DAD$_{PRO}$32®

System Reference Manual

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Introduction

Thank you for investing in an ENCO Digital Audio Delivery (DAD) System, a product that enables multiple users to access high quality CD/DAT stereo audio that is stored digitally on a shared data network. DAD is developed using a modular approach that enables a complete system to range from a single standalone workstation with a single channel of record/playback capability to a facility-wide, multi-user, multi-channel-per-user audio network.

The building block for a DAD system is the DAD$_{PRO}$32 workstation. This unit has been specifically designed to meet the operational needs of both live broadcast and studio production as well as other mission-critical situations. It combines high quality, random access audio in a compact, self-contained package with a highly user-friendly interface.

With DAD$_{PRO}$32 you can utilize standard record and playback functions with little or no training, while editing and many other powerful production features become routine after just a few hands-on sessions. Some of the DAD$_{PRO}$32 features include:

- High-quality, 32-bit digital stereo audio with user-selectable sample rates up to 50 kHz
- Hard disk storage for random access to all stored audio, with selectable data compression to extend available record time
- Intuitive graphic interface featuring a touch screen emulating the control features of familiar broadcast hardware, maximizing operator acceptance
- User-programmable PRIORITY PLAY buttons for instant access to priority playbacks
- User-programmable playlist features for automatic playback sequencing
- Intuitive graphic edit functions for simple start and end cue adjustment, auxiliary cue point manipulation, optional cut and paste audio construction, countdown timer programming and audio transition construction
- Multiple stereo record/playback channels per workstation available with optional DSP hardware/software; multiple workstations can be networked via optional Ethernet hardware/software
- Rugged, broadcast quality hardware construction.

Each DAD$_{PRO}$32 standalone workstation is built on a PC/AT compatible platform and stores digitized audio on an internal hard drive. Each unit is built from premium grade off-

the-shelf computer hardware. The only non-standard component is a proprietary Digital Signal Processor (DSP) circuit board. The DSP unit handles digital signal processing functions, leaving the CPU free to run the graphic interface and database operations.

Each DSP circuit board can simultaneously process two signals (one channel of stereo audio). Multiple DSP boards can be installed in each workstation, providing functions similar to multiple discrete record/playback machines. No additional rack space is required, and control is provided through a single interface.

In a multi-user network configuration, individual workstations operate as described above but the audio for each workstation is no longer stored on an internal hard drive. Instead, the audio is located in a shared file server, providing each workstation with direct access to the complete database. No time or disk space is wasted while you create several copies of the same audio data. Even though all users share the same database, they operate independently of others in the system. Interconnections are accomplished via a standard category 5 twisted pair cable (coaxial or fiber optic cable also available). Additionally, most system functions are controllable via a serial port (or through a network), making the DAD$_{PRO}$32 ideal for remote control and automation applications.

Operation of the DAD$_{PRO}$32 is straightforward and easy to learn, thanks to its highly intuitive graphical touchscreen interface. The system provides the user with standard record and playback functions, using a familiar pushbutton-based control panel. In addition, the operator has fingertip access to easy-to-use editing, random access playback buttons, and powerful organizational and library management functions. The DAD$_{PRO}$32 interface combines uncluttered graphics, intuitive labeling and a variety of helpful "pop-up" dialogue boxes to allow the operator to learn new features while working with familiar ones.

DAD$_{PRO}$32 is designed as a direct replacement for existing tape-based record/playback systems. In most applications, it will use your existing audio and remote control connections. However, quite a number of interconnection and control options are available with this unit; we suggest that you review Sections 1 and 10 of this manual for more information.

Using This Manual

Both the DAD$_{PRO}$32 and this manual were developed with the user in mind. Many features of DAD$_{PRO}$32 are intuitive in nature, and the Graphical User Interface provides a familiar and easy to use control panel. Operation via a QWERTY keyboard is also supported.

The manual guides the reader through installation and setup, a brief tutorial, and DAD$_{PRO}$32 features and functions, from basic to advanced. This order corresponds with the natural exploration and use of the DAD$_{PRO}$32.

