4 Channel Digital Logging Module

Users Guide

DIGITAL LOGGERS, INC.

MIL-4000 Digital Logger Features

Congratulations on your purchase. The MIL-4000 Digital Audio Logger is a modular stand-alone hardware system used to produce archival recordings of audio signals. The MIL-4000 offers these features:

Universal Interface
The universal line interface allows connection to phone lines, voice mail systems, telephone handsets, radio systems and remote microphones.

Digital Performance
Audio recordings are perfect. Multiple copies of recordings can be made without degradation. Digital recordings eliminate the loss of signal quality. Digital loggers offer higher reliability than tape units.

Modular Configuration
DLI modules connect to expand capacity to hundreds of channels and thousands of hours. Digital quality gives you crystal clear audio.

Simple Operation
Creation of CDs is automatic. Calls and recording status are displayed at a glance.

Convenient playback in any PC
Find calls instantly without searching through tapes. Calls can be played in any Windows PC. CDs typically hold over 1,000 calls. Digital files can be copied, emailed, encrypted, and backed up on any computer. No separate playback unit is required.

Built-in Monitoring System

A built-in speaker and headphone jack verify audio quality in real-time.

Internal Hard Disk Storage

Tape loggers require frequent tape replacement to prevent lost calls. The internal hard disk on the MIL-4000 stores multiple CD images when media is not available and prevents lost data.

Optional Call Analysis Software

Optional Windows based call analysis software indexes and sorts call files for easy retrieval by phone number, company name, customer number, etc. Custom networked installations and database integration services are available.

Optional Warning Tone System

An optional recording warning tone generator may be installed in your unit. This record tone generator is installed in all government models. This system reminds callers that they are being recorded. The tone can be disabled for discrete use in applications where parties have consented to recording or where there is no legal expectation of privacy, such as in voice mail recording and government applications.

Standard Package Contents

1. MIL-4000 modular chassis
2. Power cord
3. Attenuating line cords
4. Attenuating resistors for phone room installations
5. Handset cord sample
6. Handset "Y" sample connector
7. Gold-On-Gold sample media

Quick Setup

Use these shortcuts if you are an experienced installer. If you are unfamiliar with the installation of digital logging systems, please read the entire manual before proceeding.

1. Remove the logger from its shipping carton. Save the carton and protective foam, in case the logger ever requires service.
2. Make sure that the front-panel power switch is in the OFF position.
3. Attach the power cord.
4. Ensure that nothing blocks either the ventilation holes on the sides of the chassis or the fan on the rear panel of the chassis.
5. Verify that the input levels are within range (up to +3dBm), then connect the RJ-11 jacks at the rear of the unit to any compatible audio source. Top and bottom jacks connect together to "loop through" and attach additional loggers. Select the proper cord for your application. Use the "straight through"

cords and "Y" adapters for connection to handsets. A sample handset cord and adapter are included.

6. Connect Pins 1 and 6 of the RJ-11 jacks if the MIL-4000 will be used to power remote microphones. Leave these pins disconnected if the unit will not power external devices. Wire the audio sources to the center pins (red and green wires) of each connector.

7. Adjust the VOX timeouts to the appropriate default values for the type of audio being recorded.

8. Start the logger by switching the power on and pressing "Start/Stop Logging". The display will read "ACTIVE" when logging has been started.

9. The logger will automatically separate calls into individual files with time stamps. If necessary, adjust the CALL STOP TIMEOUT parameter as needed for your application.

10. Once a number of calls have accumulated on the hard disk (as indicated by the numbers at the top of the display), insert a blank CD. Gold-on-gold media is strongly recommended for long term reliability.

11. Press "WRITE CD" to write a sample disc.

12. Play the archived calls on a Windows PC to verify correct installation and recording quality.

Basic Operation
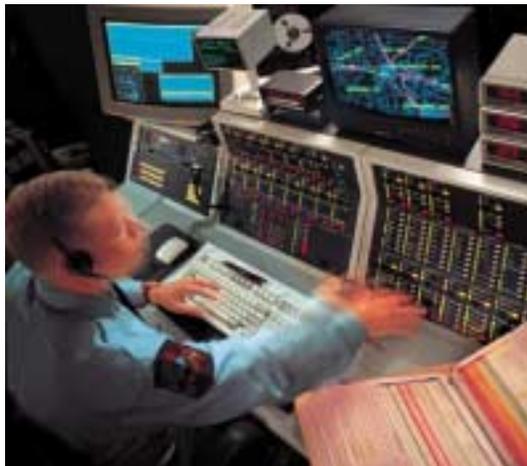
After applying power and switching the unit on, the MIL-4000 will automatically perform a sequence of self-tests to ensure the reliability of the system. If any errors occur, you will be prompted with additional information.

After testing is completed, a status display will appear, displaying the current state of the logging system. After power-up, the logger defaults to inactive mode, the display indicates "INACTIVE" and calls are not recorded.

