

Features

- PC terminal communications under DOS and Windows⁺ to MODCOMP⁺ and other computers
- Character and block mode data transmission
- Protected areas; logical, monochrome, and color nonspacing attributes
- Supports monochrome, CGA, EGA, and VGA adaptors with 80 or 132 columns and up to 50 text lines
- Programmable keyboard, status line, cursor, and host CPU access menu
- Native mode and VT100⁺ escape codes
- Remote program access to PC disks, printers, network devices, and DOS applications
- Send/Receive from/to disk files with filters
- Configurable by pop-up menus, hot keys, and host escape codes
- Mouse compatible
- Unlimited script macro files
- Line data monitor
- Asynch communications support direct and modem connections, 300 to 115k baud using COM1,2,3, & 4
- Compatible with Banyan VINES⁺ (for LAN communications), TSX, TSX/32, and PC File Support
- On-line help

PC MYNAH™

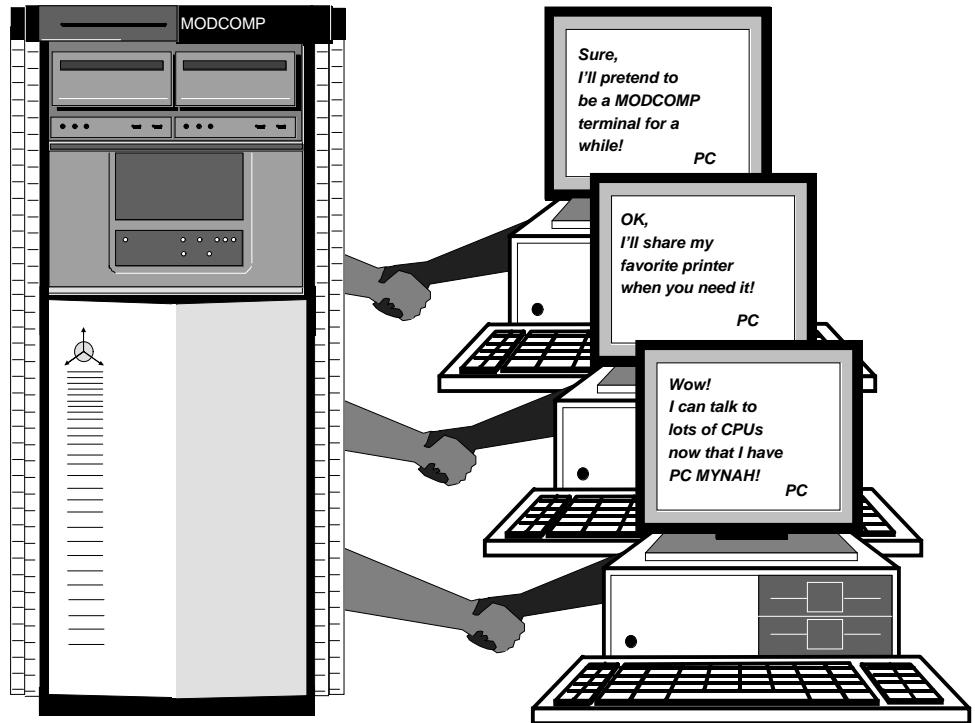


Figure 1: Mini/Microcomputer Technologies Interfaced

PC MYNAH is a communications software program for the IBM⁺ PC, XT, AT, PS/2, and compatible personal computers. It allows a PC using DOS or Windows to operate as a CRT workstation and communicate with a computer or other device through an asynchronous adapter or over a local area network (LAN).

Unlike a simple CRT or other terminal emulators, PC MYNAH opens the full computing and storage resources of the PC to remote computer applications, creating a transparent integration of mainframe and personal computer

systems. Mainframe programs can exchange data with the PC and invoke PC applications as callable subroutines or functions of the mainframe. The best hardware and software of both environments can be combined effortlessly. All of this activity can be provided over asynchronous links, LANs, or even remotely over dial-up modem connections.

