digital™

Software Product Description

PRODUCT NAME: PATHWORKS V6.0A for DOS and Windows SPD 55.07.18

DESCRIPTION

PATHWORKS™ for DOS and Windows® client software is PC integration software that integrates complex, multivendor environments. PATHWORKS software provides value-added features over and above the PC industry's major operating systems and network operating systems — including DOS, Windows, Windows for Workgroups, LAN Manager, and NetWare®.

PATHWORKS V6.0A client software ships with two CD–ROMs: a CD–ROM for PATHWORKS Software for DOS, Windows, and Windows for Workgroups systems and a CD–ROM for Year 2000 patches.

This Software Product Description describes:

- PATHWORKS components for DOS, Windows, and Windows for Workgroups
- Hardware and software requirements for PATHWORKS for DOS, Windows, and Windows for Workgroups
- Ordering information
- Software product services
- Software warranty

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PATHWORKS COMPONENTS FOR DOS, WINDOWS, AND WINDOWS FOR WORKGROUPS

Installation and Configuration Utilities

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software contains installation and configuration utilities. These utilities include ''autosensing'' capabilities, so the user has few questions to answer. The information resulting from the configuration utility can be stored in a database and manipulated remotely through the Workstation Manager utility (optional). The PC network manager can then modify the database to remotely reconfigure or update a PC or group of PCs.

File, Print, Disk, and InfoServer Services

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software provides the ability to simultaneously browse, connect to, and disconnect from PATHWORKS servers, retail LAN Manager servers, retail Windows NT™ servers, and retail NetWare servers.

Users can access file, print, disk, and InfoServer™ services as follows:

- **From Windows and Windows for Workgroups**, users can access services through the Network Connect utility. This Windows application lets users browse, connect to, and disconnect from various network services — regardless of the network operating system the user wants to access.

  Network Connect lets users search for, browse, and display information about available network resources — using a simple resource name rather than a network pathname. Users can search by attributes, such as ''color printer on the second floor.'' Network Connect includes the ability to load a print driver automatically when the user selects a printer.

- **From the DOS prompt**, users can connect to and disconnect from their services by using the standard LAN Manager and NetWare commands.

Password Assistant

DOS, Windows, and Windows for Workgroups users can store multiple passwords in an encrypted form on their local PCs, reducing the number of times they need to type a password. Password Assistant is independent of the server environment, so it can store LAN Manager and NetWare passwords.

Print Services

PATHWORKS client software allows users to print files to local and remote networked printers. For DOS, Windows, and Windows for Workgroups, printers attached to the PC can be configured as networked printers.

Mail Services

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software includes a DOS-based MAIL-11 client that allows the client to send and receive messages and documents to users of mail software on other systems.

DIGITAL Transport Support

PATHWORKS client software includes the following transports for the PC for connectivity to other systems that support the same transport:

- **For DOS, Windows, and Windows for Workgroups systems**:
  - **DECnet™ Phase IV**: A local-area and wide-area transport, implemented as both real-mode and protected-mode drivers (protected-mode driver for Windows for Workgroups only). Phase IV Prime is included when required for Token Ring networks.
  - **TCP/IP**: A wide-area transport, implemented as a real-mode driver.
  - **IPX/SPX**: A local-area and wide-area transport, implemented as a real-mode driver.
  - **NETBEUI**: A local-area transport, implemented as a real-mode driver.
  - **LAT™, CTERM, and Telnet**: Communications transports for use with terminal emulators — implemented as both real-mode and protected-mode drivers (protected-mode driver for Windows and Windows for Workgroups in enhanced mode only).
  - **LAST transport**: Implemented as a real-mode driver — for use with DIGITAL's InfoServer products and those DIGITAL PATHWORKS server platforms that support disk services.
- **For Windows for Workgroups systems**, protected-mode drivers are loaded automatically in protected-mode configurations.
- **For Windows systems running in enhanced mode**, protected-mode versions of LAT, CTERM, and Telnet are also loaded automatically.
- **For DOS and Windows users using real mode drivers**, PATHWORKS client software includes a utility that loads transports into Expanded Memory Specification (EMS) memory. This capability allows users to load more than one DIGITAL transport (for example, DECnet and TCP/IP) into EMS at a time, thereby saving PC conventional memory. Simultaneous, multiple transport support also provides users with a greater degree of interoperability, so they can connect to a variety of services using different transports without having to reconfigure or reboot their PC.
- **For DOS, Windows, and Windows for Workgroups systems**, PATHWORKS client software also includes several DOS-based and Windows-based utilities to manage the transports, including NCP (Network Control Program) for DECnet and TCNP for TCP/IP. PATHWORKS software also provides an SNMP (Simple Network Management Protocol) agent, with MIB II, GET, and SET support — for use with the TCP/IP transport and remote management tools.

