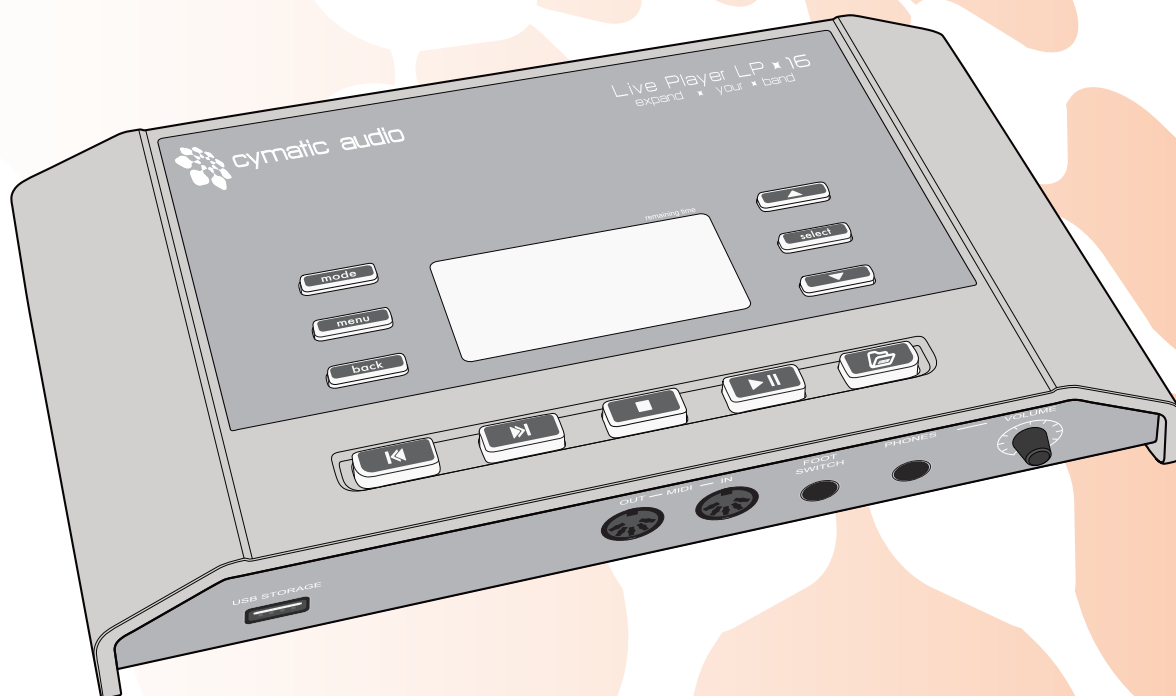




cymatic audio

Live Player LP-16



PRODUCT MANUAL

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1. SAFETY PRECAUTIONS

1.1. AC adapter

- Be sure to use only the supplied 12 V DC, 1000 mA AC adapter, which is equipped with a “center-positive” plug. The use of an adapter other than the specified type may damage the unit and could pose a safety hazard.
- Connect the AC adapter only to an AC outlet that supplies the rated voltage required by the adapter.
- When disconnecting the AC adapter from the AC outlet, always grasp the adapter itself and do not pull at the cable.
- During lightning or when not using the unit for an extended period, disconnect the AC adapter from the AC outlet.

1.2. Environment

To prevent the risk of fire, electric shock or malfunction, avoid using your Live Player LP-16 in environments where it will be exposed to:

- Extreme temperatures
- Heat sources
- Excessive humidity or moisture
- Excessive dust or sand
- Excessive vibration or shock

1.3. Handling

- Never place objects filled with liquids on the LP-16, as this can cause electric shock.
- Do not place an open flame source, such as a lighted candle, on the LP-16 since this can cause fire.
- The LP-16 is a precision instrument. Do not exert undue pressure on the keys and other controls. Also take care not to drop the unit, and do not subject it to shock or excessive pressure.
- Take care that no foreign objects (coins, pins etc.) or liquids can enter the unit.

