

8-Channel XLR Logger



User's Guide

Features

- Eight channels of companded digital recording, with level indicators and recording controls.
- XLR inputs for standard microphones. High line levels and telephone lines can also be connected directly.
- Independent configuration for voice-activated switch (VOX) or continuous (manual) recording.
- Easily adjustable recording trigger level and timeout.
- Transient noise suppression.
- Recordings can be manually started, stopped or paused.
- Digital signatures indicating the time, date, and device used for recording are included in each file.
- Automatic recording startup after login.
- Easily accessible hardware gain controls for each channel.
- Easy Plug and Play USB configuration under Windows 2000, 2003, and XP .
- Maximum recording length can be easily set so large files are split into easily manipulated sections.
- Maximum disk usage can be controlled to conserve disk space.
- Evidence Builder software analyzes phone calls for Touch-Tones (DTMF) and Caller-ID information.

Requirements

- A **dedicated** PC is recommended, due to the high CPU usage required for real-time audio.
- A 1-GHz or faster processor with 256MB or more of RAM.
- Windows 2000, 2003, or XP. Due to the performance required, Windows 9x and ME aren't supported.
- A free USB 1.0, 1.1, or 2.0 port.

Quick Installation

1. Run windows update from windowsupdate.microsoft.com to ensure you have the latest USB drivers available from Microsoft. This is essential under Windows 2000.
2. Connect inputs to either handsets with a "Y" tap, or to outside phone lines. When connecting to outside lines, the outside phone line connects to the right jack, and the phone, PBX, or KSU connects to the left jack.
3. Attach the USB cable to a dedicated PC. Connect directly to a primary USB port, not to a hub. We recommend that the logger is the only external USB device attached to your PC. Once attached, the USB configuration on this PC should not be changed.
4. Connect the power adapter to the 5V jack on the logger. Switch the PC power on *after* powering the logger.
5. If USB drivers are needed on your machine, you will be prompted to insert your Microsoft Windows CD for USB HID drivers. Install the drivers as directed.
6. After installing USB drivers, Insert the MIL-8000 distribution CD and follow the instructions to install the logging application. Restart the PC and start the logging application.
7. Test each line and adjust the recording level to prevent distortion. When properly adjusted, the VU meter should never reach the top of the scale during normal conversation.
8. Adjust the recording trigger level (yellow bar) using normal conversation levels.

Hardware Setup

The hardware installation kit includes:

- Qty 1 – USB “A” to USB “B” cable.
- Qty 1 – XLR USB Logging Unit
- Qty 1 – 5V Switching Power Supply

Power

Plug the adapter into the wall outlet and attach the cable end into the jack marked ‘Power’ on the logger. The LED will not illuminate until the logger is activated and a USB connection is established.

USB to PC connection

The USB cable provided has a rectangular “Type A” plug on one end and a square “Type B” connector on the other. The square connector is the only connector that can be plugged into the logger. Connect the USB cable between the PC and the logger.

At this point, start your computer. Windows will automatically install four ‘USB Audio’ drivers. The installation should not require you to access files from the Windows installation CD, but have this handy just in case. Follow the Windows installation wizard instructions and restart the computer if necessary.

Microphone Power

Phantom power is not provided by this logger. If you need 48V or some other phantom power source, please use an external power supply.