Most operators will find it easiest to learn the system by using it. This is perfectly acceptable and generally quite safe. Most controls are self-explanatory, and many of them will invoke “pop-up” information windows. These windows are graphic boxes that display choices, questions, or warnings. The DAD$_{PRO}$32 system always displays a **CANCEL** button or a **QUIT** button to allow you to exit a function without making any changes. In addition, the DAD$_{PRO}$32 Security System can be set to prevent users from selecting potentially damaging options.

DAD$_{PRO}$32 has great flexibility and a wide selection of features. Plan to spend several days after installation familiarizing yourself with the standard features and investigating alternate features and configurations in the standard package. This will be time well spent that will enable you to avoid surprises later on and to gain full knowledge of the DAD$_{PRO}$32 System.

Conventions Used in This Manual

The DAD$_{PRO}$32 user interface consists of several full-frame graphic screens and a variety of overlaying pop-ups, each of which contains buttons, slide controls, list areas, and other features. This guide will assume the operator is using a monitor with an integral touch screen, and will therefore instruct the operator to "touch" features on the screen. If you are using a mouse instead, perform a "touch" by placing the mouse arrow on the desired feature ("pointing"), then pressing and releasing ("clicking") the left mouse button.

Pop-up windows are used extensively in the DAD$_{PRO}$32 environment. Individual windows can be repositioned by touching the title bar at the top of the window and dragging the window to a new location. The new position will be retained until the program is exited, after which time the window will return to its original position.

Convention	**Key**	**Example**
UPPERCASE	refers to a full-frame screen.	LIBRARY Screen
Plain text	refers to an individual window.	Playlist Window
BOLD UPPERCASE	refers to a labeled button or control feature within a screen.	**PLAY** button
Enclosed in < and > brackets	refers to keyboard keystrokes. The name of the key will be enclosed in brackets.	<Enter>

This version of the DAD$_{PRO}$32 System Reference Manual documents changes through DAD$_{PRO}$32 software version 3.2c. Please be sure to review the DADpro32.TXT file for most recent DAD$_{PRO}$32 updates.

DAD$_{PRO}$32 EZ Modules

Now you can purchase only the parts, or modules, of DAD$_{PRO}$32 that you need. Each module has unique functionality and corresponds to a section of this manual. The full-featured version of DAD$_{PRO}$32 Software is still suggested for many operationally intensive applications.

MODULE	INCLUDES:	CORRESPONDS TO SECTION:
EZ-LIB	The EZ-LIB Library & Playlist Modification Module includes all database maintenance functions as well as Priority Play Buttons. It is ideal for traffic and music scheduling applications. An applicable play DSP board must be installed in the workstation if audio support is desired. **The EZ-LIB Module is required before any other EZ Modules may be added.**	SECTION 4.B
EZ-ARRAY	The EZ-ARRAY Module includes both the full screen and two half screen versions of the Array (*cart wall*) panels. Applicable play DSP boards must be installed in the workstation.	SECTION 5
EZ-PLAY	The EZ-PLAY Module is a single player capable of live assist or automated operation. Up to 4 EZ-PLAY players can be included in any workstation. Applicable play DSP boards must be installed.	SECTION 5
EZ-MLOG	The EZ-MLOG Module is the MasterLog machine, a full screen second-generation player typically preferred for fast-paced live assist formats. Applicable play DSP boards must be installed in the workstation.	SECTION 5
EZ-QPLAY	The EZ-QPLAY Module is the Quad Playback machine, often preferred for freeform live assist formats, or for external control by external video switchers or other automation controllers. Applicable play DSP boards must be installed in the workstation.	SECTION 5
EZ-4PLAY	The EZ-4PLAY Module is the 4Play machine, an enhanced version of the Quad Playback machine but with added Playlist scheduling functionality. Applicable play DSP boards must be installed in the workstation.	SECTION 5
EZ-TRKR	The EZ-TRKR Module is the Tracker voiceover recorder and editor, used to prepare live-sounding automated programming. Applicable play DSP boards must be installed in the workstation.	SECTION 5
EZ-REC	The EZ-REC Module is the Record Machine, and includes AutoRecord support. Up to four EZ-REC recorders can be included in a workstation. Applicable play DSP boards must be installed in the workstation.	SECTION 4
EZ-EDIT	The-EZ-EDIT Module is the Stereo/Mono Graphic Waveform Cut and Paste Assembly Editor. Either a play or record DSP board must be installed in the workstation.	SECTION 6
EZ-SCRIPT	The EZ-SCRIPT Module is the Script Display machine with embedded audio support. An applicable play DSP board must be installed in the workstation in order for embedded audio functionality to be utilized.	SECTION 5

Powering On the System

WARNING: Be sure to check the setting of the power supply switch, located between the two AC power outlets on the CPU chassis, before you plug in the DAD$_{PRO}$32 unit. PCs and drive bays do not automatically check for the correct power supply setting.