To begin recording calls, press the *Start/Stop Logging* button. The display will indicate "ACTIVE", and calls will be recorded as they are detected.

The logger can be programmed to automatically start logging after a power failure. This is useful in situations

where logging must be continuously active, but no operator is present to restart the unit. To activate the autostart feature, set the "Autostart Timeout" as described in the Setup section. The default setting of zero will automatically start the logger after the built-in self test is completed.

To create an archival CD, first insert a blank CD-R disk, label side up into the drive. Then press the red *Write CD* button on the front of the unit. This process is completed automatically over a period of several minutes. The amount of time required to create and write a CD depends on the number of calls being written and the speed of the CD writer installed the unit.

Basic Menu Operation

The logger uses a setup menu to set options that affect the performance of the unit. The setup menu is not needed during normal operation. If you are unfamiliar with the unit, please do not adjust the parameters in the *OPTIONS* menu without thoroughly reading the manual. Feel free to call DLI for technical support and installation advice.

To enter the setup menu, first stop call logging by pressing the *START/STOP LOGGING* button Press *ENTER/EXIT SETUP MENU* button to enter or exit the setup menu. After exiting the setup menu, you will need to press the START/STOP LOGGING button again to resume logging.

Setup functions are grouped into five menu sections described below:

OPTIONS

The OPTIONS section is used by installers to adjust the operating parameters of the logging system. Use of this section is not normally required by the end-user.

MAINTENANCE

The MAINTENANCE section allows the user to reformat the internal hard drive, erasing all calls stored inside the unit. It also allows the user to view the system log, which displays a history of events which affect logging, such as any errors which were detected, and the time/date at which logging was set active or inactive.

SET TIME

The SET TIME menu allows the user to adjust the clock within the logger. This clock is used to add time and date stamps to the recorded files.

ABOUT

The ABOUT menu displays the current version of the software stored inside the logger.

System Status Display

The system status display is shown on the LCD panel when the logger is in use. The status display shows whether the logger is active, the number of logged calls for each line, the current time and the time of the oldest call logged.

The status display also shows the percent of hard disk usage and how many CDs are required to write all logged calls to CD media. During normal operation, you may see additional status and prompt information on the status display. Prompts appear on the message line, whenever user intervention is required.

No user intervention is normally required if a blank CD is always inserted in the CD writer. Prompts appear when a Blank CD needs to be inserted, or when an error condition is detected.

A sample status display is shown below:

```
L01   00124   REC   00012   L03   00031   L04-00057
DISK  48%  CDs    03       WAITING   FOR   BLANK   CD
ACTIVE                     INSERT   BLANK   CD
04 Apr 00 10:36:23 to 05 Apr 00 15:42:38
```

Oldest phone call start time

This time is displayed in the lower left-hand corner of the screen. This is the start time of the oldest phone call logged on the hard disk. If no calls are logged, this time is not displayed. This time is updated after recording a CD or initializing the file system.

Current time

This time is displayed in the lower right hand corner of the screen. You can adjust the current time from the SETUP MENU. The time is updated each second.

Line status and the number of logged calls

The status and number of calls for each line are indicated on the top line of the display. Examples are listed below:

L01 1234   Indicates that line 1 is idle, and 1234 calls are stored on the hard disc for that line.

REC 1000   Indicates that 1000 calls are stored and that this line is currently recording a call.

OFF 0010   Indicates that recording has been disabled on this line, and that 10 calls are stored on the hard disk.

The ASSIGN INPUT CHANNEL LABEL setup menu can be used to assign channel numbers to different lines. Each of the four incoming lines can be labeled with a number between 00 and 99. This number is also recorded on the CD.

Hard disk usage

Displays the percentage of the hard disk file system used to store the phone calls and the amount of complete CD ready

to be recorded. This number will increment to approximately 35% before a CD image is created.   Note that this percentage refers to the amount of the 2GB pre-image file system in use, rather than the amount of the whole hard disk in use.

Logger recording mode
The recording mode is displayed on the third line as either ACTIVE or INACTIVE. To change the mode, press the *Start/Stop Logging* button.   When the logger is not active and is not creating or writing a CD, you may enter the SETUP MENU to adjust setup options.

Additional messages and prompts are displayed on the bottom line of the screen.

Number of CD images waiting on hard disk
After a number of calls sufficient to fill a CD accumulate on the hard disk, a CD image will automatically be created. Multiple CD images can be stored on the hard disk. The number of CDs waiting is shown as follows:

CDs 11   Indicates that 11 CD images have been stored
              on the hard disk.