1.4. Connecting cables and input and output jacks

Always turn off the power to the LP-16 and all other equipment before connecting or disconnecting the power source. Make sure to disconnect all connection cables and the power cord before moving the LP-16.

1.5. Alterations

Do not open the case of the LP-16, or attempt to modify the product in any way. Doing so will void the warranty. There are no serviceable parts inside the unit.

1.6. Volume

Do not use the headphone output of the LP-16 at a loud volume for a long time since this can cause hearing impairment.

2. USAGE PRECAUTIONS

2.1. Electrical interference

For safety considerations, the LP-16 has been designed to provide maximum protection against the emission of electromagnetic radiation from inside the device, and protection from external interference. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves should not be placed near the LP-16, as the possibility of interference cannot be ruled out entirely. With any type of digital control device, the LP-16 included, electromagnetic interference can cause malfunctioning and can corrupt or destroy data. Care should be taken to minimize the risk of damage.

2.2. Cleaning

Use a soft, dry cloth to clean the LP-16. If necessary, slightly moisten the cloth. Do not use abrasive cleanser, wax, or solvents (such as paint thinner or cleaning alcohol), since these may dull the finish or damage the surface.

3. LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information on Cymatic Audio's Limited Warranty, please see complete details online at www.cymaticaudio.com/warranty

CERTIFICATIONS



This product complies with the European Union Council Directives and Standards relating to Directive 2004/108/EC for Electromagnetic compatibility (EMC) and Low Voltage Directive 2006/95/EC



This product is compliant with the EU Directive 2011/65/EU for the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment. No lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr+6), PBB or PBDE is intentionally added to this device. Any traces of impurities of these substances contained in the parts are below the RoHS specified threshold levels.



This equipment has been tested and found to comply with the requirements of 47 CFR of PART 15 limit for radiation and conduction emission relating to FCC rules Part 15B: 2010.



4. INTRODUCTION

Thank you for purchasing the Cymatic Audio Live Player LP-16. The LP-16 is the world's easiest to use direct from USB 16-track / MIDI player and 18-output, 2-input USB audio interface for PC, Mac® and iPad®.

The LP-16 works as a dedicated multi-track player for live performances, while sparing users the hassles of using a laptop and computer audio interface in a live environment. The LP-16 does not require any additional computer hardware, other than a USB hard drive and cabling, in order to play back 16 separate audio tracks directly into the line inputs of a live sound mixer. These pre-recorded tracks can be individually mixed alongside the audio from live performers to augment their performance.

Used in connection with a Windows PC, Mac® or iPad®, the LP-16 also serves as an 18-output/2-input USB audio interface. With a large number of outputs, the individual tracks of a multi-track DAW session can easily be connected to the individual inputs of an analog studio mixer, perfect for analog summing and mixing "out of the box", imparting classic analog flavor to your next mix session.

The LP-16 User Manual contains in-depth details of your Live Player's features and functionality, including:

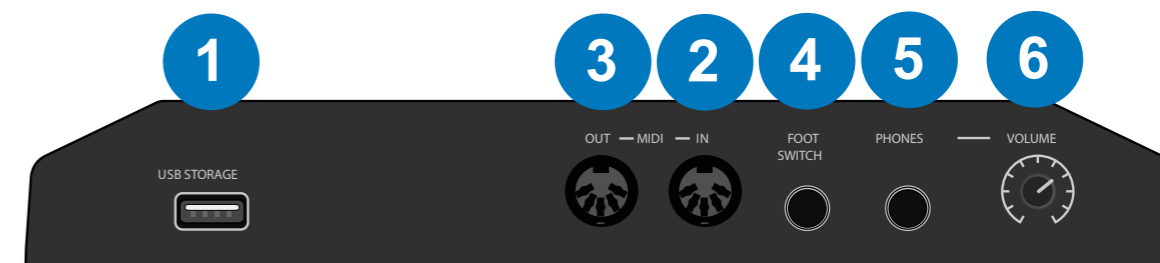
- Direct from USB hard drive multi-track playback (16 tracks at 24-bit or 16-bit, 44.1/48kHz)
- Intuitive user interface to edit and save settings, song and playlist files
- Creation and editing of settings and playlist files offline, using Windows playlist software
- 16 unbalanced analog 1/4" tip-sleeve outputs
- 1/8" Stereo Line level input
- Front panel 1/4" headphone output with dedicated level control
- Zero latency hardware input monitoring (USB Interface Mode)
- 2-input / 18-output USB audio interface, 24 bit/44.1/48 kHz USB Class Compliant
- Mac® OS-X® compatible: Core Audio plug and play drivers
- Windows® PC compatible (Windows XP, Vista, 7 & 8 32-bit/64-bit) WDM and ASIO® drivers.
- iPad® compatible: Plug and play. USB adapter required including
- Apple® Lightning to USB Camera Adapter
- Apple® USB Camera Connection Kit
- Foot Switch connector for hands free playback/pausing of track playback
- MIDI I/O with synchronized Standard MIDI File player functionality

