigaDrive repeatedly beeps, there is a hardware problem. Consult this user guide's entry on the GigaDrive's beeper codes (page 6) for possible solutions.

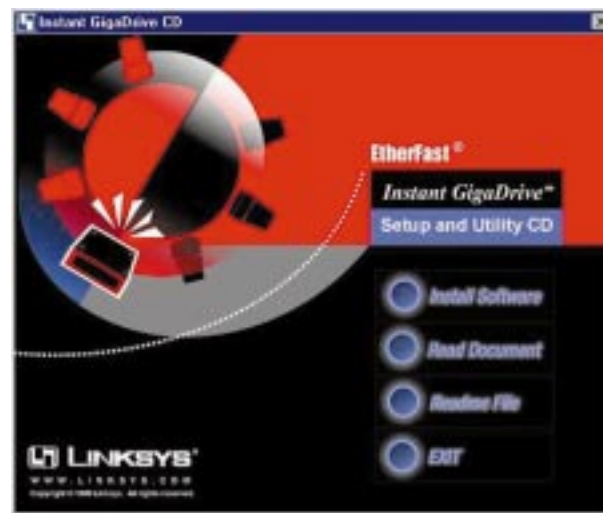
## Configuring Your Instant GigaDrive

Now that everything is connected and powered on, you are ready to configure your Instant GigaDrive so that it is accessible to the users on your system. You will have to install the Instant GigaDrive Utility on your PC to access the GigaDrive's Quick Setup feature. Make sure that TCP/IP is installed and configured. See the appropriate section under Windows Client Setup for more information

### Instant GigaDrive Utility Installation

The Instant GigaDrive Utility is a simple piece of software which assists in the quick and easy setup of your GigaDrive, and helps to keep up on the GigaDrive's status and settings. To install the Utility to your Windows 95, 98, NT 4.0, 2000, or Millennium system, follow the instructions below.

1. **Insert the CD-ROM.** A Driver CD-ROM comes with your Instant GigaDrive packaging. Insert the CD into your PC's CD-ROM drive.

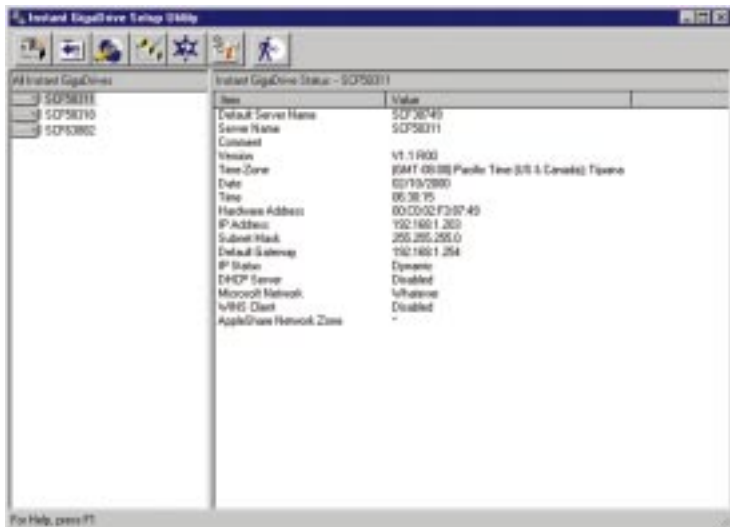


2. **The CD-ROM pop-up menu.** The pop-up menu should appear a few seconds after you insert the CD into your CD-ROM drive. When it does, click the **Install Software** button.
3. **Install the Instant GigaDrive Utility.** Follow the setup program's prompts to install the Instant GigaDrive Utility. When installation is complete, click the Exit button on the CD-ROM pop-up window to return to your desktop.

### Quick Setup with the Instant GigaDrive Utility

You will now have to run the Instant GigaDrive Utility to complete the Instant GigaDrive's basic setup and installation.

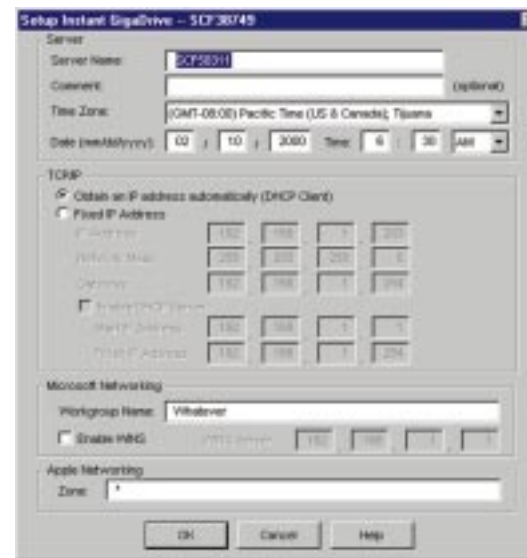
1. To run the Utility, first click the **Start** button on your desktop. Once in the Start Menu, choose the **Programs** option, then choose the **Instant GigaDrive Setup Utility** folder, and finally choose the **Instant GigaDrive Setup Utility** program.
2. The following window will open, and the Utility will begin scanning your network for installed *EtherFast 10/100 Instant GigaDrives*.



**Note:** If you plan to install two or more Instant GigaDrives on the same network, you must connect and set them up **one at a time**. Setting them up concurrently will cause network problems.

The column on the left side of the Utility's main screen displays a list of all the Instant GigaDrives on your network. The status box on the right displays data about the currently-selected Instant GigaDrive. If no GigaDrives are listed, see the Troubleshooting section.