Almost everything about PC MYNAH is reprogrammable using simple pull-down menus—this includes the keyboard, CRT display, communications parameters, file transfer filters, and configurations.

PC MYNAH is fully compatible with LDC's other software products, such as TSX, TSX/32, and PC File Support. Existing full screen and conversational applications will find even more flexibility with PC MYNAH, including mouse support. We have even included VT100 emulation for use with open systems software.

Whether your need is analyzing mainframe data, collecting PC data, or improving your software development environment using PC text editing, PC MYNAH is the perfect choice.

Display

PC MYNAH supports monochrome, color, and LCD displays and is compatible with most display adapters. A full set of non-spacing attributes control the display presentation. These include high, low, and zero intensity, blinking, reverse, underline, and normal data. For color displays, independent control of 16 foreground and 8 background colors is standard. For more advanced color displays, an additional 8 background colors are available in place of blinking.

To maximize the resolution capabilities of your display, PC MYNAH provides selectable character resolutions of 80 or 132 columns and 25, 43, and 50 lines in various combinations.

The user has complete control of the presentation colors for all information displayed.

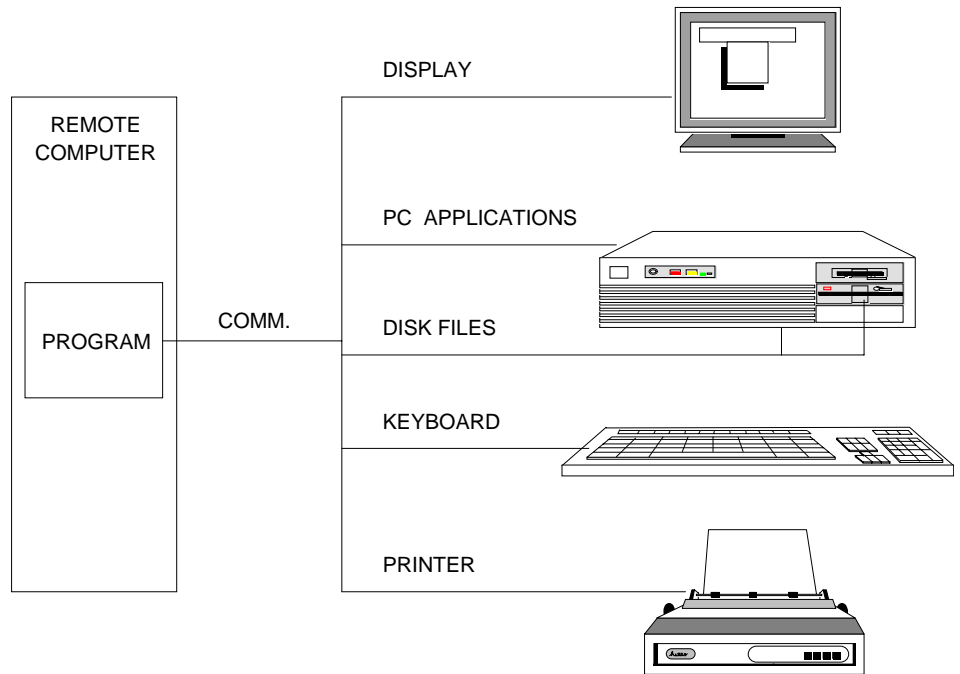


Figure 2: Full Access to PC Resources

This includes all choices for data display, status line, cursor, menus, borders, data entry, and error displays. A screen saver is also provided to protect displays.

Status Line

The last line of each display is defined as a programmable status line. Normally the status line displays important operating parameters, which include cursor position, keyboard lock status, duplex mode, display mode, connection status, file transfer status, baud rate, context sensitive messages, and system or connect time. The status line is also fully remotely programmable. It may be

removed, if desired. It may also be replaced or alternated with a user-defined status line.