5. WHAT'S IN THE BOX

- LP-16 recorder
- AC/DC power adapter and power cable
- USB cable
- Quick Start Guide

6. LP-16 CONNECTIONS AND USER INTERFACE

6.1. Front Panel



1. USB Storage Connector

Attach a USB thumb drive or USB hard drive to this connector, when using the LP-16 in either MT or ST mode.

2. MIDI Input

The MIDI input receives incoming MIDI messages, and can also be configured as a MIDI through port using the MIDI settings menu.

Configuring the MIDI input as a through port can be useful in certain live sound scenarios. On stage, you could have a MIDI Keyboard connected to the LP-16's MIDI input, and play over the same MIDI device that the LP-16 is using. Alternatively, you can turn MIDI through off to if you want to prevent 'accidental' play-out.

3. MIDI Output

The MIDI output connector can output the MIDI data from Standard MIDI Files (SMF) that reside in the attached drive's project folder, alongside the multitrack files. With this capability, the LP-16 can trigger external MIDI hardware such as MIDI synthesizers or MIDI-enabled lighting controllers, at the same time it plays back multi-track audio files.

4. Foot Switch Connector

The footswitch connector allows connection of a standard on/off foot pedal, which can be configured to start, pause, and un-pause playback of the current song.

5. Headphone Out

The headphone connector outputs a stereo signal, which works as follows:

- In MT mode, the connector outputs a mono mix of all 16 tracks, mixed together at unity gain
- In ST mode, the connector outputs the stereo file currently being played back
- In USB mode, the connector outputs the stereo DAW signal

6. Headphone Volume

This knob allows volume adjustment of the front-panel headphone output.

! For more details of the above connectors' functions, refer to the "Menus" section of this user's manual.

6.2. Rear Panel



1. Mono Line-Level Output Connectors

These unbalanced connectors each output a separate mono audio track, sourced from the currently playing multi-track song file.

2. Stereo 3.5mm Input

This connector is used as a 2-channel, unbalanced line-level input when the LP-16 is operating in USB interface mode.

3. USB Device Connector

This female USB connector is used to attach the LP-16 to an OS X or Windows computer, or an iOS device, allowing the LP-16 to act as a 2-input, 18-output audio interface.