Power Down Procedure
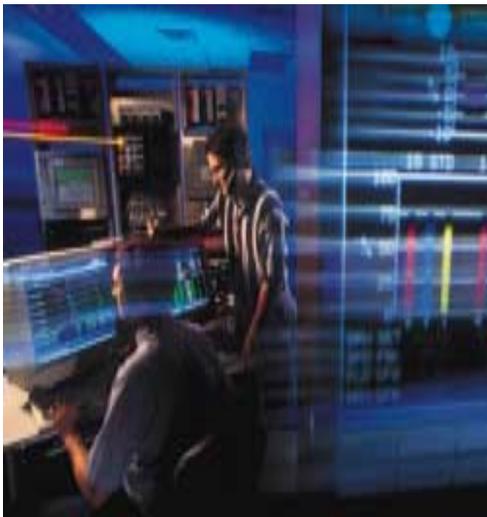
To turn off power to the logger, simply flip the black power switch located on the front panel. The logger will automatically shut down after approximately 10 seconds.

The logger can not be shut down during critical operations, such as writing a CD.

Do not shut the unit off by disconnecting power. This may cause loss of data, and require reformatting of the internal hard drive using the MAINTENANCE options.

Front Panel Function Buttons

The front panel has five buttons to control logger operation and navigate menus: *Start/Stop Logging, Write CD, Enter/Exit Setup Menu, Next Option, and Select Option.*

Start/Stop Logging

When the logger is inactive, pressing this button starts recording phone calls. If the logger is active, this button stops recording. This button does not function inside the SETUP MENU. Using the setup menu, each line can be configured to use either voice operated (VOX) or manual controls (MAN) to trigger recording.

Write CD

CD recording starts automatically whenever enough calls accumulate to fill a complete CD. Pressing this button starts CD recording before that amount of data is accumulated.

CD recording may be started whether or not the logger is active. This may be desirable if you want to write a CD at a given time (perhaps at the same time every day). Calls will not be missed as CDs are created and recorded. This button does not function if you are inside the SETUP MENU. CDs may be created 12 seconds after calls are completed.

To abort during CD creation, press these two buttons simultaneously: WRITE CD + ENTER/EXIT SETUP MENU

Enter/Exit Setup Menu

When the logger is inactive, this button enters the SETUP MENU. To navigate within this menu and change settings, use the *Next Option* and *Select Option* buttons. Pressing *Next Option* scrolls through menu items, and pressing *Select Option* changes settings and enters sub-menus.

When you have completed your changes, press the *Enter/Exit Setup Menu* button again to exit from the SETUP MENU or submenu. While you are making changes in the SETUP MENU, the S*tart/Stop Logging* and *Write CD* buttons do not function.

Next Option and Select Option

These buttons are used to change options inside the SETUP MENU.

Output CD File Format

Audio files are recorded to CD-ROM using the industry standard μ–law (pronounced "mew-law") format. Audio files are grouped in directories, with each channel and date corresponding to a single directory. The line number for each directory may be changed using the setup menu. File names are sorted by start time in ascending order. All time values are standard 24-hour military time. A separate subdirectory is created for each day. The following example shows how the time and date stamps are directly coded into the file names:

Channel Directory	Day Subdirectory	File Name
LINE01	19990403	212450.au

In this example, a call arriving on line one, on April 3rd, 1999 was recorded starting at 21 hours, 24 minutes, and 50 seconds (9:24:50PM). μ–law files are recorded at a 64kbps=8KBps data rate to ensure that complete fidelity is preserved. Conversion to other file formats such as .WAV can be easily made on any PC. The length of each file is directly proportional to the length of the call. Windows Media Player displays the exact elapsed recording time.

To play a call on any Windows PC, simply insert the CD, and click on the file name. The Windows Media player will open, and the call will play through your sound card. Calls may be easily attached to emails, copied, or encrypted, since they are standard files. If you have an older version of Windows, or if the μ– law codec is not installed on your machine, please contact DLI for technical support.

System Setup Menu

Setup options are adjusted by selecting the appropriate menu items. A typical SETUP MENU looks like:

```
        *** SETUP MENU ***
   OPTIONS
   SET TIME
   MAINTENANCE
   ABOUT
   GO BACK TO PREVIOUS MENU..
```

Setting the Clock

Use the SET TIME menu to set the internal clock. If the internal clock chip battery is low, you will be warned when entering this menu:

```
     15:42:38    Apr 03   2000
   USE  >  - TO SELECT TIME FIELD,
   ↓  - TO INCREMENT VALUE,
   ↵  - TO SET TIME (24 HR FMT)
```

Press *Next Option* and *Enter/Exit Setup Menu* to set the current time. The cursor points to the field being changed. Press *Select Option* to save your settings in the internal clock. Most agencies require a one second accuracy on all phone calls logged, so this time should be checked at least once a month.

Setting Logger Options

The OPTIONS MENU is used to set parameters that affect the operation of the logger. The factory default value of

these options provides proper operation under most conditions.

If you have accidentally changed an option, select the RESTORE LOGGER TO DEFAULT SETTINGS item to restore the logger to factory settings.