Remote and Mobile Computing

For DOS, Windows, and Windows for Workgroups, PATHWORKS software includes support for remote and mobile users through the following features:

- Support for any application or access to any network service (file and print services, terminal emulation, Internet access, file transfer, or mail) that uses TCP/IP or DECnet Phase IV transports and does not require broadcast.
- Easy switching between LAN and WAN software configurations
- Ability to establish connections through a Windows dialer application (Remote Connection Manager) for all WAN types (asynchronous, ISDN, X.25, and X.32)
- Point-to-point (PPP) datalink protocol for async and ISDN with PAP/CHAP authentication and IP address negotiation and IP Header Compression
- ISDN connectivity through the Common ISDN (CAPI) V2.0 interface support, which allows a wide choice of IDSN cards from many vendors (including PCMCIA ISDN cards).
- A time-cutting feature for ISDN and X.25 that reduces communication costs by automatically disconnecting the communication link after a user-selectable time period when no network activity is occurring and automatically reconnecting when traffic is detected.

Asynchronous Connectivity

PATHWORKS software provides connectivity via a PC's asynchronous communication port (COM1 to COM4) for TCP/IP using the SLIP or PPP datalink protocols or for DECnet using the DDCMP™ protocol.

Point-to-Point Protocol (PPP)

PATHWORKS software can be configured with the PPP datalink protocol over either an asynchronous link or over an ISDN link. The following RFC protocols are supported through interoperability with third-party asynchronous or ISDN access devices.

- RFC 1548 — The PPP Protocol
- RFC 1549 — PPP in HDLC framing
- RFC 1332 — PPP Internet Protocol Control Protocol (IPCP)
- RFC 1144 — TCP/IP Header Compression (Van Jacobson)
- RFC 1376 — PPP DECnet Control Protocol
- RFC 1334 — PPP Authentication Protocols (PAP and CHAP)

ISDN Connectivity

PATHWORKS client software provides connectivity to the ISDN Basic Rate Access service for up to two ISDN B-channels (with 56/64 Kbit/s per B-channel). TCP/IP and DECnet transports can be used separately or simultaneously over either B-channel. The two B-channels may be connected to different ISDN destination numbers, one for TCP/IP and one for DECnet.

A PATHWORKS PC connected to the ISDN network (Basic Rate Access—one B-channel) conforms to CCITT recommendations I430, I440, I450, and I451. The PC behaves as a TE (Terminal Equipment) on the S-ISDN interface. When using the X.25 protocol, it conforms to the CCITT recommendations X.25 (1984) and acts from an X.25 standpoint as Data Terminal Equipment (DTE), the default, or as Data Circuit-terminating Equipment (DCE).

PATHWORKS ISDN connectivity supports any CAPI V2.0 compatible ISDN card.

X.25/X.32 Connectivity

PATHWORKS client software provides X.25 connectivity to a single, remote PC connected to public or private X.25 Packet Switched Data Networks (PSDN) conforming to CCITT specification X.25 (1984). The X.25 connectivity feature also supports the X.32 facility, which provides access to the X.25 network indirectly from the Public Switched Telephone Network (PSTN) using a dial-up connection. The PATHWORKS X.32 implementation meets the CCITT X.25 1980 specification; it runs with one PCMCIA V32/V32bis synchronous modem (autosync), compatible with PCMCIA V2.0, or with an external autosync modem connected to the COM port of the PC.

Remote Connection Manager

The Remote Connection Manager Windows application includes a connection diary, which provides a simple graphical interface for configuring different connections, connecting and disconnecting, and managing a database of all available connection choices. For asynchronous connectivity, it includes a Windows dialer and scripting tools for log in and authentication procedures.

WAN ACCESS

PATHWORKS WAN ACCESS enhances a single PATHWORKS PC connected to the WAN via X.25, ISDN/X.25, or X.32 with routing features. This client, called the Connector Node, provides WAN access to other clients (up to five including the Connector Node) located on the same Ethernet or Token Ring LAN — without affecting its function as a normal PATHWORKS client. The LAN-connected clients can be any PATHWORKS client (DOS or Windows, Macintosh®, OS/2®, or Windows NT clients), or any end node running TCP/IP or DECnet Phase IV.