3. In the left column of the Utility screen, highlight the **Instant GigaDrive** you are configuring and click the **Quick Setup** button (shown left) on the far left of the tool bar. The Setup screen will be displayed (below).



The Instant GigaDrive Utility's Quick Setup displays the settings you need to get your GigaDrive on the network and running smoothly. You can come back and change this information at any time, but right now you need to check each category to confirm that your current GigaDrive settings are properly configured for your system.

**Server Name** The Server Name is the name by which the Instant GigaDrive will be identified in your network environment. The current name, which is likely a series of letters and numbers, is your GigaDrive's default name. You can change the name to anything from "GigaDrive" to "DiskServer" to "Bob." Changing the name will not affect the internal function of the GigaDrive in any way.



**Comment** Reserved solely for notes (e.g., location, user groups, contents, etc.).

**Date/Time** Make sure that the date and the time are correct.

**Obtain an IP Address Automatically (DHCP Client)** If you have a DHCP or Bootp server on your Network, you can choose this setting, which will enable the GigaDrive to accept an IP address at startup.

**Fixed IP Address** Select this option if you wish to select a static IP address for the Instant GigaDrive. This option is required if you wish to take advantage of the Instant GigaDrive's DHCP Server function.

**IP Address** If you selected Obtain an IP Address Automatically, then these boxes will be greyed out and inaccessible. If you chose to set a fixed IP Address for your GigaDrive, enter into these boxes a free IP Address from the address range used by your networked PCs. The factory-assigned IP value assigned to your GigaDrive is 192.168.0.2. If you do enter a fixed IP address, be sure to write it down for future reference.

**Network Mask** Be sure that this address matches the Network or Subnet Mask number assigned to the other PCs on your network. The default Instant GigaDrive value is 255.255.255.0.

**Gateway** Again, use the same value here as the value assigned to the PCs on your network. If you don't have a router or Internet Gateway, leave this value blank.

**Enable DHCP Server** If checked, the Instant GigaDrive will act as a DHCP Server. It will provide an IP Address and related data to a networked PC at the PC's request. PCs will request an IP address only if they are set to act as DHCP clients. (See the Windows Client Setup section on page 24 of this user guide for more details and instructions.)

**Start IP Address/Finish IP Address** You will only need to fill in these values if the Instant GigaDrive is configured to act as a DHCP server. The Start IP Address number should be the first value in the range of IP Addresses you would allow the GigaDrive to assign to a DHCP Client. The Finish IP address should be the final value in that range. Ensure that this range of IP addresses is large enough to cover all of your DHCP clients (PCs and other devices making DHCP requests).

**Warning:** Do not enable this function if there is already a DHCP server running on your LAN.

**Microsoft Networking Workgroup Name** This name should match the Workgroup name used by the PCs on your network. The default is set to "Workgroup".

**Enable WINS** Check this box if you have a WINS server on your network.

**Apple Networking** For your convenience, the Instant GigaDrive is Apple-compatible. **Linksys, however, offers no support for setup under Macintosh operating systems.**

### Completing the GigaDrive's Quick Setup

When you have entered all of the Quick Setup values, click **OK** to save the values and to exit. The Instant GigaDrive is now operational. All Windows users have been given Guest access rights. They can now access the GigaDrive's printer and its public folder.

To create multiple user groups and shared directories on the Instant GigaDrive, use the Browser-based Administration interface. The interface is accessed through the **Administration** icon on the Instant GigaDrive Utility's main screen. The following section of this User Guide deals with the Instant GigaDrive's Administration interface and options.

# Gigadrive Administration

## Overview of Administrative Options

There are four organizational entities that can be created on the Instant GigaDrive in order to manage and allocate the GigaDrive's storage space.

**Administrators** The administrator controls Instant GigaDrive disk-space allocation by creating users, groups, and shares. The administrator can then coordinate which users fall into which groups, and which groups can access which shares. The administrator (and any other administrators who may be added in the future), has full read-write access to all shares.

**Users** Each user is identified by his user name and password. The administrator creates users, and can also limit the amount of disk space available to a user.

**Groups** Users are organized into user groups. Groups are created in order to allocate which users have access to which shares.


**Shares** A share is a folder or directory that has been saved onto the Instant GigaDrive's hard drive. Shares are generally created to reserve disk space for specific groups. Only the Instant GigaDrive administrator can create a share, but users who have access to that share can create other folders or directories within that share. Shares can be created as read-only or read-write, depending on need and share content. Each share can be accessed by only one group, but each group can access many shares.

**Guest Users:** Beside administrators, regular users, and groups, guest users may also access the Instant GigaDrive. The guest user has default Read/Write access to the public share. This can be changed, and access to additional shares can be granted. Anyone on the network who does not have a user name on the GigaDrive is automatically logged in as a guest.

## The Web-based Administrative Interface

Since the Instant GigaDrive doesn't have an attached keyboard or monitor, you have been provided access to the GigaDrive through your web browser. The GigaDrive contains an HTTP server which enables you to connect and configure your GigaDrive using Netscape 4.04 or better or Internet Explorer 4.0 or better. This connection can be made with a click of the GigaDrive Utility's **Administration** Button, or entering through a URL into any networked PC's web browser.

### Accessing the Administration Interface with the Instant GigaDrive Utility

1. Run the Instant GigaDrive Utility. After the Utility searches your network and locates all of your Instant GigaDrives, click the Utility's  **Administration button** (as seen to the left). You will be prompted for your username and password. Enter "admin" for the user name.
2. By default, there is no password. Unless you have already changed the password for "admin" in the Instant GigaDrive Utility, leave the **Password** window blank and click **OK**. You will be brought to the Welcome screen.
3. Choose the **GigaDrive** you wish to access. Choose **Connect**. Click the **Administration** button. The Administrative Menu page will load.

