IBM TURBOWAYS Family of ATM Adapters

From the desktop to the backbone — there's an ATM adapter that will work for you

Highlights

- Available in speeds of 25, 100, and 155 Mbps
- Support for a wide variety of bus architectures
- Device drivers included for many of today's leading operating systems, including Novell NetWare, OS/2, DOS, Windows, Windows NT, Solaris, SUN, and AIX
- ATM to the desktop
- ATM Forum-compliant LAN Emulation and Classical IP included with the adapters
- Internal microcode stored in EPROM, allowing for future enhancements through microcode updates
- Bandwidth allocation and management
- Lifetime warranty

The TURBOWAYS 25 ATM adapters are an affordable way to bring high-bandwidth ATM connectivity to the desktop, with adapters available for ISA-bus, Micro Channel, Sbus, and PCI-bus computers.

And by including Forum-compliant LAN Emulation and Classical IP with the adapters, they are cost-effective upgrades to your existing Ethernet or token-ring infrastructure, providing a 25-Mbps, full-duplex connection to the ATM network.

The adapters use low-cost, unshielded twisted-pair (UTP) cable, category 3, 4, or 5, or shielded twisted-pair (STP) cable for distances up to 100 meters (328 feet), also capitalizing on the wiring already installed.

The TURBOWAYS 25 Adapters are part of IBM's new offering, the Nways ATM Workgroup Solutions, which packages an IBM 8285 Nways ATM Workgroup Switch with your choice of 12 TURBOWAYS 25 ATM PCI Adapters or 12 TURBOWAYS 25 ATM ISA Adapters. With the addition of the Workgroup Solutions, you can implement ATM to the desktop at a per-user cost of $495.

ATM in the server or backbone

The TURBOWAYS 100 ATM Adapter operates at a speed of 100 Mbps full-duplex over multimode fiber. This adapter, designed for use in RISC System/6000 or personal computers with Micro Channel architecture, offers high-performance throughput for applications that require high bandwidth.

The adapter uses an on-board i960 processor and a specialized ATM chip set to minimize access to the host processor and increase performance. The adapter supports up to 1024 virtual circuits.

The TURBOWAYS 155 ATM Adapter is a high-performance adapter that provides dedicated bandwidth of 155 Mbps over multimode fiber or copper wiring, offering higher throughput than is available with current LAN technology. Through the use of an on-board processor and the specialized chip set, access to the host processor is minimized, resulting in increased performance for your ATM client or server. Also included is SNMP subagent support for TCP/IP Network Management compatibility.

The TURBOWAYS 155 Adapter is available for Micro Channel and Sbus platforms.

IBM is also offering complementary products by Interphase Corporation to round out its ATM adapter family. The Interphase adapters use either multimode fiber or UTP category 5 wiring. There are three adapters, available for PCI-bus, EISA-bus, and GIO-bus computers. All three support ATM Forum-compliant LAN Emulation and Classical IP.

The PCI and EISA Interphase adapters support NetWare, Windows NT Version 3.5 and the GIO adapter supports IRIX Version 5.3. All three adapters support symmetrical multiprocessors (SMPs).

As IBM expands the TURBOWAYS family of adapters with additional drivers and software, information on software upgrades will be available on the World Wide Web at `http://www.raleigh.ibm.com/tbo/tboprod.html`.

LAN Emulation and Classical IP

LAN Emulation and Classical IP give existing network devices transparent access to the ATM Network. This capability preserves your current network investment and allows current token-ring or Ethernet applications to run without modification under ATM, while taking advantage of ATM's connection-oriented services. Classical IP supports Internet Engineering Task Force (IETF) RFC 1577. LAN Emulation is currently available in both IBM and ATM Forum-compliant versions. The IBM LAN Emulation Server (LES) requires a PS/2 server with NetWare Version 3.1.2 or 4.01, LES software, and a dedicated TURBOWAYS 100 Adapter. The ATM Forum-compliant LES is included in the IBM 8285 Nways ATM Workgroup Switch.

For more information

For more information about the IBM TURBOWAYS family of ATM adapters, contact your IBM representative or call IBM Direct at 1-800-IBM-CALL (1-800-426-2255).

You can also obtain information from the IBM Networking home page.