Maintenance Operations Protocol Support for DIGITAL Terminal Servers and Routers

For DOS, Windows, and Windows for Workgroups systems, Maintenance Operations Protocol (MOP) downline load and upline dump support for DIGITAL terminal servers and routers is included with PATHWORKS. This allows users to use DIGITAL communications servers in environments without the presence of OpenVMS™ or DIGITAL UNIX® load host systems.

Token Ring Source Routing and Arbitrary MAC Addressing Support

For DOS, Windows, and Windows for Workgroups systems, in a Token Ring environment, PATHWORKS client software provides source routing support. PATHWORKS clients can communicate with other DECnet and TCP/IP nodes connected by multiple rings using source routing bridges.

PATHWORKS DECnet software contains a Token Ring specific feature that allows the use of protocols that may require the LAN MAC address to be modified. This feature, Phase IV-Prime Arbitrary MAC Address support, allows applications, such as IBM® 3270 Terminal Emulation, to adhere to IBM addressing policies.

To use the source routing or arbitrary MAC address features, all DECnet end nodes and routers connected to the Token Ring LAN must be upgraded to a version of DECnet that supports source routing and arbitrary MAC address features.

Token Ring Coexistence with IBM PC LAN Support Program

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software can coexist with the IBM PC LAN Support Program V1.2 and various Token Ring based applications that rely on the IBM DLC driver interface. (The DLC is a driver used by the IBM PC LAN Support Program.) PATHWORKS protocols can interface to the DLC driver using a PATHWORKS DLC mapping module. It is also possible to reconfigure the IBM LAN Support Program to use NDIS drivers.

Management

For Windows and Windows for Workgroups systems, PATHWORKS client software includes ManageWORKS™, a powerful, PC-based application for managing multivendor network operating systems. ManageWORKS allows PC network managers to view and to manage essential aspects of a network operating system directly from a remote PC through a single, advanced graphical user interface. ManageWORKS reduces the PC network manager's time and costs associated with system management.

ManageWORKS simplifies management tasks through the use of an object-oriented interface, which makes browsing and managing objects (servers, services, workstations) intuitive. Through ManageWORKS, the PC network manager can:

- Manage PATHWORKS servers, either LAN Manager based or NetWare based; for example, add or remove network users and resources
- Manage retail LAN Manager V2.x and NetWare V2.x and V3.x servers
- Configure PATHWORKS clients remotely with Workstation Manager
- View and manage multiple servers and clients simultaneously

ManageWORKS now includes Directory Assistant capabilities, which enable system managers to set up and manage their directory environment, using the Communities Administrator. System managers can add, move, replace, or modify printers and file shares, without affecting end

users or changing anything on end-user PCs. All that is required is a simple, single change to the directory. Directory Assistant tools include:

- **Network Resource Gatherer**: a tool for collecting information on printers and file shares that makes it easy for system managers to set up a directory environment
- **Community Synchronizer**: a tool for analyzing the gathered information and highlighting changes, such as new printers or file shares

Terminal Emulators

PATHWORKS client software includes two terminal emulators. Terminal emulators allow users to establish terminal sessions with a remote host computer. These emulators include:

- **VT320**: A terminal emulator that supports multiple LAT, CTERM, and Telnet sessions on Windows and Windows for Workgroups systems. The VT320 uses standard Windows features (pull-down menus, dialog boxes, online help); provides high-resolution font support, multiple language support (Windows and Windows for Workgroups only), keyboard remapping by clicking in a dialog box, and file transfer capabilities via KERMIT.
- **SETHOST**: A terminal emulator that supports multiple LAT, CTERM, Telnet, and NVT sessions on DOS systems.

Both terminal emulators include scripting facilities that enable the automation of frequently executed functions.

3270 Terminal Emulator Support

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software supports third-party 3270 terminal emulators that support the Gateway Access Interface (GAI) protocol for communications with DIGITAL's DECnet/SNA gateways.

X Windows Server

For DOS, Windows and Windows for Workgroups systems, PATHWORKS client software includes a DOS-based X server called PC DECwindows™ Motif®, which is based on the industry-standard Release 5 of the X Window System™ V11 (X11), protocol. An X Window System application, such as a DECwindows application executing on a remote system with DECnet or TCP/IP, may be displayed on and receive keyboard and mouse input from the personal computer. PC DECwindows Motif supports simultaneous DECnet and TCP/IP sessions.

