

D-Link™ **DFE-551FX**

32-bit PCI 100 Base-FX Adapter

Manual

First Edition (July 2007)

6DFE551FX.01G

Printed in Taiwan



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Introduction

The DFE-551FX is an IEEE 802.3u-compliant 100Mbps Fiber Ethernet PCI-Bus adapter which implements advanced network features that include ACPI, IEEE 802.3x Flow-control, IEEE 802.1p/1Q prioritization, and VLANs.

Utilizing the plug-and-play features, the DFE-551FX adapter is fully auto-configurable for easy installation. With one built-in SC connector operating at 1300nm-wavelength, the DFE-551FX is able to double the network speed to 200Mbps, with distances up to 2000m in full-duplex mode. With a PCI 32-bit data bus, the DFE-551FX can deliver high throughput without the need of the on-board memory because its MAC controller has sufficient built-in FIFO memory for receive/transmit packet buffering. PCI bus master architecture lowers the PCI bus overhead and frees the CPU for other bus-intensive applications.

System Requirements

Before installing the DFE-551FX, check your system for the following minimum configuration requirements.

- An open PCI bus master slot, 32-bit, operating at 33MHz
- 32 MB of System Memory (minimum)
- 150 MHz processor, or faster
- The latest BIOS for your computer
- 50/125um or 62.5/125um multi-mode fiber optic cable, up to 2km

Features

Designed for versatility and performance, the DFE-551FX Network Adapter provides the following:

- Supports SNMP v1 function
- Supports 32-bit PCI Local Bus Master high speed operation
- Complies with IEEE 802.3u 100 Base-FX industrial standard
- Plug-and-Play--simply insert this card into a PC and it will be automatically configured by the PC's BIOS
- Auto-assignment of IRQ, I/O address
- One built-in SC Connector
- Transmission distance: 2000m at full-duplex mode
- Supports 100Mbps Ethernet data transfer rate
- Supports full-duplex operation
- Complies with PCI Power Management v1.1
- Complies with 802.3x Full Duplex Flow Control to improve network traffic
- Complies with Advanced Configuration and Power Interface specification v1.0 PCI 32-bits

- Supports PCI clock speed up to 33Mhz, independent of network clock
- Built-in FIFO buffers to eliminate external memory (Separate 2K bytes FIFO for Receive and Transmit Controller)
- Low Ethernet Command Processing Overhead
- Easy-to-view LEDs for diagnostics:
 - Link / Active
 - 100
 - Full
- Power consumption: 1.14Watts (maximum)
- Host interface PCI 2.2 specification
- IEEE802.1p priority tagging for traffic prioritization to speed throughput of time-critical applications
- Supports 802.1Q VLAN to improve network performance and security--maximum of 32 VLAN groups (Note: This release does not support VLANs in Macintosh OSX)
- TCP/UDP Checksum Offload
- Address filtering
- MIB Counter: 64
- DMI 2.0
- WMI (Microsoft)
- WFM (Intel)
- Driver† support for:

- | | |
|---|------------------------------------|
| √ Apple Macintosh OSX (10.2.x) | √ IBM LAN Support Program |
| √ IBM LAN service for DOS | √ Linux: kernel v2.4 ~ 2.6 |
| √ Microsoft Windows Vista x86 | √ Microsoft Windows Vista x64 |
| √ Microsoft Windows XP/XP x86 | √ Microsoft Windows XP/XP x64 |
| √ Microsoft Windows Server 2003 x64 | √ Microsoft Windows Server 2003 |
| √ Microsoft Windows 2000 | √ Microsoft Windows 95/95 OSR2 |
| √ Microsoft Windows 98/98SE | √ Microsoft Windows ME |
| √ Microsoft Windows NT 3.51 | √ Microsoft Windows NT 4.0 |
| √ Microsoft Windows for Workgroups 3.11 | √ NDIS2 Driver for DOS |
| √ Netware Server 5.0, 5.1, 6.0 ~ 6.5 | √ Novell Netware Client 32 for DOS |
| √ ODI Driver for DOS | √ Packet Driver for DOS |
| √ PXE Boot ROM (DFE-551P) | √ RPL Boot ROM (DFE-551R) |

† Check <http://www.dlink.com> for newest release of drivers.