The DAD$_{PRO}$32 is built on a PC/AT ISA/PCI bus computer platform and uses standard Microsoft® Windows™ as its operating system. Therefore, it operates much like any other Windows-based computer, and can be restarted by using the Windows™ start menu to select "Shut down" then turning the power off, or by using the keyboard reset command: pressing <Ctrl><Alt><Del> simultaneously.

NOTE: Be sure to exit DAD normally before restarting.

Following any of the above procedures, DAD$_{PRO}$32 will perform a typical PC/AT "boot" operation. It will first test its graphics display adapter, then check its memory, then load several device drivers, and finally load and display the MAIN Screen. The system will boot up in the Mouse Mode, or, if equipped with the optional Touch Screen package, in Touch Mode.

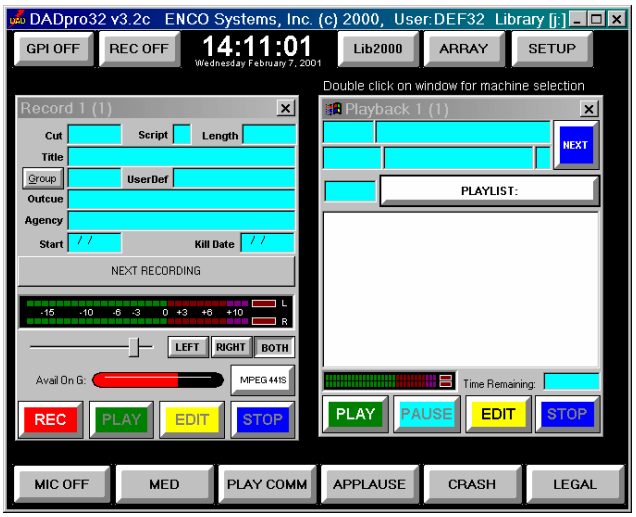

Figure 1
MAIN screen

If your system features the Touch Screen package, you have two ways of changing the input mode. With the program running, you can press <Shift><F10> to toggle between Mouse Mode and Touch Mode. Another method is to exit the program. To exit, press **SETUP**. The SETUP screen displays. Touch the **EXIT DAD** button, or press keyboard keys <Alt><X> simultaneously. At the exit prompt, select ***Yes***. Some additional device driver information appears, then the DAD$_{PRO}$32 program returns to the MAIN Screen. The workstation always "remembers" its condition when it was exited or turned off. It will automatically reload any playlist that was loaded and will advance this list to load the cut that was last positioned in the playback slot. The workstation is now ready to resume operation.

Additional Information

This manual is written with the intent of providing information necessary to install and operate the DAD$_{PRO}$32 to its fullest potential. Please read this manual carefully, and acquaint yourself with the connections and operational procedures that are available.

Certain technical information, regarding the structure and use of working files within the Microsoft® Windows™ and/or DOS environment, is also provided for the reader with advanced knowledge of PC-based systems and digital signal processing techniques.

The information in this document is subject to change without notice. All material provided is believed to be correct; however, no guarantee or warranty as to accuracy is given. Should you have any questions or comments on this manual or the DAD$_{PRO}$32 product, please address your comments to:

ENCO Systems, Inc.
29444 Northwestern Highway
Southfield, Michigan 48034 USA
Sales: (800) ENCO-SYS ((800) 362-6797)
Technical Support: (248) 827-4440
FAX: (248) 827-4441
World Wide Web: http://www.enco.com
FTP: ftp://ftp.enco.com

Your comments and suggestions are greatly appreciated.

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WARNING

This product generates, uses, and can radiate radio frequency energy and if not installed and used according with this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his/her own expense, will be required to correct the interference.

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