Programmable Keyboard

PC MYNAH allows each user to assign or reassign the functionality of all single keyboard keys on the PC (except Shift, Alt, and Ctrl). Any combination of Shift, Alt, or Ctrl followed by a redefinable single keyboard key can also be assigned or reassigned (Shift-F1, Shift-Ctrl-a, Alt-c, etc.). Each key combination may be individually programmed to emit a string of data, call an internal function, or invoke a menu or a macro script file. For conversational mode, tabs may be defined

and transmitted or simulated as spaces. Since each user saves keyboard assignments in his own configuration file, keyboard functionality for other users is not affected.

Mouse

PC MYNAH is compatible with most PC-based mice as an alternate to keyboard input. The mouse can position the character cursor, send data, and invoke and select menu options.

Conversational and Buffered I/O

PC MYNAH supports both conversational and buffered modes of data transmission. In conversational mode, data is transmitted as typed. Data may be internally echoed or echoed by the remote computer or device. A convenient scroll-back feature is provided.

In buffered mode, data is stored as typed, then transmitted in a single block when sent by keyboard or computer command. Buffered mode, when used in combination with protected and unprotected fields, supports user-friendly fill-in-the-blanks forms. Local editing keys reduce the load on remote computers and simplify application programs. Protection attributes do not consume a display position and, when used, only allow typing in unprotected areas.

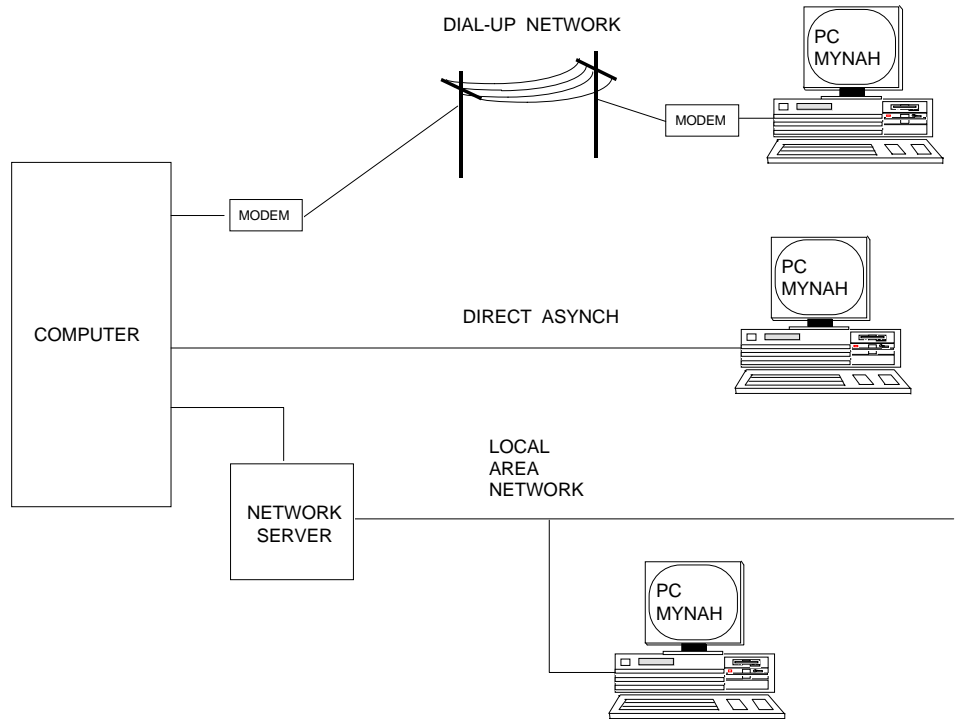


Figure 3: Flexible Communications Interfaces

Communications

PC MYNAH communicates using ASCII code through any PC asynchronous adapter, internal or external modem, and over Ethernet LANs using network terminal interfaces provided in PC network software such as Banyan VINES.