### Accessing the Administration Interface With Only Your Web Browser

If you are working on a networked PC without an installed version of the Instant GigaDrive Utility, you can still access the Administration Interface through your web browser.

1. **Start your web browser.** In the **Address** box, enter the following web address: `http://IP Address`, where the IP Address is the IP Address of the Instant GigaDrive you wish to configure (or try `http://ip_address/CGI_main/index.htm`.)
2. This will bring you to the password prompt described in step 1, above. Follow the directions from there to reach the Administrative Menu.

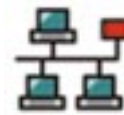
**Note:** You will need the IP address of the GigaDrive on hand in order to gain access to the Interface.

## The Administrative Menu—Configuration

The options on the Administrative Menu are divided between two categories—Configuration and Storage Management. Configuration deals mostly with the setup and monitoring of the Instant GigaDrive’s network and system variables.



The Administrative Configuration options are listed on the following page.



### Network

The Network options, which are also found in the Quick Setup area of the Instant GigaDrive Utility, allow you to configure the following variables.

- **IP Address** Set the IP Address, Network mask (Subnet Mask), and Gateway variables.
- **DHCP** Enable and configure the DHCP Server function.
- **DNS** Set the Domain Name Server IP Addresses.
- **AppleTalk** Set the AppleTalk Zone. The default value is “\*”, which allows access by all zones. **Linksys does not provide technical support for the Macintosh operating system.**
- **Microsoft** Configure Microsoft networking, set the Workgroup Name and Code Page (alphabet), and enable WINS support, if a WINS server is present on the LAN.



### System

- **General** Set the Instant GigaDrive name, date, time and time zone.
- **E-mail** Configure the Instant GigaDrive to send E-Mail messages if there is a problem.
- **Printer Port** Configure the printer. This is helpful but not essential for Windows users.
- **Shutdown** Shut down the Instant GigaDrive, or create a shutdown schedule.



### Utilities

These utilities are not required for normal operation. They are tools to help you better manage the GigaDrive.

- **Disk** Check the disk for errors. (Similar to Scandisk.) Because the disk check takes from a half hour to several hours, this is best done as an overnight task. After starting a scan, the process should not be interrupted.
- **Log** Check the system log. This is provided only for troubleshooting.
- **Upgrade** Upgrade the Instant GigaDrive’s software.



### Status

- **Disk** Check disk usage. This data is read-only.
- **Printer** Check the printer status, and delete the current print job, or all print jobs.
- **System** Check System status. This data is read-only.

## The Administrative Menu—Storage Management

The Storage Management options manage the Instant GigaDrive's shares, users, and groups. This section is only meant as a brief introduction. The following section, Managing Shares, Groups and Users, expands on what you will read here.



### Groups

Groups are collections of users created to manage access to shares.

- View the current groups, modify their shares access, and add or remove users from a group.
- Create new groups, or delete existing groups.



### Shares

Shares are folders placed on the GigaDrive. Access to each share can be monitored by an administrator.

- Create, delete and modify shares.



### Users

- View the list of existing users, and modify individual user data.
- Create or delete individual users.

*Note: We recommend that you browse the shares and folders on the Instant GigaDrive to view the relationships between them, and to view the GigaDrive's directory structure.*

## Managing Shares, Groups, and Users

By creating shares, groups, and users on the Instant GigaDrive, the Administrator is able to allocate how much GigaDrive space is available to each person working over the network.

### Quick Terminology

- **User** A user can be thought of as a single account on the GigaDrive. A user, which is basically a name with a password, is most typically created on the GigaDrive to define a specific user's GigaDrive access rights.
- **Group** A group is a collection of users. Groups are created to more easily manage users' access to shares. Each individual user can belong to many groups.
- **Share** A share is a directory folder created on the Instant GigaDrive. Access to a share is given to a group by an administrator. Each share can only be accessed by a single group.
- **Access Rights** All shares are configured with specific access rights – either Read Only or Read/Write.

### Preconfigured Users, Groups, and Shares

On initial setup, the Instant GigaDrive already has the following shares, groups and users installed. These pre-defined objects cannot be deleted, and only limited modifications may be performed.

#### Users *Admin*

The Admin user is a member of the administrator group, and therefore has Read/Write access to all shares. By default, the admin user has no password, but a password can be assigned by the GigaDrive Administrator. Assigning a password is recommended. This user can not be deleted.

#### *Guest*

The Guest user is a member of the everyone group, and may be added to (and removed from) any other groups. By default, the guest user has no password, and a password can not be assigned. This user cannot be deleted.

**Groups** *Everyone*

All users are automatically members of the everyone group. No user can ever be removed from the everyone group unless the user is entirely deleted. By default, this group has Read/Write access to the public share. This can be changed, and access to other shares can be granted or revoked. This group can never be deleted.

*Administrator*

The administrator group always has Read/Write access to every share. The admin user cannot be removed from this group, but other users may be added or deleted. This group can never be deleted.

**Shares** *HDD1*

HDD1 is the administrative root folder, provided so the administrator can backup all of the GigaDrive's data by simply backing up the contents of this folder. The administrator group always has Read/Write access to this share. This share can't be deleted.

*Public*

By default, the everyone group has Read/Write access to the public folder. The public folder's access rights can be changed, but it can't be deleted.