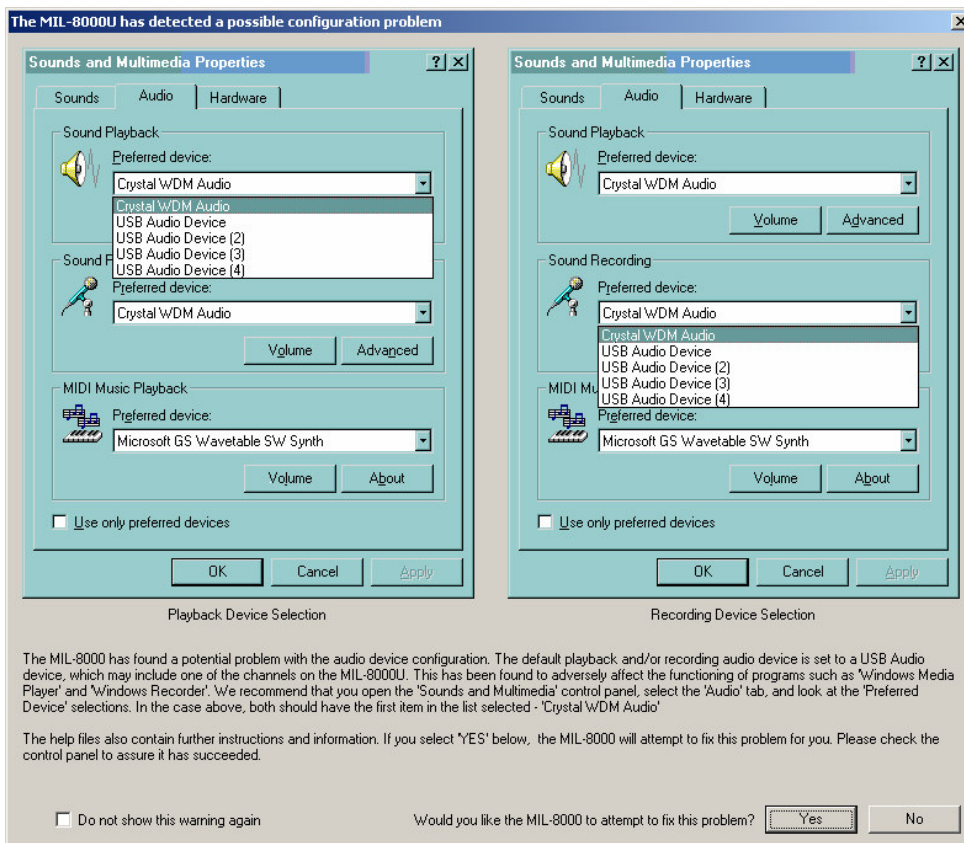
Software Installation

We highly recommend running a Windows live update before installation. Visit windowsupdate.microsoft.com. Microsoft has made several improvements in Windows USB drivers recently. Updating you PC will improve operation with all USB devices. This update is essential for Windows 2000 users.

After updating, insert the logger installation CD into your CD-ROM drive. Installation starts automatically. Select the installation directory and shortcut name. To starting recording automatically, check ‘Run the application when a user logs in’.

Windows USB Audio Devices

When the logger runs, it scans the current USB and audio configurations. An issue you may encounter involves the functioning of