A typical OPTIONS MENU screen is shown below:

```
        *** OPTIONS MENU ***
    PHONE CALL STOP TIMEOUT
    ASSIGN INPUT CHANNEL LABELS
    SETUP CHANNEL MODE
    SET CD-R WRITE SPEED
    AUTO EJECT
    ENABLE AUTOSTART LOGGING
    SOUND ENABLED
    RESTORE LOGGER TO DEFAULT SETTINGS
    GO BACK TO PREVIOUS MENU ...
```

Phone Call Stop Timeout

This option controls the amount of time between the time the last sound is detected, and the time that recording stops. For telephone calls, a value of 45 seconds is recommended. For radio traffic, a value of 30 seconds typically produces good results. Longer stop times will reduce the number of calls stored on CD. Shorter stop times may cause calls to be broken into separate files during quiet periods. This timeout value should be tailored to your specific application and phone system.

Assign Input Channel Labels

When logging more than 4 channels, this value may be adjusted to uniquely identify each line. Any number between 00 and 99 may be entered to label each line. This number is stored in the last two digits of the main directory names on each CD.

Setup Channel Mode

This option allows selection of three operating modes for each channel:

OFF   Disables a channel. Use this option when a channel is not being used, or you when you wish to record on selected channels only.

VOX   This is the default recording mode. In VOX mode, the logger listens for sound to trigger the start of each recording. After recording has started, and no sounds are detected by the VOX, the system will wait for a period equal to the VOX TIMEOUT setting. The call will then be time stamped and saved in a file.

MAN   In manual mode, recording is started and stopped with the start/stop button on the front of the unit. This mode is typically used for courtroom or conference room recording .

Set CD-R Write Speed

This option sets the writing speed of CD recorder. In some applications, lower writing speeds may be needed for compatibility with inexpensive media. DLI strongly recommends "gold-on-gold" media for all applications.

Auto Eject

Enabling this option causes the logger to automatically eject a CD after writing. Disabling AUTO EJECT causes the logger to wait for you to eject media manually. The default setting is enabled. An "X" is displayed when this option is enabled.

Enable Autostart Logging

If selected, the logger will automatically switch to ACTIVE mode after this period. To start the logger immediately, enable this option. An "X" is displayed when this option is enabled.

Phone Line Record Tone

If your unit was ordered with a record tone generator, this setup option will appear. Record tone generators are included in all government models of the logger. The logger must be connected to a telephone line for this option to function. Record tones cannot be transmitted through handset connections. For silent operation, disable this option. This option should be disabled when recording radio calls. An "X" is displayed when record tones are enabled.

Sound Enabled

For silent operation, disable this option. Enable it if you would like an audible indication when the logger needs attention. An "X" is displayed when this option is enabled.

Restore Logger To Default Settings

This option returns the logger setup options to factory default settings. Data on the hard disk is unaffected.

Go Back To Previous Menu

This option returns you to the SETUP MENU.

Using the Maintenance Menu

This menu is used to clear files on the hard drive, and to check logger status. A typical maintenance menu is shown below:

```
            *** MAINTENANCE MENU ***
      CLEAR FILES
      EVENT LOG
      GO BACK TO PREVIOUS MENU..
```

Clear Files
This option is used to clear the hard drive and re-initialize the file system. This option erases all of the calls on the hard disk and restores the logger file system to original condition. **WARNING:** All files will be erased, and all calls on the hard drive will be lost if this option is selected.

This option is normally used only if an unexpected power failure has caused corruption of the file system. This should never occur if the logger is protected by a UPS.

Event Log
The event log options are used for diagnostic purposes.

Show Log Events
This option displays a record of serious events that have recently affected logging status.

Clear Log Events
This option clears the entire event log.

Ugrading DiscWare

This option is used to update the software contained within the logger. Discware updates are used to add additional features and improvements to your unit. Do not use this option unless instructed to do so by DLI technical support.

To enter the Discware update menu, first export all calls from the internal hard drive to archival CDs. When the logger has been emptied of calls, turn off recording and switch power off.

Shortly after powering the unit up, the following message:

```
Now Loading Discware…
Press ↵ to cancel
```

will appear. Press and hold the enter ↵ button shortly after powering the unit up, as instructed. The discware menu will then appear. Within the discware menu, there are two sub-menu options: Display System Software version, and the System Software Update Menu.

Display System Software Version
This option displays information about the revision of the ROM firmware used inside the logger. This information is useful when calling DLI for technical support.

ROM System Software Update Menu
This menu is used to upgrade your logger software. Again, be sure that all calls have been copied from the hard drive before starting this upgrade process. The update menu options are described below:

Update DiscWare from CD

The UPDATE DISCWARE FROM CD option reads upgrade software from a distribution or upgrade CD-ROM and stores it on the internal hard drive of the Logger. This is used to update your logger to enhance performance and add new features. After updating DiscWare, you will need to power the unit on and off, and then reset all setup options to factory defaults. Some upgrades may require reformatting the hard disk using the MAINTENANCE menu. After a successful upgrade, the message "Discware was updated successfully" will be displayed.