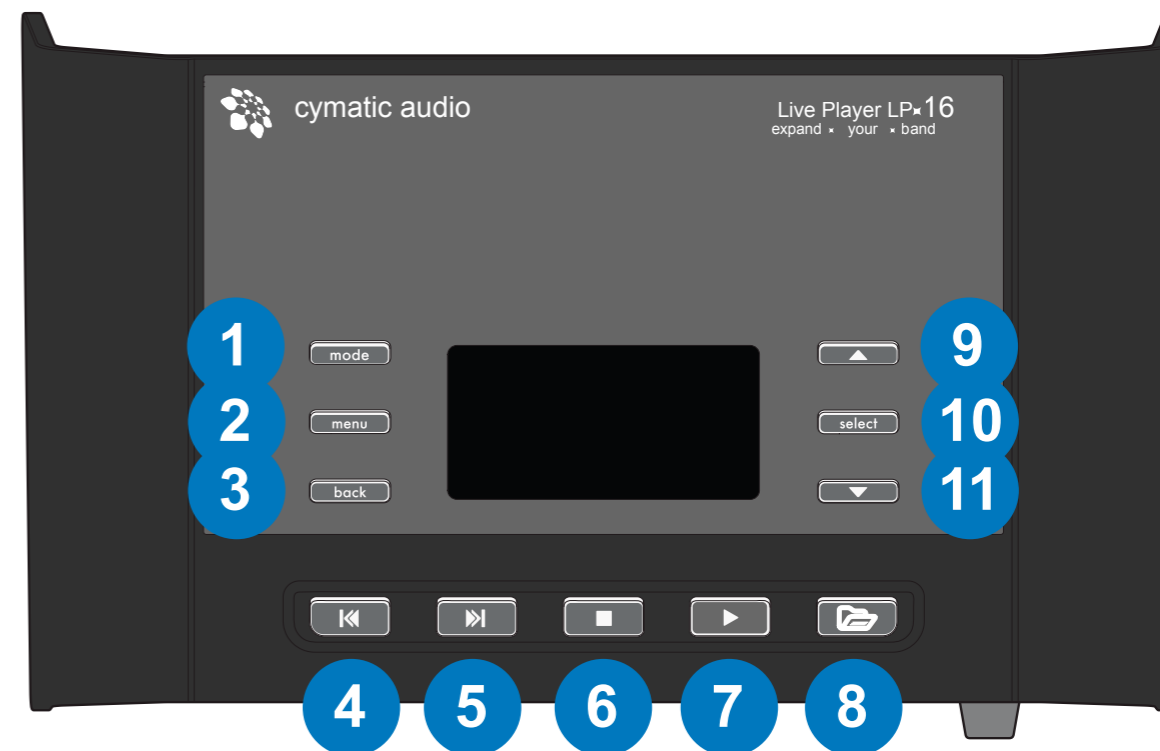
4. External Power Supply Connector

Connect the included external power supply to this connector.

5. Power Switch

Use this switch to turn power on/off to the LP-16.

6.3. Top Panel



The top panel buttons perform the following functions, depending on which of the three modes is currently active :

	Multitrack Mode	Stereo Mode	USB Interface Mode
1	Switch to stereo mode	Switch to multitrack mode	No Function
2	Show multitrack mode menu	Show stereo mode menu	Show input settings menu
3	Go back to previous screen	Go back to previous screen	Go back to previous screen
4	Go to previous song	Go to previous song	No Function
5	Go to next song	Go to next song	No Function
6	Pause/Stop playback	Pause/Stop playback	No Function
7	Start playback	Start playback	No Function
8	Show folder contents screen	Show folder contents screen	No Function
9	Selection up	Selection up	Selection up
10	Select	Select	Select
11	Selection down	Selection down	Selection down

In addition, four separate key combinations are also available that perform the following functions:

6+7	Stop & Play	Toggles between stereo player and multi-track player mode
6+5	Stop & Next	increment next song while in play list mode
6+4	Stop & Previous	Decrement next song while in play list mode
4/5/10	Previous/Next/Select	Send midi all notes off in multi-track player mode

7. MODES OF OPERATION

The LP-16 offers three different modes of operation, depending on your specific needs:

7.1. Multi-Track Mode

This mode, hereby abbreviated as “MT Mode”, is the main operational mode of the LP-16. In MT mode, the unit can play back up to 16 separate tracks of audio, which are each output to a separate physical 1/4” output connector on the rear panel of the unit.

The most common use for MT mode is to play back separate, pre-recorded “backing tracks” in a live music environment, used to augment and expand upon live tracks played by live musicians.