TURBOWAYS 25 ATM Adapter at a Glance

ISA adapter	
Part number	42H0525 (Quantity 1) 42H0526 (Quantity 5)
System requirements	PC workstation with 486 or higher processor ISA bus supporting bus-master adapter with one available 16-bit slot and 4 MB (DOS) or 8 MB (Windows and OS/2) minimum system memory
Drivers	PC DOS 6.3 or higher; MS-DOS 6.2 or higher; OS/2 2.11 or higher or OS/2 Warp 3.0; Windows 3.1 or Windows NT 3.5
Cabling and connector	STP or UTP (category 3, 4, or 5) wiring with RJ-45 connector
Standards support	Support for ATM Forum UNI Specification V3.0 and 3.1 for switched virtual circuits AAL-5 adaptation layer interface; NDIS 2.01 network device interface specification
Protocols enabled	NetBIOS, SNA, IPX, and TCP/IP through LAN Emulation
Environment	IBM LAN emulation; ATM Forum-compliant LAN Emulation or Classical IP
Physical specifications	Width: 15 mm (0.6 in.) Depth: 157.5 mm (6.2 in.) Height: 76.2 mm (3 in.)
Operating environment	Temperature: 10 to 40C (50 to 104F), Class C environment Relative humidity: 8% to 80% Certification: FCC Class B, CISPR B, and VCCI 2
Warranty	Lifetime

TURBOWAYS 25 ATM Adapters at a Glance (Continued)

	Micro Channel Adapter	PCI Adapter	SBus Adapter
Part number	25H3546 (Qty 1) 25H3547 (Qty 5)	85H9035 (Qty 1) 85H9036 (Qty 5) 85H9037 (Qty 30)	25H3554 (Qty 1) 25H3555 (Qty 5)
System requirements	PC workstation with 486+ Micro Channel bus, one 32-bit slot, 8 MB min memory	PC workstation with 486+, 32-bit PCI bus master slot (3.3V/5V), 8 MB RAM	SUN workstation with one available Sbus slot, 32 MB min memory
Drivers	OS/2 2.11 or higher OS/2 Warp 3.0	PC DOS 6.3+, MS-DOS 6.2+, Windows 3.1/NT 3.5, OS/2 Warp 3.0	Solaris 2.3 and 2.4 SUN OS 4.1.3
Cabling and connectors	STP or UTP (cat 3, 4, 5) with RJ-45	STP or UTP (cat 3, 4, 5) with RJ-45	STP or UTP (cat 3, 4, 5) with RJ-45
Standards support	ATM Forum UNI V3.0/3.1 SVCs, AAL-5, NDIS 2.01	ATM Forum UNI V3.0/3.1 SVCs, AAL-5, NDIS 2.01	ATM Forum UNI V3.0/3.1 SVCs/PVCs, AAL-5
Protocols enabled	NetBIOS, SNA, IPX, TCP/IP (LANE/Classical IP)	NetBIOS, SNA, IPX, TCP/IP (LANE/Classical IP)	TCP/IP
Environment	Ethernet ATM Forum LANE or Classical IP	Forum-compliant LANE or Classical IP	Classical IP
Physical specs	Height: 19 mm (0.75 in.) Depth: 292 mm (11.5 in.) Width: 88.27 mm (3.5 in.)	Height: 76.2 mm (3 in.) Depth: 15 mm (0.6 in.) Width: 157.5 mm (6 in.)	Height: 34.1 mm (1.3 in.) Depth: 83.8 mm (3 in.) Width: 146.7 mm (5.8 in.)
Operating environment	Temp: 10–40C (50–104F), Class C Humidity: 8%–80% FCC Class B, CISPR B, VCCI 2	Temp: 10–40C (50–104F), Class C Humidity: 8%–80% FCC Class B, CISPR B, VCCI 2	Temp: 10–40C (50–104F), Class C Humidity: 8%–80% FCC Class B
Warranty	Lifetime	Lifetime	Lifetime