Enable DiscWare Loading

This option is used to enable or disable the DiscWare that is currently installed on the internal hard drive. Disabling this option causes the Logger to perform an automatic update from the DiscWare CD-ROM the next time that the system is powered up. This should only used when instructed by DLI technical support. An "X" is displayed in front of this option when discware loading is enabled.

About

This option displays information about the revision of the ROM firmware used inside the logger. This information is useful when calling DLI for technical support.

MIL-4000 Call Analysis Software

The MIL-4000 Data Logger Call Analysis Software is an optional, easy-to-use Windows application that allows you to catalog, play, and sort the contents of a MIL-4000 Data Logger CD-ROM. At the click of a button, you can send the catalog file, or even a identical copy of an entire call, to an someone else (or to multiple people) via email. This software is not needed for normal logger operation, but it provides a convenient way of accessing calls from Windows based PCs. To install this software, simply insert the distribution CD in any Windows 95, 98, NT, or Windows 2000 PC.

Using the Utility

1) Place a call CD in a CD-ROM drive.

2) Select File | Catalog New CD, or press Ctrl + N, or Select the 'Catalog' button from the toolbar .

3) If you have more than one CD in this computer, the 'Select CD-ROM drive' dialog pops up. Select the drive in which you placed the CD-ROM.

4) As the program analyzes the CD-ROM, the name of the files will be displayed in the status bar at the bottom of the window. TO CANCEL THE CATALOG, PRESS THE 'Esc' KEY.

5) When all files are cataloged, the list will display all the calls.

6) The CD Information pane displays the number of phone lines the CD contained (or the number of CDs a folder contained), the total number of calls on the CD (though, if you pressed 'Esc' while cataloging, this will not be the number of calls displayed in the list), the CD Identifier, and the date/time of the last call. If you've cataloged multiple CDs, the CD ID will also include the number of CDs cataloged.

Sorting by Columns

Calls scanned by the cataloging utility are sorted in several columns. Each column may be used to search for a particular call or calls. The default columns are listed below:

1) Direction: The direction is shown in the 'In/Out' column. Incoming calls are 'In', Outgoing calls are 'Out', and calls whose direction cannot be determined are labeled 'Unknown'.

2) Line: The logger line number is shown in the 'Line' column.

3) Phone #: This is the phone number dialed for outgoing calls.

4) Date: The date this call started.

5) Time: The time this call started (in 24-hour time).

6) Length: This is how long the call lasted (displayed as hours:minutes:seconds).

7) CD ID: Since you can catalog multiple CDs from the hard drive, this field is used to determine which CD a

particular call comes from (it also allows you to sort by which CD a call came from).

8) Location: If you have the 'Demographics' option installed, this column shows you the location that the call either originated from or was placed to (this is determined by the area code of the call). If this column is not displayed, press the "demographics" button to add the column.

You can change the width of a column by placing the mouse over the line between columns (like that black line between 'In/Out' and Line), holding down the left mouse button (the cursor will change), and dragging the mouse to how wide you want the column.

Settings Saved after Use

The application will remember where you placed the application's window the last time you had it open. The next time you open the application, it will start up in the same place.

The application also remembers the width of the display list columns the next time you start up.

Copying calls to a hard drive

With several CDs to catalog, sorting them one at a time can be very time consuming. To save time, we have added the ability to copy all the calls on a CD to an existing folder on the hard drive. After doing so, you can use the 'Catalog Folder' command to catalog an entire folder of CDs simultaneously. To do this, follow these steps:

   1) Press the 'Copy CD to HD' button or select 'File | Copy CD to Hard Drive...' menu choice (or you could do this in Windows Explorer by dragging folders from the CD to the folder on the hard drive).

   2) Then you have to select the folder to which you want to copy the contents of the CD. The Browse Folder dialog will pop up:

   3) As the above example shows, you will select a folder to copy into. Then the application will create a sub-folder whose name will be the CD ID of the CD. Inside that folder, the folder structure will be just like the CD.

Cataloging an entire folder on a hard drive

To catalog an entire hard drive folder, follow these steps:

   1)   Copy one or more CDs to the hard drive.

   2)   Select File | Catalog Folder on Hard Drive, or Select the 'Catalog a folder ' button from the toolbar. The 'Browse for folder' dialog box is displayed.

   3)   Select the folder you want to catalog. If you select a CD folder only the single CD folder will be cataloged.

To cancel during the cataloging process, press the "Esc" key.

4) If you select to catalog multiple CD folders, the application will create a .MIL data file for every folder. When all files are cataloged, the list will display all the calls. Note that the '# of Lines' display now displays the '# of CDs' if you cataloged more than one.