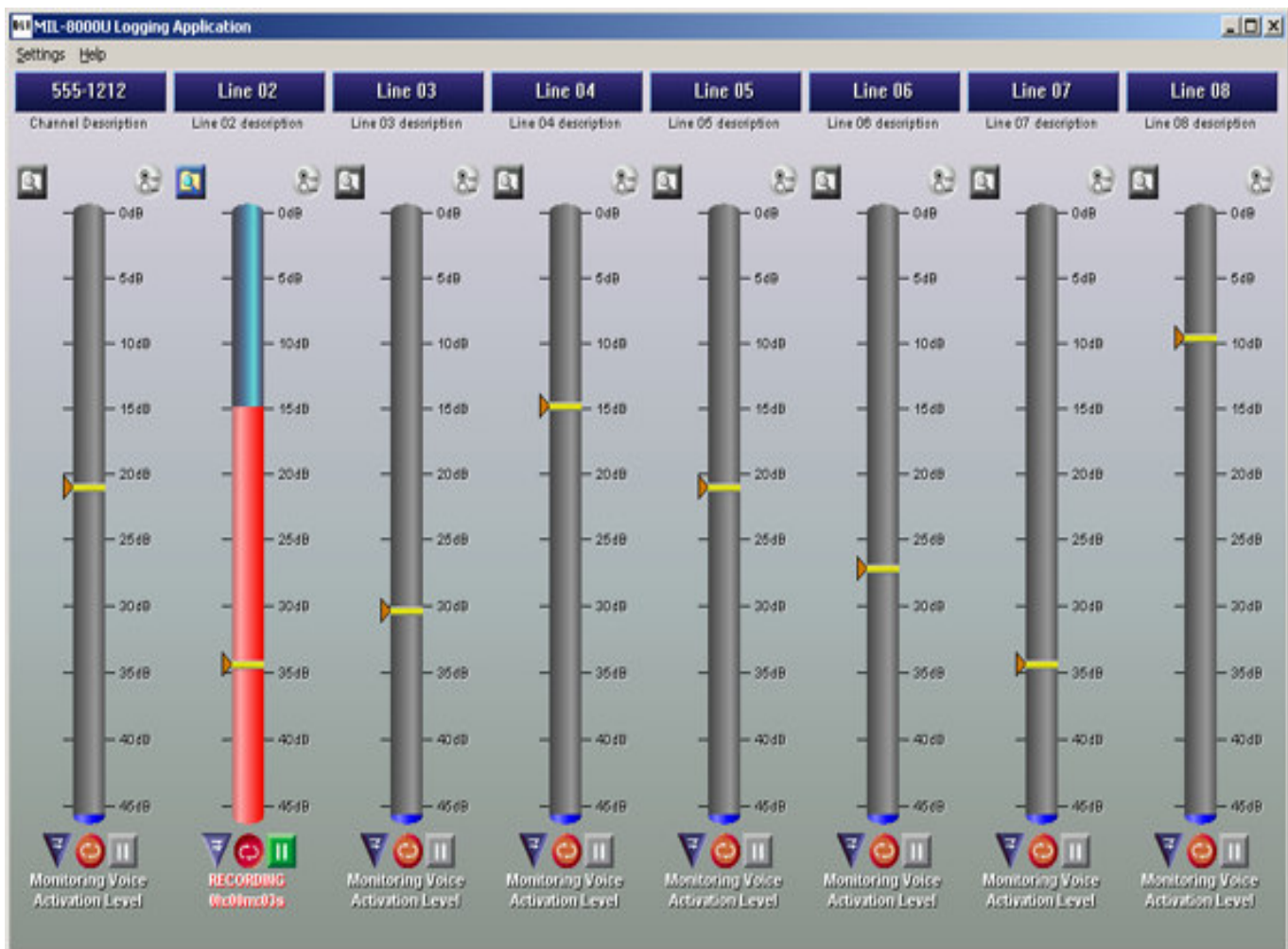


applications such as Windows Media Player. When installing new audio devices that can record and/or play, Windows may assume that the newly installed audio device should be the default one used. Programs such as Windows Media Player and Winamp will use this default device. Installation of USB hardware may cause Windows to set the default playback devices to the USB logger. If this occurs, no sound will come from your speakers and this warning appears:

To automatically change the default audio device, click 'Yes'. To ignore configuration warnings, check 'Do not show this warning'.

To confirm the changes to the audio device configuration, open the 'Sounds and Multimedia' control panel by selecting 'Start Menu | Settings | Control Panel | Sounds and Multimedia'. Click the 'Audio' tab. Make sure that the newly installed USB Audio Devices are not the preferred devices selected. In the example above, the first items in the list for 'Sound Playback' and 'Sound Recording' should be selected ('Crystal WDM Audio'). If your computer contains a built-in USB microphone, select that device (usually the first in the list) as your preferred recording device.

Using the Logger



Each channel opens in the default Voice Activated (VOX) mode shown above. Pressing the triangular button places the associated channel in VOX mode. Pressing the red circular button places the channel in Continuous (Manual) mode and immediately starts recording. Sliding the mouse cursor over any button displays a small help menu.

To stop recording or monitoring, press the red circle a second time. Recording continues forever when the application is set to Continuous mode. In VOX mode, recording starts automatically when a sound level is detected above the trigger level.

When recording, the screen display changes, as shown in 'Line 02' above. A recording time indicator appears below the VU meter. The background of the meter turns yellow when recording. The pause button turns green when the channel is recording. While recording, you can interrupt recording by pressing this button.