File Transfer

Users can transfer files over the network using several utilities included in PATHWORKS client software:

For DOS, Windows, and Windows for Workgroups systems:

- **DECnet transport**: Utilities include DOS-based and Windows-based versions of NFT and FAL.

- **TCP/IP transport**: Utilities include DOS-based and Windows-based versions of File Transfer Protocol (FTP) and a DOS-based Trivial File Transfer Protocol (TFTP).

LAN Manager V2.2C

For DOS and Windows systems, PATHWORKS client software includes the Microsoft® LAN Manager V2.2C client file and print software, which consists of:

- NET commands.
- Application Programming Interface (API) functions (such as Named Pipes) for the development and support of distributed applications.
- Basic and Enhanced Redirectors. The Basic and Enhanced Redirectors support share names up to 12 characters in 8.3 format.
- NetBEUI transport.

PATHWORKS client software includes the Digital Basic Redirector, which supports share names up to 31 characters on servers that support share names of this length.

NetWare Support

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software includes Novell® NetWare client file and print software with both NETX and VLM shells. PATHWORKS clients configured for NetWare can attach to NetWare servers and use:

- MAP and ATTACH commands
- API functions for the development and support of distributed applications
- IPX transport

PATHWORKS clients can connect to NetWare servers in bindery mode only.

PATHWORKS adds value to the NetWare client software by enabling users to:

- Configure a single network adapter for both NetWare and LAN Manager over NDIS or ODI
- Connect to multiple NetWare servers with a single password — through the PATHWORKS Network Connect utility (Windows and Windows for Workgroups only)

Note: Running VLM with the Enhanced Redirector on DOS or Windows systems is not supported.

Remote Boot

For PATHWORKS LAN Manager clients on DOS or Windows systems, remote boot is accomplished via the industry-standard Remote Program Load (RPL) protocol. PATHWORKS remote boot users who used the Maintenance Operations Protocol (MOP) and Local Area Disk/Local Area Systems Transport (LAD/LAST) protocols in previous releases can continue to remote boot by configuring the PC to load an RPL image. The RPL image then completes the remote boot process. A Windows-based remote boot configuration program is provided to configure the PCs.

PATHWORKS remote boot clients do not support NetWare coexistence.

PATHWORKS Information Shelf

For Windows and Windows for Workgroups systems, all documentation, tutorials, and help files are available through the PATHWORKS Information Shelf, an on-line library that lets users search for, display, and print information quickly and easily. Documents are sorted according to user preferences—alphabetically, by component, or by information type.

Tutorials

For Windows and Windows for Workgroups systems, PATHWORKS client software includes two tutorials:

- **Basics**: Describes user tasks such as connecting to network resources, transferring files, using terminal emulators.
- **Administration**: Describes system administrator tasks such as using ManageWORKS, using remote boot, and setting up Directory Assistant communities.

Multilinguality

Major PATHWORKS components are provided in nine languages: Czech, English, French, German, Italian, Portugese (Brazilian dialect), Russian, Spanish, and Swedish. (See Table 1.)

- Most applications have separate, executable variants for each language.
- Two applications were implemented using the more advanced Multilingual Application model in which one executable version of the application allows dynamic switching of the user interface language and character set. The user selects the language from a menu, and the interface changes immediately.

In addition, the *User's Handbook* (for DOS, Windows, and Windows for Workgroups) is provided in nine languages (available on the Information Shelf).

Table 1 Localized Applications

Application	DOS	Windows V3.1 and Windows for Workgroups
VT320[1] [2]		X
Remote Connection Manager[1]		X
Network Connect		X
ManageWORKS		X
PWSETUP	X	X
Tutorials		X
Information Shelf (interface)[3]		X
NFTW		X
FTPW		X
Mail	X	
SETHOST	X	
PC DECwindows/Motif [4]	X	
Broadcast	X	
Receiver	X	

[1]Multilingual application.

[2]Includes Greek language conventions.

[3]Except the User's Handbook for DOS, Windows, and Windows for Workgroups provided in nine languages.

[4]Except Russian and Czech.

Year 2000 Ready

For PATHWORKS V6.0A client software to be Year 2000 ready, the Year 2000 Update must be installed after the PATHWORKS V6.0A for DOS and Windows software kit is installed. For instruction on how to install the Year 2000 Update, see the readme file included with it.