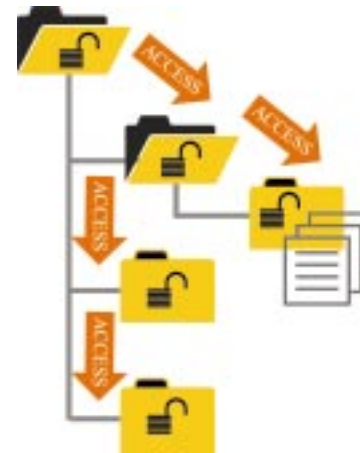
**Nested Shares**

The Instant GigaDrive allows a folder inside a share to also be configured as a share. This allows the nesting of shares to any depth, just like the folders on your PC's hard drive. If you use this feature, you need to be aware of the following points.

- In Windows' Network Neighborhood, all shares are listed on the same level, making the nesting completely invisible.
- Users cannot tell whether or not a sub-folder is in fact a nested share.

**Nested Shares and Access Rights**

Anyone with access to one share automatically has access to every share beneath it. You can not provide access to an outer share while preventing access to an inner share (Figure 1). You can, however, deny access to an upper share by granting a group's access only to the shares beneath it (Figure 2). Because of this, shares access flows down, but does not flow up. Your most sensitive data should therefore be stored in the outermost or upper share, not in the innermost share.

**Figure 1****Figure 2**

## Multiple Access Rights

While access to a share can be assigned to only one group, it is possible for more than one group to access a share if nested shares are used.

For example, in figure 1, if access to the uppermost share is assigned to Group 1, and access to one of the folders beneath the uppermost share is assigned to Group 2, Groups 1 and 2 will both have access to that second share as well as all the shares beneath it.

## Common Administrative Tasks

### Creating Users

Click the **Users** icon in the Administration Menu. When the Users Administration screen pops up, click the **New User** button. Enter the new user's name, password (twice for confirmation), whether or not you wish to limit the user's GigaDrive storage space, and which groups you would like to add the user to. Click **Save**. Your new user is now created.

### Editing User Details

Click the **User** icon in the Administration Menu. When the Users Administration screen pops up, select the user you would like to edit, then click **Modify**. You can edit any user attributes you wish.

### Creating Groups

Click the **Groups** icon in the Administration Menu. When the Groups Administration screen pops up, click the **New Group** button. Enter the new group's name into the box, then choose **Save**. Your new group is now created.

### Changing Group Membership

From the Groups Administration screen, select *Members*. Or, from the Users Administration screen, select *Groups*. Use the arrow buttons to move selected users into selected groups.

### Creating Shares

Click the **Shares** icon in the Administration Menu. When the Shares Administration screen pops up, click **New Share**. Enter the name of the new share, the directory address of the share, which group you would like to give access to the share, and which level of access rights you would like that group to have. Click on the **Save** button. Your new share has been created.

## Setting Access to Shares

From the Groups Administration screen, highlight the group you would like to access the share, then select the **Shares** button. Use the arrow buttons to select which shares, and with which access rights, you would like to make available to the specified group.

## File Management

Use Windows Explorer to perform file management.

## Backing Up the Instant GigaDrive's Data

The GigaDrive does not have a built-in backup mechanism, nor does it come with backup software. Use your regular backup program to backup any folder. To back up all of the GigaDrive's files, back up the HDD1 folder while logged in as an administrator.

## Shutting Down the Instant GigaDrive

There are two ways to correctly shutdown the Instant GigaDrive. Either depress the rear-mounted power switch, which will begin the shutdown process, or enter the shutdown function through the System icon in the Administration Menu. From there, you can either immediately shutdown the GigaDrive, or set a scheduled shutdown.

**Warning:** Never shut down the GigaDrive by unplugging its power supply.

## Configuring the Printer Port

Click on the **System** icon in the Administration Menu. Choose the Printer option. Enter the correct printer name into the text box.

**Note:** When browsing the Instant GigaDrive using Windows Explorer or another file manager, you may see the following files which have been generated by Apple Talk clients: .Apple Desktop, .Apple Double, Network Trash Folder. Do not delete these files!

# Windows Client Setup

## Introduction

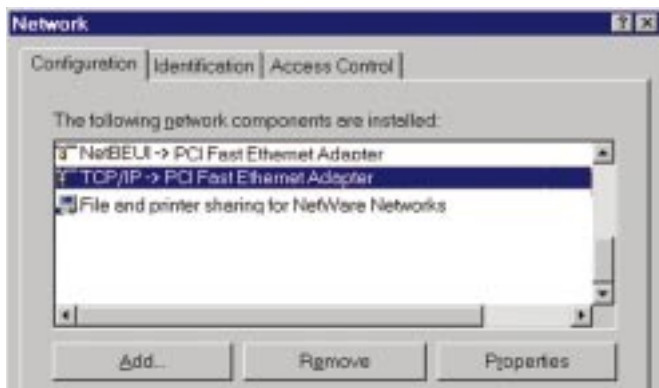
This section will help you configure Windows so that you will be able to access your network and the GigaDrive from your PC. The following items will be checked or configured.

- TCP/IP protocol, enabled
- Access to the GigaDrive's storage
- The GigaDrive's network printer
- An Ethernet/Fast Ethernet adapter, installed and enabled

If your PC already has been configured for TCP/IP, most likely you are already able to access the GigaDrive and its printer without changing any of your Windows settings. If TCP/IP is not enabled on each of your PCs, follow the steps below.