Before using the logger, two adjustments must be made: recording volume and trigger level. To adjust the recording volume:

- Speak in a microphone attached to line 1 at a normal level.
- Adjust the gain control level is in the green range.
- Repeat this procedure for each remaining line.

After adjusting the recording volume, the trigger level should be set. The trigger level starts recording and can be changed at any time – even while recording. To adjust it:

1. Place your mouse cursor over the yellow bar. The cursor becomes an up-down arrow.
2. Press and hold the left mouse button.
3. Move the mouse up or down to adjust the trigger.
4. After releasing the mouse button, the trigger is set. Moving the bar down makes the trigger more sensitive. Moving it up reduces sensitivity. The trigger must be adjusted above the background noise level.

The 'Explore Calls' button

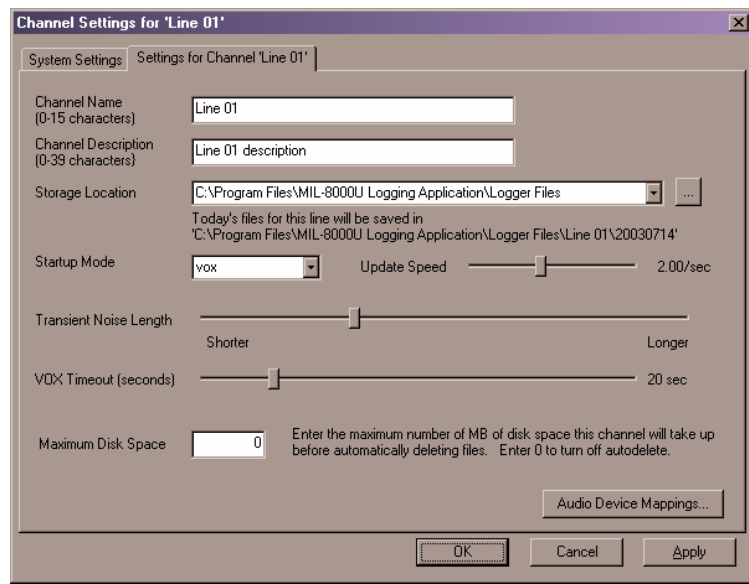
The small blue folder button on the left side of each channel appears when recordings are present. Press it to explore the current day's recordings. From here, you can edit, copy, delete or play.

Channel Configuration

Recording must be stopped to access the channel configuration. When 'Stopped' appears, you may change these settings:

Channel Name – The name of the channel shown in the blue box at the top of the channel window. Examples are 'Security Microphone' or 'Transmitter Audio'

Channel Description – A verbose description of the channel. Such as "Bobs help desk open 9-5".



Channel Storage Location – This list box indicates where recordings for this channel will be saved. Previous storage paths are shown when you hold down the button. To change the location, press "Browse" and select a new folder.

Startup Mode – This controls recording at start up. Select 'vox' to start in automatic trigger mode, 'continuous' to record immediately on startup, or "disable" to turn off recording.

Update Speed – This slider bar indicates how quickly the screen is updated. On slower computers, choose a low setting to conserve CPU resources.

Transient Noise Length – This setting is valid only in VOX mode. Phone lines and other recording sources will occasionally have noise on them. Set transient noise length higher to ignore short clicks and pops when recordings.

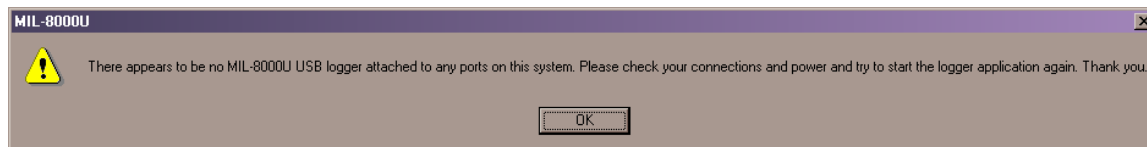
VOX Timeout – In VOX mode, this adjusts the amount of silence detected before recording terminates. Typical conversations contain brief pauses and silence. Setting this value too low may cause conversations to be broken up into several smaller recordings. Setting this value too high can waste disk space by recording excess silence. A timeout of 30 seconds typically works well for phone connections, and a setting of 10 seconds is fine for most radio recordings. Microphones may require longer timeouts.