By feeding the pre-recorded tracks into separate channels of the live sound mixer, the FOH engineer can mix together the individual pre-recorded tracks alongside the live tracks, just as if they were coming from individual live musicians. This provides much more flexibility than if all the pre-recorded tracks were “pre-mixed” to a stereo track that could not be altered or adjusted in any way.

You may copy multiple .wav files to a USB drive, attach the drive to the LP-16, and playback the files in MT mode, without any external software, using the following steps:

- Create a folder within the ‘Recording’ Folder (this folder is created on the USB device when you first plug it in)
- Copy 16 .wav files to this folder
- If the .wav files do not contain any numbering, they will be assigned to the LP-16 channels in alphabetical order.
- In order to get a channel assignment you can number them in two ways:
 - Number as prefix with underscore (always two digits)
 - 01_Guitar.wav
 - 02_Drums.wav
 - 09_vocals.wav
 - 16_bass.wav
 - Number as Suffix with underscore (always two digits)
 - Guitar_01.wav
 - Drums_02.wav
 - vocals_04.wav
 - bass_12.wav

Additionally, the LP-16 also works with an external Windows software named “LP-16 Playlist Editor”, available for download at www.cymaticaudio.com/downloads

The LP-16 Playlist Editor is required to configure a “multi-track file playlist”, with the ability to step through them in order as the concert progresses.

The external playlist software also allows for applying assorted playback settings to each playlist file.

For specific details of operation for the external playlist software, please refer to its user’s manual, available at: www.cymaticaudio.com/downloads

7.2. Stereo Mode

The LP-16 also offers a “stereo player mode”, hereby referred to as “ST Mode”. This mode is ideal for playback of stereo audio files, such as pre-show, post-show, and break music.

In ST mode, the LP-16 plays back 44.1 and 48 kHz stereo wave files that are stored in the “Music” folder on the attached USB drive. The stereo files can be configured to output from a specific pair of rear-panel audio connectors of your choosing, and can also be monitored from the front panel headphone output.

To transfer stereo audio files to the Music folder of the USB drive:

- Attach your USB drive to the LP-16
- The LP-16 will check the drive for proper formatting, and place the needed folders on the drive

- Unplug the drive from the LP-16 and attach it to a computer containing the desired stereo audio files
- Copy the desired files from the computer’s hard drive, to the “Music” folder on the USB drive
- Attach the USB drive to the LP-16.
- The files now residing in the “Music” folder of the attached drive are now available to the LP-16 when used in ST mode.

! **NOTE:** The LP-16 only plays back stereo files in the “.wav” format. It does not play back stereo files in other commonly available consumer formats such as MP3, AAC, WMA, and FLAC.

If the stereo files you wish to use are in one of these other formats, make sure to first convert them to the .wav file format, using an audio utility on your computer.