## TCP/IP Setup for Windows 95 and 98

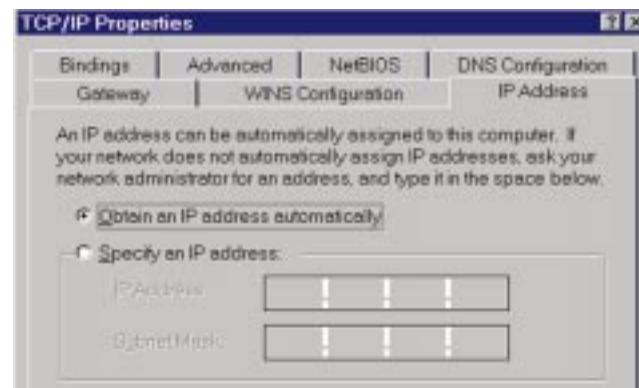
1. Select the **Control Panel - Network** option in the Start Menu. You should see the following screen.



2. If a line like the one highlighted (TCP/IP -> Network card) is not listed, then you need to install the TCP/IP protocol by selecting **Add - Protocol - Microsoft - TCP/IP - OK**.

*Note: These screen-shots have been taken from Windows 95. Depending on the operating system you are using, the screens may be different. The process, however, is intrinsically the same.*

3. With the TCP/IP entry highlighted, click on the **Properties** button. The **IP Address** tab should be selected. If it isn't, choose it now. You should then see a screen resembling the following.



### To act as a DHCP Client

Select **Obtain an IP Address Automatically**, as shown above. If you have enabled the Instant GigaDrive to act as a DHCP Server, it will now provide IP Addresses (and related data) to your PC when it boots.

### To use "Specify an IP address" (fixed IP Address)

- If your PC is already configured, no changes are required.
- If you just installed TCP/IP, you need to enter:
  - IP Address and Subnet mask* (on the **IP Address** tab, as shown above)
  - Default Gateway Address* (on the **Gateway** tab).

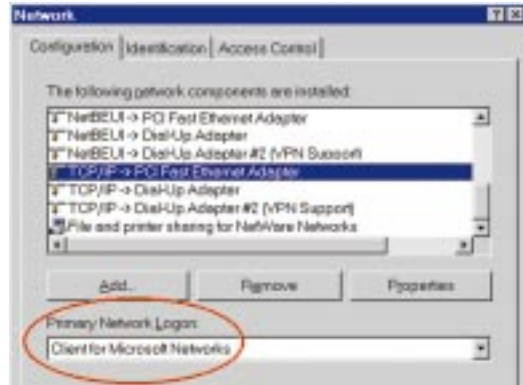
These values must be compatible with other devices on your LAN. Each PC requires a unique IP Address (usually only the last field is different on each PC). The Subnet Mask, however, should be the same for each PC on your network.

*Note: The Gateway is the IP Address of your router or Internet gateway. If you don't have a router or Internet gateway, the address should be left at 0.0.0.0. If you have a Router on your LAN, ask your LAN Administrator what values to use.*

## Network Logon for Windows 95 and 98

To access the Instant GigaDrive, you must correctly log on to the network.

1. Check your Windows logon using **Start - Settings - Control Panel - Network**. Ensure that the *Primary Network Logon* is set to **Client for Microsoft Networks**, as shown below. If this is already set, there is no need to make a change.



2. After your PC boots, Windows will prompt you to logon to the network. You must logon. If you press **ESC**, or click **Cancel**, network resources will not be available. When you logon, you will need to use a valid User Name and Password.
  - If the Instant GigaDrive Administrator has defined users on the GigaDrive, use the User Name and password supplied there.
  - If you use a User Name and password which is not recognized by the Instant GigaDrive, you can still use it with guest access rights. By default, this allows read/write access to the public share, and allows you to use the printer.

## Changing your Instant GigaDrive Password

Once the Instant GigaDrive Administrator has given you a valid GigaDrive user name, you can use the following procedure to change your password.

1. **Open up your web browser.**

*Note: The admin password can NOT be changed using this method. The Administrator Interface must be used to change the password for user "admin".*

2. **In the Address box, enter:**  
HTTP://ip\_address/, where ip\_address is the IP Address of the Instant GigaDrive (ie. 192.168.0.2). If you do not know the GigaDrive's IP Address, ask the GigaDrive administrator.
3. **You will be prompted for your name and password.** Enter them.
4. **On the next screen, type what you would like your new password to be.**
5. **Click Save**, and then close your browser. Your password has been changed.

*Note: When you try to access a share or folder, you may be prompted for a password. If your Windows login name is the same as your user name on the Instant GigaDrive but the passwords are different, you can enter your GigaDrive password here. If your Windows login name does not exist on the GigaDrive, you will only have guest access rights. There is no password which you can enter in this window.*

## Password Management

You can configure your PC to work with only one password the password you use to log onto the network at startup. To do this requires that the User Name and Password be the same on Windows, the Instant GigaDrive, and on any other network server you may be accessing. Only the Network Administrator can create and modify user names.

## Changing your Windows password in Windows 95 and 98

- Your Windows password can be changed by using **Control Panel - Passwords - Change Windows Password**.

## Changing the password on your other servers

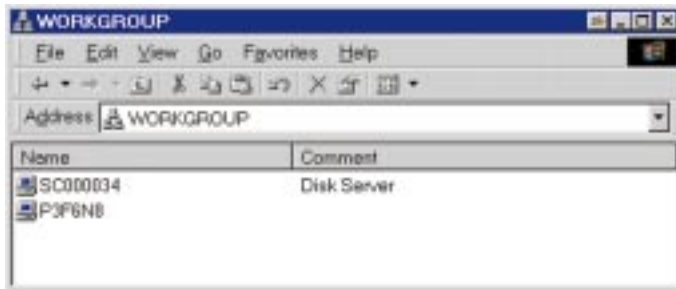
- To change your password, use **Control Panel - Passwords - Change Other Passwords**. Select the **Server**, then click **Change**. If Windows is unable to change the password, it will display an error message. Check with your Network Administrator for the correct procedure.