TURBOWAYS 100 ATM Adapter at a Glance

Part number	04H7521 (PS/2) (Quantity 1) 04H7522 (PS/2) (Quantity 5)
Feature code	2984 (RISC System/6000) 5063 (RISC System/6000 device driver)
System requirements	RISC System/6000 or PS/2 workstation/server with 486+ processor, Micro Channel bus with one available 32-bit Type 5 slot, 8 MB min memory. Rec. PS/2: PC Server 500. Rec. RISC System/6000: models 7012, 7013, 7015.
Drivers	AIX 3.2.5, 4.1.4, 4.2 (RISC System/6000); NetWare 3.1.2/4.01+ (PS/2); OS/2 2.0+ (PS/2)
Cabling and connectors	62.5-micron, plenum-rated multimode fiber terminated with industry-standard SC connector
Standards support	ATM Forum UNI V3.0 for SVCs (incl. PVC), AAL-5 adaptation layer interface, Open data link interface, NetWare device driver specification (PS/2 only)
Protocols enabled	NetBIOS, SNA, IPX, TCP/IP (through LANE on PS/2), ATM API (AIX 4.2)
Environment	Forum-compliant LANE (PS/2 with OS/2 only), IBM LAN emulation (PS/2), Classical IP (RISC System/6000)
Physical specifications	Width: 16.25 mm (0.64 in.) Depth: 332.74 mm (13.1 in.) Height: 122.56 mm (4.8 in.)
Operating environment	Temp: 10–32C (50–90F), Class C Humidity: 8%–80% FCC Class B, CSPR B, VCCI 2
Warranty	One year

TURBOWAYS 155 ATM Adapters at a Glance

	ATM MC MMF Adapter	ATM MC UTP5/STP Adapter
Part number	38H6388 (PS/2) 38H6495 (RISC System/6000)	55H9366 (PS/2) 55H9368 (RISC System/6000)
System requirements	RISC System/6000 or PS/2 workstation with 486+, Micro Channel bus with one 32-bit Type 5 slot, 16 MB min memory	RISC System/6000 or PS/2 workstation with 486+, Micro Channel bus with one 32-bit Type 5 slot, 16 MB min memory
Drivers	AIX 3.2.5/4.1.4/4.2, NetWare 3.1.2/4.01+, OS/2 2.11+/Warp 3.0 for Forum-compliant LANE (PS/2)	AIX 3.2.5/4.1.4/4.2, NetWare 3.1.2/4.01+, OS/2 2.11+/Warp 3.0 for Forum-compliant LANE (PS/2)
Cabling and connectors	62.5-micron plenum-rated multi-mode fiber with SC connector	UTP (cat 5) or STP wiring with RJ-45 connector
Standards support	ATM Forum UNI V3.0 for SVCs/PVCs, AAL-5, Open datalink interface, NetWare device driver spec, OC/3	ATM Forum UNI V3.0 for SVCs/PVCs, AAL-5, Open data link interface, NetWare device driver spec, OC/3
Protocols enabled	NetBIOS, SNA, IPX, TCP/IP (through LANE on PS/2), ATM API (AIX 4.2), TCP/IP (AIX)	NetBIOS, SNA, IPX, TCP/IP (through LANE on PS/2), TCP/IP (AIX)
Environment	Forum-compliant LANE (PS/2, OS/2 only), IBM LAN emulation (PS/2), Classical IP (RISC System/6000)	Forum-compliant LANE (PS/2, OS/2 only), IBM LAN emulation (PS/2), Classical IP (RISC System/6000)
Physical specifications	Width: 16.25 mm (0.64 in.) Depth: 332.74 mm (13.10 in.) Height: 122.56 mm (4.82 in.)	Width: 16.25 mm (0.64 in.) Depth: 332.74 mm (13.10 in.) Height: 122.56 mm (4.82 in.)
Operating environment	Temp: 10–32C (50–90F), Class B Humidity: 8%–80% FCC Class A, CSPR A, VCCI 1	Temp: 10–32C (50–90F), Class C Humidity: 8%–80% FCC Class B, CSPR B, VCCI 2
Warranty	Lifetime	Lifetime

TURBOWAYS 155 ATM Adapters at a Glance (Continued)