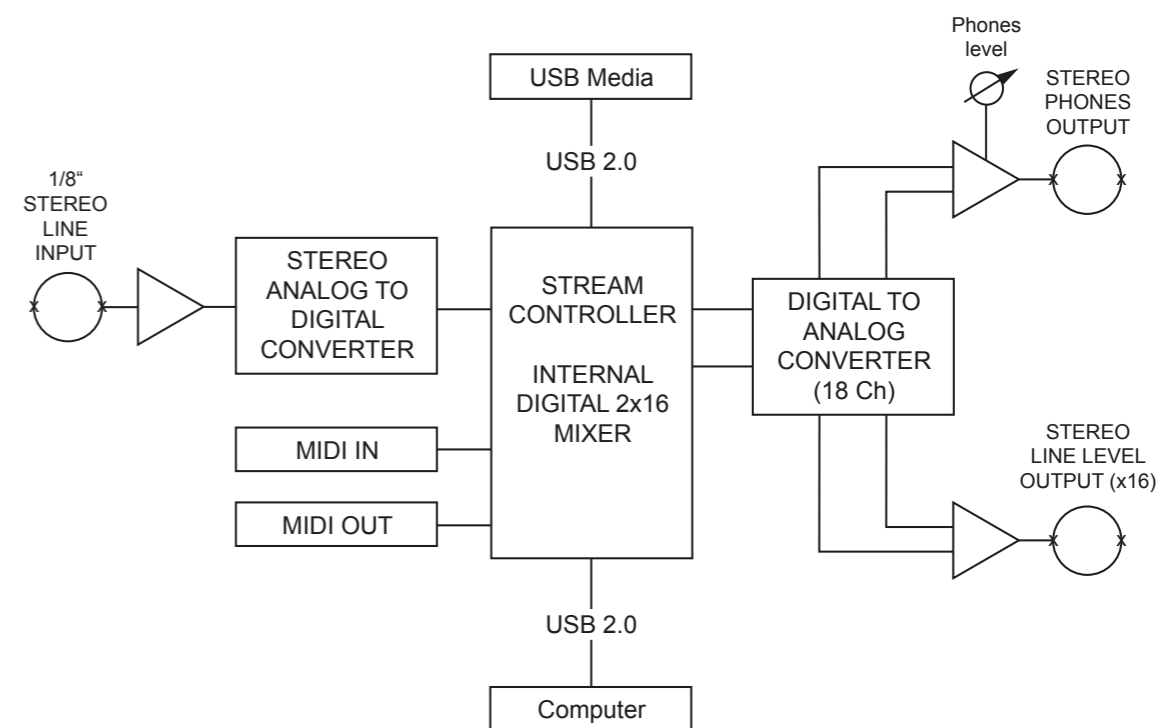
There are many freeware utilities available online that can convert from the above unsupported formats, to a standard wave file. For example, the free Apple iTunes software performs this type of conversion; instructions for doing so can be read at <http://support.apple.com/kb/HT1550>

7.3. USB Interface Mode

In USB Interface mode, the LP-16 acts as a 2-input, 18-output audio interface for OS X, Windows, and iOS. For more details, please refer to the section titled “USB Interface Mode”;

8. SIGNAL FLOW

- The LP-16 contains 16 separate line-level outputs, which are sent out of 16 separate mono, unbalanced line-level outputs.
- In MT mode, the LP-16 also contains an internal digital mixer that provides a mono mix down of the 16 separate audio streams, mixed together at unity gain. This internal mix is sent out of the front-panel headphone output.
- When operating as a USB computer audio interface, the stereo line input allows recording of 2 incoming channels to the DAW, while 18 separate DAW output channels can be sent to the LP-16 (16 to the rear-panel outputs and an additional stereo channels sent to the headphone output).



9. LP-16 FILE TERMINOLOGY AND FOLDER STRUCTURE

The LP-16 uses audio files on an attached USB drive, to play back assorted audio, either stereo wav files, or groups of up to 16 mono wave files. These LP-16's menus interact with these files based on how they are specifically placed on the attached USB drive.

When a USB drive is first attached to the LP-16's front panel USB port, it is tested for compatible formatting, and then the following folders are automatically created on the USB drive:

- Music
- Recording

When you attach the USB drive to your computer to copy wave files from your local hard drive to the USB device, the files should be placed in these folders so that the LP-16 knows where to look for them.

The folders work as follows:

9.1. Music Folder

This folder is where you copy stereo wav files, that are intended to be used when the LP-16 is set to stereo (ST) mode. This mode is best used for functions like playing "walk-in" music, "break music" and "walk-out" music at a live event. When the LP-16 is set to ST mode and set to "normal" instead of playing back a playlist, it will playback the files in this folder in alphabetical order. One way to configure a playback order you would like, is to prepend the files with "001", "002", etc.

Using your computer, you may create additional folders, within the music folder and then place different stereo wave files within them, and then navigate to the specific folders and their contents using the LP-16's "folder browse" button on the top panel. For example, you could create one folder called "rock" and fill it with rock tunes, while creating another folder called "Jazz" and filling it with Jazz tunes. With such an approach, you could have different folders of musical styles at the ready, for music playback at different events.

The music folder also contains an automatically created folder called "PLAYLISTS". This folder is where any user-created playlist files are stored (using the LP-16 Playlist Editor software). A playlist file is shown as "xxxx.play"; they can be selected from the LP-16 using the menu's "Select Playlist" command.