5) The CD Information panel displays the number of phone lines stored in the CD or folder, the total number of calls on the CD, and the CD Identifier If you've cataloged multiple CDs, the CD ID will also include the number of CDs cataloged

6) You can sort, play, and filter calls from multiple CDs in the same manner used to catalog a single CD. If you press 'File | Save' or the 'Save' toolbar button when you've cataloged multiple CDs, the MIL file that is saved is for ALL the CDs you cataloged.

Playing Calls from within the Utility

To play from within the catloging utility, first select the call you want to play from the play list by clicking on it. The time display (below the player buttons) will show how many seconds are in the call.   Next, press the play button. There will be a short pause as the call is processed for playing.

As the call starts to play, the different buttons will stop being gray and the position slider will display what position in the call is currently playing. (You can see the name of the button by placing the mouse cursor over the button for more than 2 seconds.) These buttons become active during playback:

'Pause' - pauses playing of the call

'Stop' - stops the playing of the call

'Jump to start of call' - jumps to the start of the call and continues playing (the |<< button)

'Step back' - steps back 1/20 of the length of the call with each press (the << button)

'Step forward' - steps forward 1/20 of the length of the call with each press (the >> button)

You can jump to any position in the call by clicking on the slider handle (the rectangle that keeps moving) and dragging it left or right while the call is playing. When you let go of the mouse button, the call will begin playing from that position.

Sorting Calls

You can sort calls in ascending or descending order of the values in a particular column. To sort the calls on a CD, press the header button above the column you want to sort

After sorting, the header you have sorted will have a (*) next to the name. The first time you sort a column, the values will be in ascending order (A to Z, 0 to 9), then the next time you press the header button, the values will be sorted descending (Z to A, 9 to 0).   Several sorting options are available:

Sorting the 'In/Out' column will sort by direction (Unknown calls before Incoming calls), then by Line #, then Date, then Time.

Sorting by 'Line' will sort calls by Line # , then by CD ID, then Date, then Time.

Sorting by 'Phone #' will sort by Phone number, then by Date, then Time.

Sorting by 'Date' will sort by Date, then Time.

Sorting by 'Time' will sort by time, then by Date

Sorting by 'Length' will sort by call length, then by Date.

Sorting by 'CD ID' will sort by 'CD ID', then by Date.

Sorting by 'Location' will sort by location (alphabetically), then by Date.

Filtering Calls

You can select which calls are displayed in the call list by selecting the 'Filter Calls…' button or select 'Filter Displayed Calls…' from the View menu. The 'Display Filters' dialog is then displayed. When this box first pops up, it might look a little different. For instance, you may not see the calendars displayed. Or the 'Phone Numbers That Contain' text box might be grayed out. To enable and/or make them visible, check the 'Filter by data' and 'Filter by Phone Number' check boxes, respectively.

NOTE: The application will filter based on ALL values you enter. If you select 'Filter by time' between 12:00:00 AM and 12:15:00 AM that contain "408", only those calls that were received or placed between those times AND contain "408" will be displayed. The values you enter are inclusive. If you entered times between 12:00:00 AM and 12:15:00 AM for filtering, the filters would include calls with a start time

greater than OR EQUAL to 12:00:00 AM and less than OR EQUAL to 12:15:00 AM.

A Sorting Example:

Your 911 operator remembers the call you're interested in came in on Line 2 between 12:00 AM and 12:15 AM on January 12th, 2000 and remembers the call was from a person in San Jose, California. So, you will choose:

'Incoming' from the 'Call Direction' list

'Line Number' between 2 and 2

Select the 'Filter by date' check box and select January 12th, 2000 for BOTH calendars.

Select the 'Filter by time' check box and select '12:00:00 AM' in the 'From this time' box and '12:15:00 AM' in the 'To this time' box

Select the 'Filter by Phone Number' check box and enter "408" (without the quotes) in the text box.

If the operator couldn't remember what day the call came in, you could uncheck the 'Filter by date' check box.

When you press the 'Set' button, another dialog box will pop up confirming the values the program will use to filter. If you wish to alter these values, press 'No' and the program will send you back to the filter dialog.

Sending Calls and Catalog Files via Email

Another great feature of the MIL-4000 application is the ability to send both catalog files (.MIL files) and call files to other people via email right out of the application. To do this, you must have a MAPI-based email program like Microsoft's Outlook or Outlook Express, or Netscape Communicator installed. If you are not using any of these applications, please let Digital Loggers, Inc. know and we will try to add support for your email program into this application.

Setting up your e-mail program:

   1) Select 'Start Menu | Settings… | Control Panel' from the Start Menu.

   2) Double click on the 'Internet Options' selection. The following dialog box pops up… Click on the 'Programs' tab at the top.

    3) The 'E-mail' list box should have something selected in it. If it doesn't, press the little down arrow and select one of the options from the list. This is the program the MIL-4000 will use to email files.