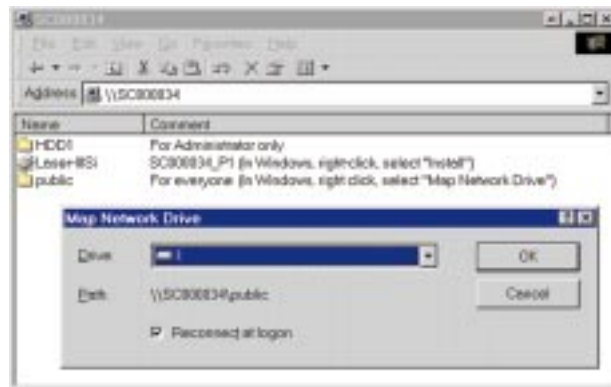
## Using the Instant GigaDrive's Storage

To use the Instant GigaDrive's storage, you must map a drive letter to each GigaDrive folder you wish to access. The drive will then be available to all Windows programs.

1. **Double-click the Network Neighborhood icon** on the desktop. In Windows 2000, double-click on **My Network Places**, then **Entire Network**, then **Microsoft Network**.



2. **Locate the Instant GigaDrive**, as shown above. If it is not listed, double-click Entire Network. Then double-click the Workgroup that the GigaDrive is in. (By default, the GigaDrive is in Workgroup.)
3. **Double-click the Instant GigaDrive icon**.
4. **Right-click a GigaDrive folder (share)** to which you have access, and select **Map Network Drive**, as shown below.



5. **Select a drive letter for this folder**, and check the **Reconnect at Logon** checkbox. (If you don't choose to reconnect, the mapping will be lost when you shut down your PC.) Click **OK**.
6. **This drive will now be available** in *Windows Explorer*, and from the *File-Open* or *File-Save As* function in all Windows applications.

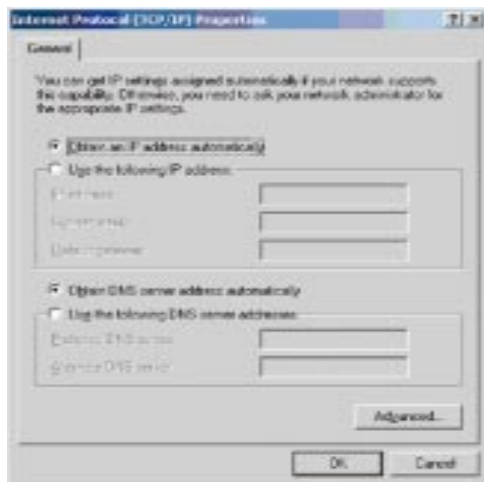
## TCP/IP Setup for Windows 2000

1. Select the **Start button** and go to **Settings**. From here, select **Network and Dial-Up Connections**. Click the **Local Area Connections #** and select **Properties**.



2. Be sure to check the following components listed in this window:  
**Client for Microsoft Networks**  
**File and Printer Sharing for Microsoft Networks**  
**Internet Protocol (TCP/IP)**

3. Check with your network administrator to be sure this is properly configured or use the setting shown below.



#### To act as a DHCP Client

Select **Obtain an IP Address Automatically**, as shown above. If you have enabled the Instant GigaDrive to act as a DHCP Server, it will now provide IP Addresses (and related data) to your PC when it boots.

#### To use “Specify an IP address” (fixed IP Address)

- If your PC is already configured, no changes are required.
- If you just installed TCP/IP, you need to enter:  
*IP Address and Subnet mask* (on the **IP Address** tab, as shown above)  
*Default Gateway Address* (on the **Gateway** tab).

These values must be compatible with other devices on your LAN. Each PC requires a unique IP Address (usually only the last field is different on each PC). The Subnet Mask, however, should be the same for each PC on your network.

**Note:** The Gateway is the IP Address of your router or Internet gateway. If you don't have a router or Internet gateway, the address should be left at 0.0.0.0. If you have a Router on your LAN, ask your LAN Administrator what values to use.

### Network Logon for Windows 2000

To access the Instant GigaDrive, you must correctly log on to the network.

1. Check your Windows logon using **Start - Settings - Control Panel - Network**. Ensure that the *Primary Network Logon* is set to **Client for Microsoft Networks**, as shown below. If this is already set, there is no need to make a change.



2. After your PC boots, Windows will prompt you to logon to the network. You must logon. If you press **ESC**, or click **Cancel**, network resources will not be available. When you logon, you will need to use a valid User Name and Password.
  - If the Instant GigaDrive Administrator has defined users on the GigaDrive, use the User Name and password supplied there.
  - If you use a User Name and password which is not recognized by the Instant GigaDrive, you can still use it with guest access rights. By default, this allows read/write access to the public share, and allows you to use the printer.

## Changing your Instant GigaDrive Password

Once the Instant GigaDrive Administrator has given you a valid GigaDrive user name, you can use the following procedure to change your password.

1. **Open up your web browser.**

*Note: The admin password can NOT be changed using this method. The Administrator Interface must be used to change the password for user "admin".*

2. **In the Address box, enter:** HTTP://ip\_address/, where ip\_address is the IP Address of the Instant GigaDrive. If you do not know the GigaDrive's IP Address, ask the GigaDrive administrator.