After proper installation, PATHWORKS V6.0A client software will be capable of accurately processing, providing, and/or receiving date data from, into, and between the twentieth and twenty-first centuries and the years 1999 and 2000 — including leap year calculations, when used in accordance with the associated documentation and provided that all other products (for example, hardware, software, and firmware) used with PATHWORKS client software properly exchanges date data with it.

PATHWORKS client software is dependent upon correct dates received from the operating system on which it runs. This includes file dates and system dates. PATHWORKS client software is also dependent on dates received from remote networked systems.

PATHWORKS client software receives dates as they are provided by local or networked systems. It processes, manipulates, and displays date data, but generally does not create new dates.

HARDWARE AND SOFTWARE REQUIREMENTS FOR PATHWORKS FOR DOS, WINDOWS, AND WINDOWS FOR WORKGROUPS

Workstation Requirements

The following are the minimum workstation requirements based upon operating system platform:

- **For DOS systems**: 80286 PC, EGA and VGA class videos with monochrome or color monitor, 640 KB of conventional memory, 640 KB EMS, 64 KB XMS (HMA), 1 MB of additional memory, and a supported Ethernet, Token Ring, or FDDI network adapter driver.
- **For Windows and Windows for Workgroups systems**: 80386 PC, VGA with color monitor, 640 KB of conventional memory, 640 KB EMS, 64 KB XMS (HMA) 3 MB of additional memory, and a supported Ethernet, Token Ring, or FDDI network adapter driver.
- At least one system in the network must contain a CD–ROM reader or DIGITAL InfoServer to load the software.

At least one PC with a high-density drive and a CD–ROM drive is required if no prior network connection has been established. Software that creates an initial connection in LAN Manager, LAN Manager X.25, or NetWare networks and InfoServer is provided on 3.5-inch high-density disks.

Each system is supported only in a native hardware configuration with its native operating system; that is, supported configurations are those in which the hardware components and operating system software are supplied by the base system vendor.

If a customer problem with PATHWORKS client software can be reproduced by the customer on one of these supported configurations, DIGITAL will work the problem to resolution on the supported configuration. If the customer problem cannot be reproduced by the customer on one of these supported configurations, it will be the customer's responsibility to resolve the issue.

Disk Space Requirements

For PATHWORKS software for DOS, Windows, and Windows for Workgroups, client software may be stored either on the personal computer's local storage device or on the server system, or both. The maximum disk space required for the installation of all PATHWORKS client software is approximately 150 MB. Disk space required for individual PCs varies, depending on the configuration and whether the PC is sharing software or running it locally. Local language variants require approximately 15 to 20 MB per language.

Network Connections Support

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software supports any of the LAN and WAN connections shown in Table 2 and Table 3.

Table 2 LAN Connections

Physical Link	Datalink	Transport
Coax, TP	Ethernet	TCP/IP, DECnet, IPX, NETBEUI, LAT, LAST
Coax, TP	Token Ring	TCP/IP, DECnet, IPX, NETBEUI, LAT, LAST
Fiber Optic	FDDI	TCP/IP, DECnet, IPX, NETBEUI, LAT, LAST

Table 3 WAN Connections

Physical Link	Datalink	Transport	WAN Access Routing
Async (direct connect or dial-up)	PPP	TCP/IP	
	SLIP	TCP/IP	
	DDCMP	DECnet	
Sync dial-up (autosync modem)	X.32	TCP/IP, DECnet	Yes
ISDN	PPP	TCP/IP, DECnet	
	X.25	TCP/IP, DECnet	Yes
Sync	X.25	TCP/IP, DECnet	Yes
Coax, TP	Token Ring	TCP/IP, DECnet, IPX, NETBEUI, LAT, LAST	
Fiber Optic	FDDI	TCP/IP, DECnet, IPX, NETBEUI, LAT, LAST	

Network Adapter Card Support

For DOS, Windows, and Windows for Workgroups systems, PATHWORKS client software supports the following network adapter cards:

- The DIGITAL family of EtherWORKS (via native, NDIS, and ODI drivers), FDDI (via NDIS and ODI drivers), Token Ring (via NDIS, ODI, and DLC drivers), X.25 and ISDN (via DIGITAL adapter cards) network adapter cards. DIGITAL-developed drivers are fully supported.

- Various third-party Ethernet, FDDI, and Token Ring network adapter cards if accompanied by an appropriate driver from the vendor.