Asynchronous I/O is interrupt driven and fully buffered to support data rates from 300 baud to 115 kilobaud, using any frame structure. Even slower PCs can operate efficiently at 9600 or 19200 baud without data loss using PC MYNAH. Both XON/XOFF and Clear to Send flow control are available.

Under network communications, PC MYNAH can utilize very high data rates and share existing local area networks.

PC MYNAH is compatible with Hayes⁺ and other programmable modems to provide automatic and manual dial-up, answer, disconnect, and retry operations.

Using a built-in host log, the unique communications and connection requirements of up to ten remote computers can be defined. A single keystroke can be programmed to switch and connect to any remote computer. PC MYNAH provides a common user interface no matter how you connect.

Disks

PC MYNAH can utilize disk files to capture or send text files concurrently with other activities. Features such as programmable text prompting, filtering, transmit timing, and

flow control allow it to adapt to the widest range of remote system requirements. This is particularly important when the PC is used to communicate among a mix of system types. Send and capture functions also include text translation

for case, tabs, and null lines. Target files for captured data may be created, or existing files may be opened and captured data appended.

Protocols such as X-modem can be selected to manually support both text and binary file transfers.

PC MYNAH also supports a more powerful record level multi-file access protocol, which may be intermixed with normal ASCII communications traffic. This allows a remote computer to create or access one or more files concurrently and transfer text and binary information while still having concurrent access to display, keyboard, printer, and send/capture file functions. All of these operations can be interleaved on the same communications link.

All protocol-based file accesses are fully checksummed using a CRC-16 algorithm with automatic error recovery and sequencing to protect against duplicate or dropped records.

With PC File Support in the host computer, host programs may access PC disk file data sequentially or randomly as though it existed directly on host system devices. Protocol support provides text compression and tab support for ASCII files. Fixed and variable length binary data is supported for compatibility with host system disks and to provide exact control over data formats. This insures compatibility with any PC file requirement.