	SBus Adapter-UTP5	SBus Adapter-MMF
Part number	41H8948 (Qty 1) 41H9135 (Qty 5)	41H8946 (Qty 1) 41H9026 (Qty 5)
System requirements	SUN workstation with one available Sbus slot and 32 MB min memory	SUN workstation with one Sbus slot and 32 MB min memory
Drivers	Solaris 2.3 or 2.4, SUN OS 4.1.3	Solaris 2.3 or 2.4, SUN OS 4.1.3
Cabling and connectors	UTP (category 5) wiring with RJ-45 connector	62.5-micron, plenum-rated multimode fiber with SC connector
Standards support	ATM Forum UNI V3.0 for SVCs/PVCs, AAL-5, Open data link interface, NetWare device driver spec, OC/3	ATM Forum UNI V3.0 for SVCs/PVCs, AAL-5, Open data link interface, NetWare device driver spec, OC/3
Protocols enabled	TCP/IP	TCP/IP
Environment	Classical IP	Classical IP
Physical specifications	Width: 83.8 mm (3.3 in.) Depth: 146.7 mm (5.77 in.) Height: 34 mm (1.34 in.)	Width: 83.82 mm (3 in.) Depth: 146.7 mm (5.77 in.) Height: 34.1 mm (1.3 in.)
Operating environment	Temp: 10–40C (50–104F), Class C Humidity: 8%–80% FCC Class B	Temp: 10–40C (50–104F), Class C Humidity: 8%–80% FCC Class B
Warranty	Lifetime	Lifetime

Interphase 155-Mbps ATM Adapters at a Glance

	5515 PCI Adapters	4915 GIO Adapters	4815 EISA Adapters
Part number	85H4041 (UTP5, Qty 1) 85H4042 (MMF, Qty 1)	85H4043 (UTP5, Qty 1) 85H4044 (MMF, Qty 1)	85H4045 (UTP5, Qty 1) 85H4046 (MMF, Qty 1)
System requirements	PCI 2.1-compliant or PowerPC workstation with 486+, DMA Master, Zero Wait State, 32-bit transfer, 16 MB RAM	GIO workstation with GIO32bis, Zero Wait State, 132 Mbps in 32-bit burst, 1 MB RAM	Intel EISA 3.12 workstation with 486+, 33 Mbps burst, DMA Master, Zero Wait State, 16 MB RAM (PVC) / 24 MB RAM (SVC)
Drivers	NetWare 3.x or 4.x Windows NT 3.5.1	IRIX 5.3	NetWare 3.x or 4.x Windows NT 3.5
Cabling and connectors	UTP5 with RJ-45 or 62.5-micron multimode fiber with SC connector	UTP5 with RJ-45 or 62.5-micron multimode fiber with SC connector	UTP5 with RJ-45 or 62.5-micron multimode fiber with SC connector
Standards support	ATM Forum UNI V3.0/3.1 SVCs/PVCs, AAL-5, Open data link interface, NetWare driver spec, OC/3	ATM Forum UNI V3.0/3.1 SVCs/PVCs, AAL-5, Open data link interface, NetWare driver spec, OC/3	ATM Forum UNI V3.0/3.1 SVCs/PVCs, AAL-5, Open data link interface, NetWare driver spec, OC/3
Protocols enabled	NetBIOS, SNA, IPX, and TCP/IP	TCP/IP	NetBIOS, SNA, IPX, and TCP/IP
Environment	Forum-compliant LANE, Classical IP for Windows NT, SMP	Forum-compliant LANE, Classical IP	Forum-compliant LANE, Classical IP for Windows NT, SMP
Physical specs	Depth: 167.64 mm (6.6 in.) Height: 106.36 mm (4.2 in.) Weight: 112 g (3.95 oz)	Depth: 163 mm (6.4 in.) Height: 8.57 mm (0.33 in.) Weight: 235 g (8.3 oz)	Depth: 339 mm (13.3 in.) Height: 107 mm (4.1 in.) Weight: 235 g (8.3 oz)
Operating environment	Temp: 0–55C (32–131F), Class B Humidity: 10%–95% FCC Class A, CSPR A, VCCI 1	Temp: 0–50C (32–122F), Class B Humidity: 5%–95% FCC Class A, CSPR A, VCCI 1	Temp: 0–50C (32–122F), Class C Humidity: 10%–95% FCC Class B, CSPR B, VCCI 2
Warranty	One year (by Interphase)	One year (by Interphase)	One year (by Interphase)

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