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Installation

Unpack and Inspect

CAUTION: *Under ordinary circumstances, a DFE-551FX card will not be affected by a static charge that may be received through your body during handling of the unit. In special circumstances, the user may carry an extraordinarily high static charge and it is good practice to reduce the charge by touching a ground before handling the adapter card.*

Open the shipping carton and carefully remove all items. Ensure that the following items are included:

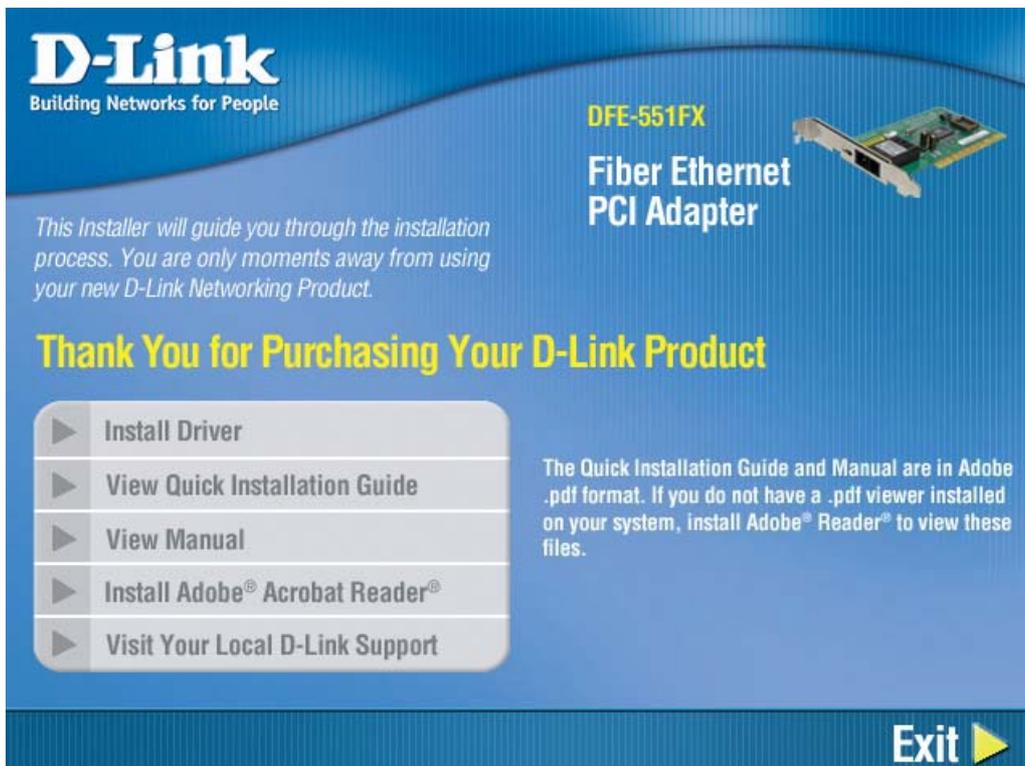
- One DFE-551100 Base-FX Fiber Adapter
- DFE-551FX Drivers and Manual on CD-ROM
- Low profile bracket
- Wire for WOL

If any of these items are missing or damaged, please contact your local reseller for replacement.

Software Installation

You must install the driver software for your DFE-551FX before installing the PCI card into your PC. Insert the CD into your PC's CD-ROM drive. It should begin running the driver installation program, if you have auto-execute enabled.

When the screen shown below appears, click the **Install Driver** link.



If you do not have auto-execute enabled for your PC's CD-ROM drive, navigate to the root directory of the CD using Windows Explorer and click on the file named **Autorun.exe**. This will open the window shown above. Then click the **Install Driver** link to install the driver.