   4) Click the 'OK' button to make this dialog box go away.

Using the Utility to Send Calls via E-Mail

   1) Catalog a CD (either on the hard drive or on a CD) or open a .MIL file from a CD you've cataloged previously.

   2) Select one of the calls displayed on the call list. Make sure you're not playing the call when you try to send it. Windows won't let you play AND send the same file at the same time.

3) Select 'File | Send WAV file…'. This causes the MIL-4000 application to convert the call file on the CD to a standard WAV sound file, which can be played on almost any computer with a version of Windows (including 3.1 and 3.11) and a sound card. Then the application will start your email client program and attach that file to an email message which you can send to multiple people.

Using the Utility to Send Catalog Files via E-Mail

1) Catalog a CD (either on the hard drive or on a CD) or open a .MIL file from a CD you've cataloged previously.

2) Select 'File | Send MIL file…'. The MIL-4000 application will start your email client program and attach that file to an email message which you can send to multiple people. The receiver will be able to open the file with another copy of the MIL-4000 application and filter/sort the catalog file, but won't be able to play calls without access to the CD or hard drive from which the files were cataloged

Setting Program Preferences

To do it's job correctly, the MIL-4000 application must know some things about where you are and how you need to dial phone numbers (whether you need to dial 10 digits for local calls, what your local area code is, whether you need to dial '9' to get an outside line, etc).

There are also some other personal settings, like what to print at the top of a printed report and what fonts you'd like to use in your reports. Follow these steps to set these options:

1) Select the 'Edit | Preferences…' menu choice.

2) Type in your local area code (if your phone company uses them), the numbers you must dial for local and long distance calls, the numbers you use to disable call waiting, and check the box if you need to dialog 10 digits to make local calls in your area. NOTE: If you do not have to dial anything to get an outside line, or don't have call waiting, don't enter anything in the corresponding text box.

3) When you call list reports, you will probably want information like your company name printed at the top of each page. The 'Header to place on reports' section allows you to select if you want the text justified to the left, right, or center, and the font to use for that header. If you select the 'Choose…' button, a font selection box will appear to allow you to choose the font to use. If you select 'OK', the text box will change to show you the font you have selected.

4) Select a new 'Font for the body of the reports' in the bottom section.

Saving Audio and Catalog Files

To save a .MIL file:

Press the 'Save' button on the toolbar, or select 'File | Save'. If you have not selected a name for the file, a dialog box will pop up that allows you to type in a name and location for the file. The file name defaults to the CD ID of the CD, but you can change this name

To save a WAV file:

You can also save a call file to a file in WAV format, which allows them to be played on any Windows computer with a sound card (the calls are in a compressed format on the CD, and this uncompresses a call and saves it to WAV file format). To do this:

1) Catalog a CD or open a MIL file.

2) Select the call you wish to save from the call list

3) Select 'File | Save WAV file…' A dialog box will appear that allows you to select the name of the file and its location.

Previewing Printed Lists

To preview a list, first catalog a CD or open a MIL file, then select the Print Preview toolbar button or select the 'File | Print Preview…' menu choice. *Only the calls that are displayed on the call list will be printed.* If you have call filtering enabled, not all the calls on the CD may be displayed. The header at the top of each page, and all the call information, will be printed with the fonts selected in the Preferences dialog. If the columns run over onto one another, you'll may need to adjust the size of the fonts to make things look better. You can also switch to 'Landscape' mode by selecting 'File | Page Setup…' This will give more room for wider columns of information.

Printing a Catalog of Calls (Call Listing)

To print a catalog of calls, first Catalog a CD or open a MIL file. Then select the Print toolbar button or select the 'File | Print…' menu choice. A dialog box will pop up that allows you so select the printer to use, the number of copies, and other printing preferences.

As with Previewing, only the calls that are displayed in the call list will be printed. If you have call filtering enabled, not all the calls on the CD may be displayed. The header at the top of each page, and all the call information, will be printed with the fonts selected in the Preferences dialog. If the columns run over onto one another, you'll have to adjust the size of the fonts to make it look better, or switch to 'Landscape' mode by selecting 'File | Page Setup…' This will print the call lists the long way on a page and give more room for the columns of information.

Searching for Calls by Address

The cataloging application can determine what phone number was dialed on an outgoing call. You may coupled this with a database of phone numbers and addresses to allow you to find the address of a called number.

To use this feature, press the 'Address' button . A dialog box will pop up showing the phone number and address of the selected call, if the phone number is in the database. You can select other calls from the call list to find out the address of other calls.

The address database is a standard Microsoft Access database. Feel free to add your own records to the 'MIL-4000.mdb' file installed in the same directory as the application. Use the database that most suits your application. For example, corporations may use a customer, prospect, or vendor file. Law enforcement users may use a criminal database.

The address databases can be very large-- well over a million records. As you switch between calls, the lookups may take a few seconds.