3. **You will be prompted for your name and password.** Enter them.

*Note: When you try to access a share or folder, you may be prompted for a password. If your Windows login name is the same as your user name on the Instant GigaDrive but the passwords are different, you can enter your GigaDrive password here. If your Windows login name does not exist on the GigaDrive, you will only have guest access rights. There is no password which you can enter in this window.*

4. **On the next screen,** type what you would like your new password to be.

5. **Click Save,** and then close your browser. Your password has been changed.

## Password Management

You can configure your PC to work with only one password the password you use to log onto the network at startup. To do this requires that the User Name and Password be the same on Windows, the Instant GigaDrive, and on any other network server you may be accessing. Only the Network Administrator can create and modify user names.

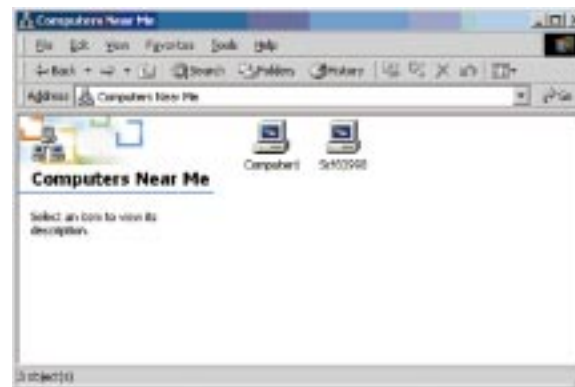
## Changing your Windows password in Windows 2000

- Please consult your Windows 2000 documentation.

## Using the Instant GigaDrive's Storage

To use the Instant GigaDrive's storage, you must map a drive letter to each GigaDrive folder you wish to access. The drive will then be available to all Windows programs.

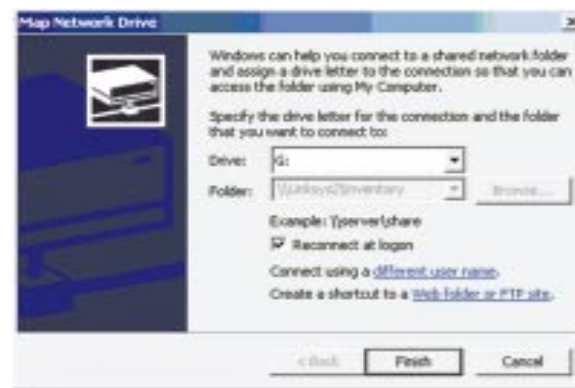
1. **Double-click the Network Neighborhood icon** on the desktop. In Windows 2000, double-click on **My Network Places**, then **Entire Network**, then **Microsoft Network**.



2. **Locate the Instant GigaDrive,** as shown above. If it is not listed, double-click Entire Network. Then double-click the Workgroup that the GigaDrive is in. (By default, the GigaDrive is in Workgroup.)

3. **Double-click the Instant GigaDrive icon.**

4. **Right-click a GigaDrive folder (share)** to which you have access, and select **Map Network Drive**, as shown below.



5. **Select a drive letter for this folder,** and check the **Reconnect at Logon** checkbox. (If you don't choose to reconnect, the mapping will be lost when you shut down your PC.) Click **OK**.

6. **This drive will now be available** in *Windows Explorer*, and from the *File-Open* or *File-Save As* function in all Windows applications.

## Using the Instant GigaDrive's Print Server

### Overview

The EtherFast 10/100 Instant GigaDrive comes with a built-in print server. Configuring your GigaDrive's printer is easy, and by networking a printer through your GigaDrive, you save space, money, and the hassles of dealing with a stand-alone PrintServer. Any printer connected to the GigaDrive is available to any network user, provided that user has access to the GigaDrive itself. It will function exactly the same as any other network printer.

### Using the Instant GigaDrive's Printer

Complete the following steps to make the Instant GigaDrive's printer available from your PC.

1. **Find out which printer** is connected to the printer port on the GigaDrive.
2. **Use Network Neighborhood to locate the GigaDrive**, as explained in the previous section. In Windows 2000, click on **My Network Places**, then **Entire Network**, then **Microsoft Network**.
3. **Double-click the Instant GigaDrive icon**. A printer icon should be appear.
4. **Right-click the printer icon**, and select **Install**. The Add Printer wizard will begin.
5. **Select the Manufacturer and Printer** matching the printer connected to the GigaDrive.
6. **Follow the prompts** to complete the installation.

7. **The new printer will now appear** in your Printer list, and can be used from any Windows application.
8. **Use the normal Windows commands** to manage the printer:
  - Use **Start - Settings - Printers** to list all of your printers.
  - Double-click the printer to view or delete the documents in the print queue.
  - Use **File - Set as Default** to make the selected printer the default printer.
  - Use **File - Properties** to view or modify the properties of the selected printer.

**Note:** Drivers for the printer will be needed if the printer is not listed in the Windows list of printers.

# Troubleshooting

## 1. The GigaDrive Utility can't find my Instant GigaDrive.

- Check that the Disk Server is properly installed, that the LAN connections are secure, and that the GigaDrive is powered ON.
- If you are using a router, make sure that your PC and the Instant GigaDrive are on the same network segment.
- Make sure that your PC has the TCP/IP network protocol loaded. This is done by checking the Network option of the Control Panel. If an entry for TCP/IP -> Network card is not listed, use Add - Protocol - Microsoft - TCP/IP to add it.