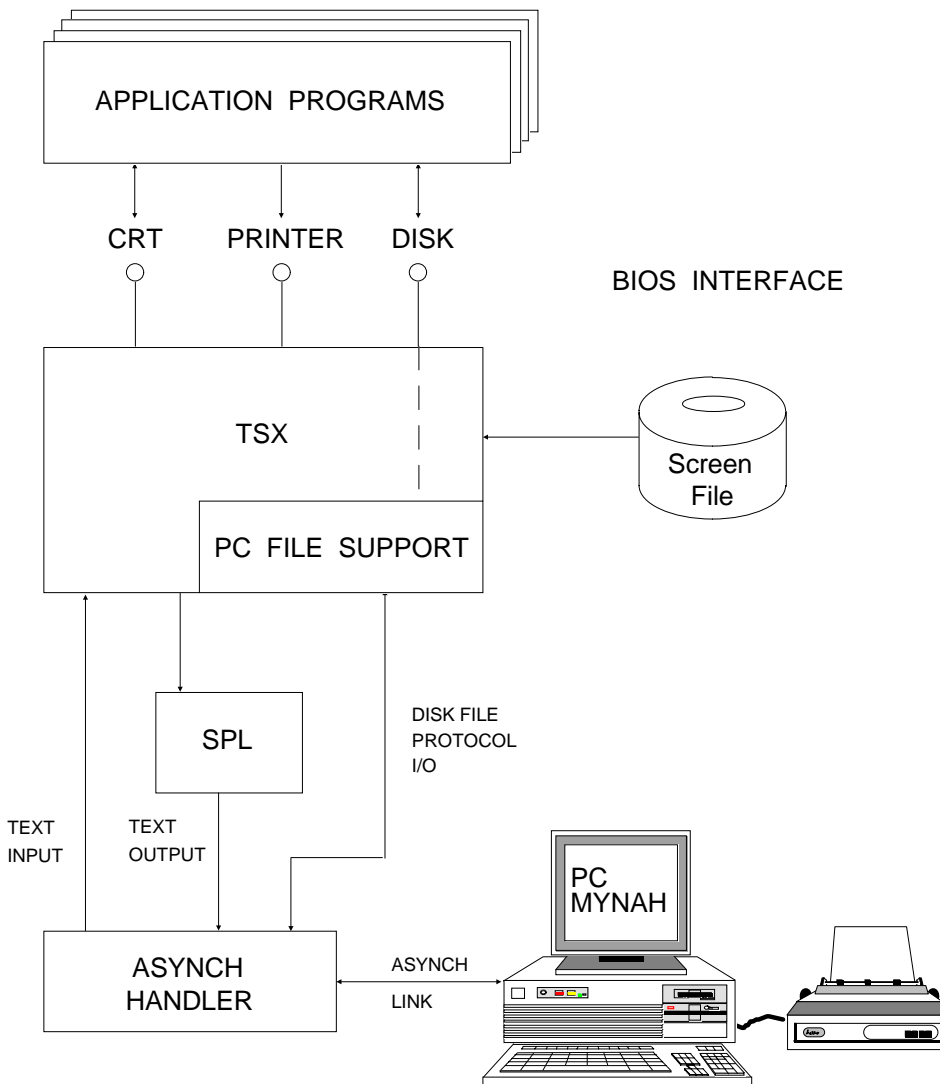


Figure 4: System Interfaces in a TSX Environment

A pop-up display allows monitoring of PC MYNAH file activities in real-time.

Printers

PC MYNAH supports printers (or other devices) connected to either parallel or serial ports. Data can be printed from the screen, or bidirectional conversations may be copied to the printer with the touch of a key. PC MYNAH also lets a remote device select the printer as an output device and direct information to it transparently without affecting the display. Host directed printer communication through PC MYNAH allows a single communications link to support both devices and uses communications buffering and flow control to prevent loss of data. Figure 2 shows a variety of peripheral devices using a single communications link.

DOS Applications

PC MYNAH opens up the entire set of DOS application programs for use with mainframe software. Imagine being able to call a spreadsheet, text processor, graphics display, or other PC program from within your host mainframe application program! A simple escape sequence issued from the mainframe system can cause PC MYNAH to shell to a DOS application program or to access the DOS command interpreter. The mainframe application may continue

processing or wait for the PC program to complete. All of PC MYNAH's code except for about 20 KB is swapped to disk, freeing memory for the shelled application.

PC MYNAH automatically saves the host display, user data, and cursor location and restores them when a buffered display application calls a DOS application. DOS output simply continues for conversational programs and appears to be issued as a continuation of mainframe output. All communications data received during PC applications is saved by PC MYNAH. To insure no data is lost, flow control is also active. DOS applications and the command interpreter can also be accessed from the menu or with a single keystroke.

Access to DOS applications combined with data transfers allows PC software and mainframe applications to be integrated seamlessly. This creates innovative solutions for data entry, data analysis, data control, and software development for a more productive environment.

Windows Environment

PC MYNAH is compatible with Microsoft's popular Windows software. When running PC MYNAH under Windows, the user may carry on background file transfers even when accessing other Windows applications.

Requirements and Options

Hardware

- an IBM PC/XT/AT, PS/2, or compatible Personal Computer with at least :
 - 256 KB memory
 - one asynchronous adapter, internal modem, or LAN interface
 - one floppy disk drive
- 386 processor required if using Windows

Hardware Options

- hard disk
- printers
- mouse
- local area network server
- external modems
- additional communications ports

Software - PC

- DOS 3.0 or Windows 3.0 (or later versions)

Software Options - PC

- PC applications such as spreadsheets, word processors, graphics, etc.

Software Options - Host

- TSX
- PC File Support
- DB EXPORT

Escape Codes

Remote control of PC MYNAH is provided by over 30 ASCII escape code sequences. These are usually from a host computer program and received through a communication port. Alternatively, they may be issued locally from the PC keyboard under some circumstances. Escape code sequences followed by decimal or hexadecimal text values may also be used in macros files.