The CD-ROM included with your DFE-551FX is designed to make installation of necessary software a painless and trouble-free process. Simply click on the **Install Drivers** link, and an Installation Wizard will guide you through the process, no matter which operating system you're running. The included Adobe Acrobat Reader, which is needed to read or print out your user manual, will also come in handy for many other applications.

Simply follow the directions in the Wizard, and your DFE-551FX will be installed successfully in just a few minutes, allowing you to enjoy the many advantages of joining an Ethernet LAN.

When the driver installation program (shown above) is complete, you can then install the PCI card inside your PC. When you restart your PC, the DFE-551FX will be ready to use.

Installing the Adapter

1. Shut down the computer, unplug its power cord, and remove the chassis cover.

(Important: Unplugging the PC power cord before inserting the DFE-551FX card is important as the programmable contents of the EEPROM may be damaged otherwise.)

(Important: Opening the case of your computer may compromise the warranty of your computer. Consult the computer manufacturer before opening the case to ensure that you adhere to warranty guidelines. In some cases, you may need to have the DFE-551FX installed by your computer manufacturer.)

2. Insert the contact edge of the DFE-551FX card into the connector of any available PCI Bus Master expansion slot. Press the card firmly into the connector such that the card's contacts are fully seated in the connector.
3. Install the bracket screw that secures the card to the computer chassis.
4. Replace the computer's chassis cover.
5. Reconnect the computer's power cord, and switch computer power on. If the BIOS section of your computer's boot program is Plug-and-Play compliant, then at power-up the BIOS will automatically configure any newly installed DFE-551FX adapter.

NOTE: *When connecting the WOL wire, 3.3V is provided through ATX power. Therefore, if an AC power cable is used without a PCI connector, an abnormal status may occur. To avoid this, please disconnect the AC power cable for the PC before plugging in the DFE-551FX Adapter. Then, connect the WOL wire to avoid any possible damage.*

Connecting the Network Cable

Multimode (62.5/125um or 50/125um) fiber cabling with an IEEE recommended SC connector is required for the Adapter. Observe the correct relationship between the receive (Rx) and (Tx) ports on the Adapter and repeater. If there is a need to monitor the Adapter's faceplate LEDs, make the rear of the PC or workstation accessible and leave sufficient clearance for cabling and service. The maximum length of fiber cable between any station and its supporting hub is 2,000 meters at full duplex.

Troubleshooting

If you experience any problems with the adapter, check to see:

- that the appropriate driver is loaded;
- that the proper grade of cable is employed for the network connection;
- that the supporting hub is properly qualified for the application.

The DFE-551FX Adapter features three LED indicators:

- **Link/Activity** – Solid green indicates good linkage between the DFE-551FX and its supporting server or switch. Blinking green indicates activity (transmitting or receiving) within the adapter.
- **100Mbps** – Solid green indicates there is a secure connection (or link) to a 100Mbps device on one of the DFE-551FX's ports. A dark LED indicates there is currently no link.
- **Full** – Solid green indicates the DFE-551FX is in full duplex mode. A dark LED indicates that there is currently no link.

Specifications

EMC And Safety Certifications:

- FCC CFR 47, Part 15B/ICES-003 Class B
- CE 89/336/EEC, 2004/108/EC Class B
- C-Tick Class B
- VCCI Class B
- BSMI Class B

Host interface: 32-bit PCI Bus (Bus Master)

I/O base address assigned by Plug and Play system

Interrupt Number Assigned by Plug and Play system

Physical Dimensions: 120mm x 74mm x 11mm

Environment:

- Storage: -40° to 70°C
- Operating: 0° to 40° C
- Humidity: 5% to 95% non-condensing
- Power Consumption: 1.14Watts (maximum)

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link product described below ("Hardware") will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below ("Warranty Period"), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Software Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.com/>.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

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CE Mark Warning: This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement: This equipment has been tested and found to comply with the limits 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 in accordance with the instructions, may cause harmful interference to radio communication. 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 can be determined 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 and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Product Registration

Register your D-Link product online at <http://support.dlink.com/register/>

Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

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