## 2. The Instant GigaDrive is listed in the GigaDrive Utility, but the Admin button doesn't work.

- This will happen if the Instant GigaDrive's IP Address is not compatible with your PC. Use the Quick Setup button to assign a compatible IP Address and Network Mask (Subnet Mask) to the GigaDrive. Click the Refresh button to update the listing.

## 3. The GigaDrive is configured, but I can't find it in Network Neighborhood.

- Go to the Find function in the Start menu. Choose Computer, then enter the GigaDrive's name. In Windows 2000, go to Files and Folders to search the Computer option.
- If this doesn't work, choose the Network option of the Control Panel to check that a TCP/IP protocol is installed. If it isn't installed, use Add - Protocol - Microsoft - TCP/IP to install it. In Windows 2000, click on Install, not Add. In Windows NT, click on the Protocols tab, then Add.
- Check the network Bindings. First, ensure that the TCP/IP protocol is bound to your Network card (NIC). Then, select your Network card in the Control Panel, click Properties, and choose the Bindings tab. If TCP/IP is not bound (checked), check it.
- Ensure that the TCP/IP -> Network card entry is bound to the Client for Microsoft Networks service. Select the TCP/IP entry for your Network Card, click Properties, and then choose the Bindings tab. If Client for Microsoft Networks is not bound (checked), check it.
- If you don't have a router, ensure that your IP Address is compatible with

the Instant GigaDrive's. This means it needs to be in the same address range (e.g. 192.168.0.3 to 192.168.0.254) and using the same Subnet Mask (e.g. 255.255.255.0)

- If you do have a router, check that your Gateway IP Address is set correctly. Ask your LAN administrator for the correct value.
- Change the name back to the default Gigadrive name.

## 4. When I click on the GigaDrive icon in Network Neighborhood, I'm prompted for a password.

This can happen in the following situations:

- Your Windows Logon name is recognized by the GigaDrive, but your Logon password is not. Simply enter your GigaDrive password, or make your Windows password the same as the GigaDrive password.
- Your Windows Logon name is not recognized by the GigaDrive, defaulting you to guest access rights. Ask the GigaDrive Administrator to create a user name for you. (Use the same name as your Logon name.)
- You do not have access permission for this share. Ask the GigaDrive Administrator to grant you access.

## 5. When using the Web interface, some of the data will not fit on the screen, and there is no scroll bar.

- You are likely using extra-large fonts in your Browser or in Windows. To change your browser's font size, select View from your web-browser's menu, and change the font size there. To change the size of your Windows fonts, go to Display in the Control Panel. Choose Settings, then click the Advanced button. Change the font size to either Small or Large. Both should work.

## 6. A print job does not print and no error message is displayed.

- The amount of free disk space on the GigaDrive is probably not sufficient to spool (queue) the print job. The GigaDrive's disk usage can be checked using the Status - Disk screen on the GigaDrive's Administrator interface. If this is the problem, you must delete some print jobs.
  1. Select Printer from the Status menu of the GigaDrive's Administrator interface.
  2. Use the Delete Current Job option to delete the current print job, or Delete All Jobs to delete all print jobs.

# Appendix

## Specifications

Model Numbers	EFG20, EFG40
Standards	IEEE 802.3, IEEE802.3u
Protocol	TCP/IP, AppleShare*, SMB
Network Ports	1 10BaseT/100BaseTX, RJ45 connector
Printer Port	1 DB-25 parallel port
Speed (Mbps)	10 or 100
Cabling Type	10BaseT: UTP CAT 3 or better 100BaseTX: UTP CAT 5
Topology	Star
LED Indicators	Rear: 10 and 100Mbps connection status Front: IP, HD, LAN, Status, System & HD usage (10%-100%)

## Environmental Specifications

Dimensions (LxWxH)	11" x 8.6" x 2.9" (279mm x 218mm x 74mm)
Weight	EFG20: 5 lbs. EFG40: 5.335 lbs.
Power Input	EFG20: 12V DC, maximum 3.6 amps., 100-240 V AC, 50-60Hz power adapter provided EFG40: 12V DC, maximum 5 amps., 100-240 V AC, 50-60Hz power adapter provided
Certifications	EFG20: FCC Class A, CE Mark Commercial EFG40: FCC Class B, CE Mark Commercial, C-Tick, VCCI
Operating Temperature	41° F to 104° F (5° C to 40° C)
Storage Temperature	14° F to 140° F (-10° C to 60° C)
Operating Humidity	10% to 80%, Non-condensing
Storage Humidity	5% to 90%, Non-condensing

- Linksys does not provide technical support for Mac operating systems.

## Customer Support

For help with the installation or operation of your Instant GigaDrive, contact Linksys Customer Support at one of the phone numbers or Internet addresses below.

Customer Support	800-326-7114 949-261-1288
Fax	949-261-8868
Email	support@linksys.com
Web Site	http://www.linksys.com
FTP Site	ftp.linksys.com

\* Linksys does not provide support for Macintosh operating systems.

## Linksys' EtherFast 10/100 Instant GigaDrive Return Policy

This product is guaranteed free from physical defects under normal use for two years. If the product becomes defective during this warranty period, call Linksys Customer Service to obtain a Return Merchandise Authorization number. Warranty is for Repair and Replacement only. Linksys is not responsible for credit or refunds.

Linksys will not be held responsible for any data or file loss recovery under any circumstances.

Linksys offers cross shipments, a faster process for processing and receiving your replacement. Linksys pays for UPS Ground only. All customers located outside of the United States of America and Canada shall be held responsible for shipping and handling charges. Please call Linksys for more details.



<http://www.linksys.com>

© Copyright 2000 Linksys, All Rights Reserved.