Maximum Disk Space – The logger can automatically delete old recordings to conserve the amount of disk space used on each channel. This setting controls the maximum amount of disk space used by each channel. Oldest recordings are automatically deleted to free disk space. To turn this feature off, set this field to “0”. If you specify a maximum, the logger will check disk space periodically. If recording size exceeds your setting, the logger will automatically delete files starting with the oldest day. The logger will continue deleting recordings until disk usage reaches the setting. The logger will never delete the current day’s recordings.

System Settings

Max Call Duration – This setting controls the maximum length of a recording. A setting of 63-80 minutes is useful when transferring to audio CDs. When the maximum duration is exceeded, a new recording begins. No audio is lost.

Error Messages



This message appears if the logger is disconnected or powered down. Check the USB connection, and look for a red light on the logger. The light appears only when power is flowing to the logger, the USB cable is correctly wired, and the system has enabled USB power.

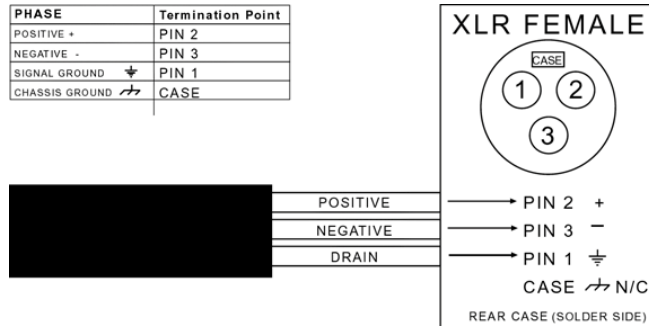


Only one logger can be used at a time. If multiple loggers are detected, this warning appears.

Frequently Asked Questions

What is the pinout of the XLR connector?

Pins 2&3 carry differential audio. Pin 1 is chassis ground.



What is a “Balanced Line”? What is an “Unbalanced Line”? How can I connect to them?

Balanced lines are lines use to cancel noise. In balanced phone and microphone lines, two wires are twisted together so that each wire picks up the same amount of noise. At the receiving end, the noise is subtracted, and the resulting output is the sent audio, minus the noise. A balanced line becomes "unbalanced" when unintentional leakage to ground occurs. Unbalancing a phone line causes noise. This can be a result of poor insulation somewhere along the line, or a bad connection. The problem is often worse in the winter, when outside lines are wet and leakage to ground occurs along the line.

Audio is usually sent down shorter unbalanced lines using Coaxial shielding. This shielding prevents electromagnetic noise from affecting a single wire. The inputs to all DLI loggers are balanced lines. These inputs may be connected directly to unbalanced (ie. Coaxial) lines, and the ground may be connected to either side of the logger input.

What is a D/A Converter? How do I connect it?

D/A stands for Digital-to-Analog. A D/A converter is installed between digital lines (usually station sets) and an audio logger. D/A converters work by converting the signal stream from a digital station set into the standard analog format used in an audio logger. They are available in single and multi-channel versions.

Since there is no "standard" for digital station set interconnects and line formats, single channel D/A converters are usually best purchased from the manufacturer of the PBX and station sets to which you are connecting.

Multi-channel D/A converters are commonly available on PCI cards. These cards are sold by Dialogic (now Intel) and others. Another common type is built into the base of a KT-66 punchdown block. Again, every phone system has a different format, so there are hundreds of D/A converters available. Make sure you are purchasing the right one for your PBX and station sets.

Please visit www.digital-loggers.com for more frequently asked questions, free driver updates, manuals and accessories. If we haven't answered your questions here, please call (408) 330-5599 or send an email to support@digital-loggers.com. We'll be glad to help.