PATHWORKS client software (for DOS, Windows, and Windows for Workgroups systems) was written to adhere to the standards in the NDIS V2.0.1, ODI Rev. A, DLC V1.2, and V1.3 specifications. Every effort has been made to ensure that the software adheres to these interfaces; however, because individual vendors' interpretations of these specifications may vary, some applications may not function in DIGITAL's PATHWORKS network environment.

If a customer problem with PATHWORKS client software can be reproduced by the customer on one of these supported configurations, DIGITAL will work the problem to resolution on the supported configuration. If the customer problem cannot be reproduced by the customer on one of these supported configurations, it will be the responsibility of the customer to resolve the issue.

For the convenience of our users, PATHWORKS software contains several third-party NDIS, ODI, and DLC drivers. These drivers are furnished ''as is'' from the vendor, and DIGITAL cannot be held liable for any special, indirect, incidental, or consequential damages.

Asynchronous Connection Requirements

Connection to the PSTN (telephone network with asynchronous connection) requires a Hayes® compatible or V.25 compliant modem. (PTT certification is required in most countries.)

ISDN Connection Requirements

Connection to the ISDN network requires:

- Any common ISDN API V2.0 (CAPI V2.0) compliant ISDN card. Vendors include:
  - AVM
  - Diehl/Eicon
- Diehl/Eicon CAPI V2.0 ISDN cards (either PCMCIA or ISA cards) available from DIGITAL MCS in Europe, Eicon for the U.S., and Eicon, Diehl and their resellers elsewhere. Drivers for these cards are included with PATHWORKS software for customer convenience. See Table 4.
- ISDN card from OST (a French manufacturer). Drivers for this card are included with PATHWORKS software for customer convenience. See Table 5.

Table 4 ISDN Cards (Eicon)

Description	Eicon Part Number	DIGITAL MCS Part Number (Europe Only)
DIVA XT/AT INT ISDN	310-182	DT-A0108-AX
DIVA XT/AT W/FAX-III	600-235	DT-A0108-AZ
DIVA/PCM ISDN/PCMCIA	310-184	DT-A0108-BB
DIVA/PCM W/FAX-III PC	600-237	DT-A0108-BC
SCOM	310-185	DT-A0108-BF
SCOM XT/AT W/FAX-III	600-256	DT-A0108-BJ

Table 5 ISDN Cards (OST)

Description	OST Part Number	DIGITAL MCS Part Number (Europe Only)
ISDN PCS0 Controller card, ISA bus, BRI interface	PCSnet Plus	DT-A0114-AC

X.25 Connection Requirements

Connection to the PSDN requires one of the X.25 Eicon PC boards, available from DIGITAL MCS or Eicon resellers (Table 6).

Table 6 X.25 Boards (Eicon)

Description	Eicon Part Number	DIGITAL MCS Part Number (Europe Only)
EiconCard/PC ISA bus, speed up to 19.2 Kbit/s,V.24 interface	310-053	DT-A0108-AA
EiconCard HSI/PC ISA bus, speed up to 128 Kbit/s,V.24/V.35/X.21 interface	310-052	DT-A0108-AB
EiconCard DPNA/PC ISA bus, speed up to 128 Kbit/s, V.24/V.35/X.21 interface	310-077	DT-A0108-AC
EiconCard/MC MCA bus, speed up to 19.2 Kbit/s, V.24 interface	310-057	DT-A0108-AD
EiconCard HSI/MC MCA bus, speed up to 128 Kbit/s, V.24/X.35/ V.21 interface	310-050	DT-A0108-AE

The following cables are also required:

- BC09U-10 for DT-A0108-AA,-AD

- BC09V-10 HSI™ V.24 modem cable for -AB,AC,AE cards
- BC09W-10 HSI V.35 modem cable for -AB,AC,AE cards
- BC09X-10 HSI X.21 modem cable for -AB,AC,AE cards

X.32 Connection Requirements

When the PC is connected indirectly to the X.25 network, through the PSTN, it requires one of the following connection solutions:

- X.32 connection through the PCMCIA or COM ports using an autosync modem from Attachmate or from Quaternaire Informatique (France), an affiliate of Attachmate. Two different modem formats are available:
  - PCMCIA 2.0 ''autosync'' modem card (model: TOP32)
  - External ''autosync'' modem connected to the PC COM port (models: Pocket 32 or Microspeedy)
- X.32 connection using an Eicon X.25 card connected to any synchronous, Hayes-compatible or V.25 compliant modem.