Standard escape codes sequences typically provide remote control for erasing portions of the display, positioning the cursor, locking or unlocking the keyboard, selecting the printer, defining display presentations, protecting display text, determining cursor location, invoking data transmission, controlling operating modes, and more. PC MYNAH provides even more flexibility by allowing the host to select from menus, to call functions and macros from the keyboard as though typed by the user, and to invoke DOS applications or the command interpreter.

PC MYNAH's escape codes are fully compatible with TSX, TSX/32, and existing application programs to make your PC the perfect terminal.

As an added bonus, PC MYNAH also includes emulation for the popular VT100 codes used as a de facto standard on many open and proprietary systems.

Line Data Monitor

PC MYNAH includes a built-in line data monitor that can capture, store on disk, and/or display all communications, including protocol with a remote computer. The captured data on disk is formatted so that it may be edited with most PC text editors for analysis. The displayed monitor data can be selectively highlighted or shown in your choice of color so you can quickly spot 8-bit and control codes. Unlike other terminal emulators, PC MYNAH allows data capturing on disk with full display and disk functionality to allow debugging of complex displays and protocols.

Macro Command Interpreter

PC MYNAH provides a complete text-based macro interpreter. Macros may be defined using any text editor and stored on disk as a script file. The number of macros that can be created is essentially unlimited. A macro file may include a simple set of commands to send text, receive and compare text to a string, invoke PC MYNAH internal functions such as the menu, test interface signals, provide

timing, and perform conditional logic and control loops.

Macro scripts are referenced by file name and may be invoked by a keystroke or from a host system. Macro scripts are interpreted and executed by PC MYNAH. Macros may also call other macros to logically build an efficient functional structure. They can even be created by a remote host, stored on the PC, and then invoked.

Scripts are commonly used for implementing a programmed sequence for connect/logon procedures, telephone dialing, modem command sequences, and user-defined keyboard functions. PC MYNAH includes six modem macro scripts that can be configured for your modem: ANSWER, AUTOANSWER, PREFIX, DISCONNECT, INITIALIZE, and RESET.

As PC MYNAH evolves, additional flexibility and new commands can be introduced and supported by the macro script file structure without obsoleting your existing files.

Menus

Pull-down menus provide easy keyboard and mouse access to all PC MYNAH functions and options. Cursor position from the keyboard or mouse and hot keys can be used to rapidly view and select from each menu. PC MYNAH conforms to the look and feel of most PC software, so you will be up