We have added customizable fields to the database structure, so that you will be able to add your own data to the address database and have it displayed in this dialog box. Contact Digital Loggers, Inc. for more information on this feature.

Technical Support

To save time and effort, please read this manual completely before calling for tech support. You may FAX questions to (408) 541-8459. To contact tech support, dial (408) 330-5595 and please have the following ready so we can better serve you:

- A copy of your invoice and customer number.
- The firmware revision level installed in the system. This information can be found using the About option.
- A description of the type of lines connected to your unit, for example, 600 Ohm Radio, dry line voice mail, etc.

Technical Specifications

Recording Electronics

ALC range	40dB
Input levels	-50dBm to +3dBm
Input DAA	balanced and isolated
Audio encoding format	υ–Law standard 64Kps
Signal to noise ratio	better than 45dB
Input protection / isolation	5kV peak
Distortion	<.2% THD
Selectable warning tone	CCIT E180 standard

Standard Line Interface

Input Impedance	10K standard
R Equivalence	0.2
VOX time constant	<0.25s

Controls / Display

Monitoring system	volume, headphone jack, channel select
Status display	calls recorded, VOX, recording status, storage
Controls	immediate CD write, logging on/off, config menu
Metering	20 segment bar graph (government models)

Disk Storage / CD Export

Hard disk format	custom file system
Time clock accuracy	drift less than 2 secs / week, GPS optional
Time clock backup	10 year lithium battery
Time stamp accuracy	64ms internally, 1 sec to disc

Capacity	10GB standard in commercial models 30GB standard in government models up to 73GB optional
CD capacity	650MB = 21 channel-hours
CD format	ISO 9660, Mac, PC, Sun compatible
Typical playback software	Microsoft Windows™ Media Player
Export CD speed	5 - 24 minutes 4X write (commercial) 2-10 minutes 8X write (government)
CD compatibility	All high quality CD-R or erasable CD media

Environmental / Power

Operating temperature	0 to +50 degrees C
Input electrical safety	UL, CSA approved power supply
Power requirements	110/220VAC switchable, 40-400Hz, 35W typical
Physical dimensions	3.5"x19"x16 2U Height, 19" RETMA rack standard

Technical specifications are subject to change without notice as we continuously improve our products. Power supply UL and CSA ratings are current, FCC and European Telephone approvals are pending. Call DLI with your custom requirements.

Legal Warnings

Most states require the consent of at least one party before telephone recordings may legally be made. Federal wiretap regulations prohibit recording without informing the parties being recorded, except under specific circumstances, where there is "no legal expectation of privacy." Federal law 90-351 Title 18, Section 2511, Sub Section 2D requires that at least one participant in a recorded conversation be informed of the recording.

Police stations, 911 call centers, prisons, and public safety facilities may be exempt from the need to notify parties that they are being recorded. A recording or warning tone may provide appropriate notification. Most states allow the recording of voice mail calls without a monitoring tone. The user assumes all risks as to legal operation of this unit. If you are unclear as to the legality of recording, inform all recorded parties before starting to record. Use of logging products may be unlawful on party or pay-phone lines.

Contact your legal counsel to review state and federal laws before recording.

DIGITAL LOGGERS, INC.

Limited One Year Warranty

The terms of this warranty may be legally binding. If you do not agree to the terms listed below, return the product immediately in original unopened condition for a full refund. Multiple, redundant logging units are highly recommended for critical applications. Loggers must be protected by Uninterruptable Power Supplies for maximum reliability. The software, firmware, and accompanying written materials are provided "AS–IS" without warranty of any kind. The purchaser assumes the entire risk as to the results and performance of the unit. DLI warrants this digital logger to be free from defects in materials and workmanship for a period of one year from the date of the DLI original invoice. DLI's entire liability and exclusive remedy as to defective hardware shall be, at DLI's option, either (a) return of the purchase price or (b) replacement or repair of the hardware that does not meet DLI's quality control standards and has been returned through proper RMA procedures. DLI's liability for repair or replacement is to DLI's customer ONLY. No warranty service will be provided without an original invoice from DLI and an RMA number provided by technical support. RMA material must be shipped prepaid to DLI. RMA numbers are valid for 15 days from date of issue. This warranty does not cover products modified, subjected to rough handling, or used in applications for which they were not originally intended. No oral advice or verbal warranties made by DLI's employees, dealers, or distributors shall in any way increase the scope of this warranty. DLI makes no warranty as to merchantability or fitness for any particular purpose. Due to the wide range of signal sources available, DLI cannot guarantee compatibility with all system configurations. DLI assumes no liability for incidental or consequential damages arising from the use or inability to use this product. This warranty gives you specific legal rights. You may also have other rights that vary from state to state. Since some states do not allow the exclusion of liability for consequential damages, some of the above limitations may not apply to you. DLI makes no representation as to the legality of recording conversations under any specific circumstances.

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