Printer Support

PATHWORKS client software supports industry standards for personal computer printers (for example, the HP® LaserJet® series.) Users can obtain the drivers for these printers from the printer manufacturer or from Microsoft Windows software.

Operating System and Microsoft Windows Support

PATHWORKS client software supports the following PC operating systems:

- COMPAQ® DOS V5.0
- DECpc™ DOS V5.0
- IBM DOS V5.0, V6.0, V6.3
- Microsoft DOS V5.0, V6.0, V6.2, V6.22
- Olivetti® DOS V5.0
- Toshiba® DOS V5.0
- Zenith® Data Systems DOS V5.0
- Microsoft Windows V3.1 or V3.11
- Windows for Workgroups V3.x

To ensure complete interoperability, you should use the operating system software supplied by the PC vendor.

If you are using the Microsoft DOS V6.0, Memmaker Utility, you should use its Custom Mode Setup.

PATHWORKS client software supports only those applications that support the DOS V5.0 Task Switcher Application Programming Interface (API). Every effort has been made to ensure that the software adheres to the DOS V5.0 Task Switcher API.

However, individual vendors' interpretations of the specification may vary, and therefore, some applications may not function in DIGITAL's PATHWORKS network environment with the Task Switcher enabled.

Network Operating System Support

PATHWORKS client software also enables customers to configure selected PATHWORKS components and retain existing network operating system configurations. Supported clients are:

- Microsoft Windows for Workgroups V3.11
- Microsoft LAN Manager V2.2C
- Novell NetWare NETX Shell or the VLM Shell

EMS Support

For DOS, Windows, and Windows for Workgroups, PATHWORKS client software supports the use of Expanded Memory Specification (EMS) applications that are V4.0 compliant. Every effort has been made to ensure that the software adheres to the EMS V4.0 specification. However, because individual vendors' interpretations of the specification may vary, some applications may not function in DIGITAL's PATHWORKS network environment.

Remote Boot Support

For DOS and Windows systems, PATHWORKS client software uses the Remote Program Load (RPL) protocol to provide remote boot capabilities for personal computers in LAN Manager-based Ethernet or Token Ring network environments. In order to remote boot, a PATHWORKS client must be equipped with:

- Network adapter card with:
  - RPL ROM
  - DIGITAL EtherWORKS™ or EtherWORKS 3 cards that contain MOP ROMs
  - DIGITAL EtherWORKS, 3Com® EtherLink® II (3C503), or 3Com EtherLink/MC (3C523) that uses a floppy remote boot (FRB) disk to initiate a remote boot using the MOP protocol
- NDIS driver
- LAN Manager Enhanced Redirector
- Microsoft DOS V5.0, V6.0, or V6.2

- NetBEUI as the boot transport. After the boot process has completed, another transport, such as DECnet or TCP/IP, can be loaded.

Using RPL, a PATHWORKS client can remote boot from the following servers:

- PATHWORKS V5.0 for OpenVMS (LAN Manager)
- PATHWORKS for SCO™ UNIX V1.1 (with DOS V5.0 only)
- PATHWORKS V5.0 for DIGITAL UNIX (LAN Manager)
- PATHWORKS for DIGITAL UNIX V6.1
- PATHWORKS for OS/2 V2.0B
- Retail Microsoft LAN Manager V2.2 OS/2 servers

Note: Remote boot is not supported with Windows for Workgroups.

WAN ACCESS Hardware and Software Requirements

Workstation Requirements (for DOS, Windows, and Windows for Workgroups Systems)

- 80386 and 80486 based PCs or higher
- 50 KB conventional memory

WAN Interface Requirements

PATHWORKS WAN ACCESS supports any of the WAN connectivity devices which are supported by PATHWORKS . Refer to X.25 and X.32 Connection Requirements section of this SPD.

LAN Interface Requirements

PATHWORKS WAN ACCESS supports Ethernet or Token Ring network interface cards with an NDIS driver.

WAN ACCESS Software Requirements

- PATHWORKS client software

Remote Boot Support

The Remote Boot functionality is not supported over the WAN link.

ORDERING INFORMATION

Software Licensing

You must purchase a *DIGITAL PATHWORKS 32* license for each PC using any portion of the PATHWORKS V6.0 for DOS and Windows software product.* You may obtain these licenses in one of the following ways:

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