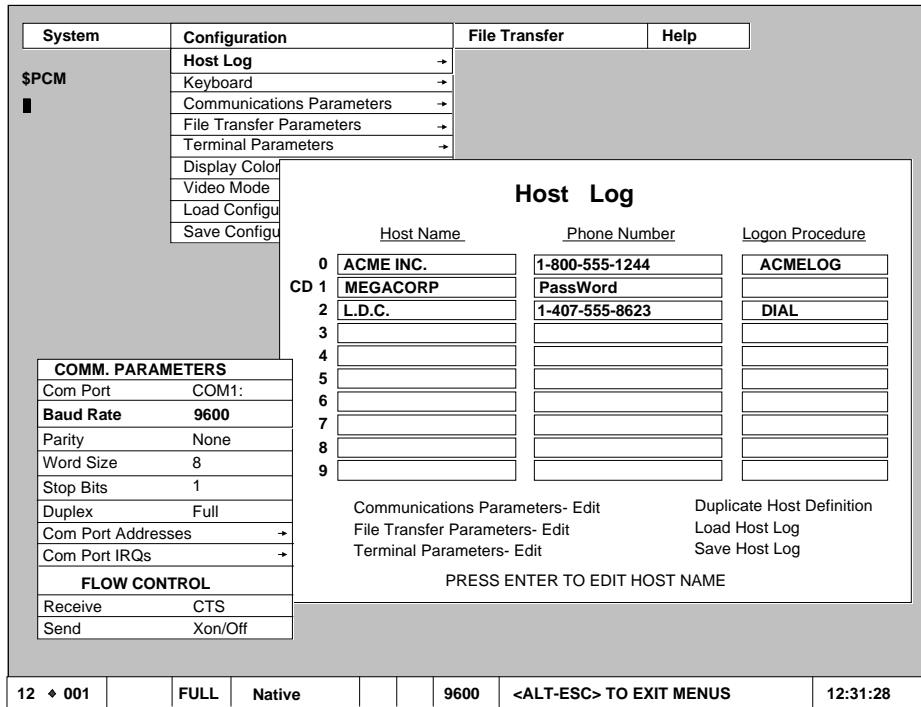


Figure 5: Configuration Menu, Host Log, & Parameter Data

and operating quickly. Configurations defined through the menus may be saved under any file name and recalled easily at any time or automatically at start-up.

The user may at any time return to a previous menu or terminate the menu process by a mouse click or keystroke. Remote access to all menu options allows host control of all configuration functions using a simple escape code sequence.

The top level menu is typically invoked using Alt-Esc, but this can be reprogrammed to eliminate conflicts with other

software or hardware. Since there are no dedicated keys within PC MYNAH, maximum compatibility with other TSR programs is possible.

Online Help

The entire PC MYNAH reference manual is available online at the touch of a button from any point without interfering with current operations. A topical, multilevel, on-line help index aids in quickly finding desired information. Help text may be scrolled forward or backward by line or page within the help window to

reference nearby related information. Scrolling allows sufficient information to be presented without being limited by the size of the display. You may pop back to a previous help index, to the general index, or immediately leave the help system at any time.

A Lasting Investment

Logical Data Corporation is a company with years of experience in providing system solutions using a modular, upgradeable software architecture with dependable support. PC MYNAH combines the best features in a communications program for PC-to-host computer access—it is the perfect choice for compatibility with such widely used products as TSX and PC File Support and with applications based on these products. We can guarantee compatibility because these products are all designed, produced, and supported by Logical Data Corporation.

We take your investments in our products seriously. We encourage your comments and listen to your suggestions. By combining research and development, we continue to enhance our products to make good investments worth even more. Look for PC MYNAH to continue its evolution with the inclusion of more features and support of other PC operating systems, computing platforms, and networks.

ADDENDUM

The following provisions have been established for Software Licensing, Installation, and Maintenance for Logical Data Corporation's PC MYNAH software.

Documentation

Each PC MYNAH license includes one reference manual. Additional copies can be purchased.

Licensing

PC MYNAH is a licensed software product. Opening the software container, upon which the LOGICAL DATA CORPORATION PROGRAM LICENSE AGREEMENT is printed in its entirety, indicates acceptance of the license agreement.

Code Availability

PC MYNAH software is provided to customers in object code format. This software is not copy protected.

Software Release Media

PC MYNAH can be supplied on 5 1/4" disks in 360 KB or 1.2 MB densities or on 3 1/2" disks in 720 KB or 1.44 MB densities.

Installation

PC MYNAH may be installed on a hard disk or floppy by the customer or by Logical Data Corporation. Logical Data Corporation provides telephone support without additional charge to assist customers during installation. On-site installation assistance can be provided by Logical Data Corporation at additional charge. Specific information and fees

regarding on-site installation may be obtained by consulting the LOGICAL DATA CORPORATION SOFTWARE PRODUCT CATALOG or by contacting LDC.

Maintenance

Each PC MYNAH license includes one year of software maintenance, which consists of telephone support for on-site product problems, software corrections, and all enhancements. After the first year, the customer may continue maintenance via purchase of updated revisions of PC MYNAH.

Customer Service

Logical Data Corporation supplies a complete range of services including consulting, configuration design, site planning, installation, training, and support.

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