9.2. Recording Folder

The recording folder is where you store the audio that is used when the LP-16 is set to Multi-Track (MT) mode. This mode is used when the LP-16 is playing back up to 16 separate audio tracks, meant to be fed into a live sound console and mixed alongside live performers.

When the USB drive is attached to a computer, you can make a new folder with the name of the song you are making a collection of files for, and then copy up to 16 mono wave files into that folder. When that folder is selected on the LP-16, the 16 files will playback, in sync with each other, out of the 16 rear panel outputs.

A folder containing the 16 wave files may also contain a "song" file (shown as xxxx.set), which would be created with the LP-16 Playlist Editor software. The song file contains additional settings related to the multi-track playback functions.

The LP-16 can also play back a standard MIDI file (.midi) in sync with the collection of 16 tracks. To perform this function, place the .midi file in the same song folder as the 16 wave tracks. The .midi file's MIDI data will automatically play out of the LP-16's MIDI Out connector, when the tracks in the same song folder are playing.

10. LP-16 TRANSPORT BEHAVIOR

10.1. Using the Skip Forward/Skip-Back Buttons

When playing back song files, the transport and navigation controls work as follows:

- Pressing the skip forward button will increment, by one song, the next song to be played in the playlist. For example, if the next song to be played is the 4th song in the playlist, pressing the top panel skip forward button will "skip" the 4th song, and instead play the 5th song next.
- Pressing the skip back button will decrement, by one song, the next song to be played in the playlist. For example, if the next song to be played is the 4th song in the playlist, pressing the top panel skip back button will "skip" the 4th song, and instead play the 3rd song next.
- To stop a currently playing song before it has completed, or skip to the next or previous song in a playlist:
 - Press the "stop" button
 - While the transport is stopped, press the skip back or skip forward buttons.
 The LP-16 will then allow you to navigate to the next song in the playlist that will be played, when the play key is next pressed. The above playback behavior is designed for the most flexible playback of tracks at a live sound event. It allows you to spontaneously change what song will play next, without interrupting playback of the current song.

10.2. Using the Stop Button

When the LP-16 is currently playing back a song:

- The first press of the stop button will pause the transport. Pressing the play button resume playback of the current song, from the pause point forward.
- The 2nd press puts the transport into stop mode. Pressing the play button begins playback of the next song in the playlist.

10.3. Using to the Playlist Folder

To navigate to a playlist folder, use one of the three following methods:

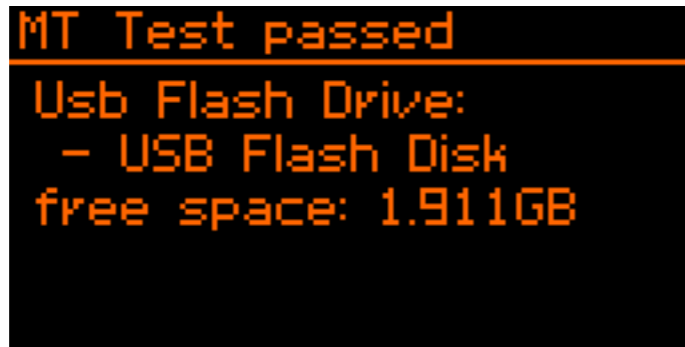
- Press the top panel "folder" button; you will be taken to the folder on the attached drive where the currently playing song resides. You can then navigate to the playlist folder.
- If no playlist is currently selected yet, pressing the stop and play buttons at the same time will activate (toggle playlist mode) and you will be taken directly the playlist folder.
- Press the "menu" button and then select the "Go to Playlist" menu option

11. WORKING WITH USB MEDIA

- Turn on the device
- Connect the LP-16 to its external power supply and turn it on. After the start-up screen briefly displays, you will see the following screen:



- Connect a USB storage device
- Plug in a USB hard drive or USB thumb drive into the USB storage connector on the front of the LP-16.

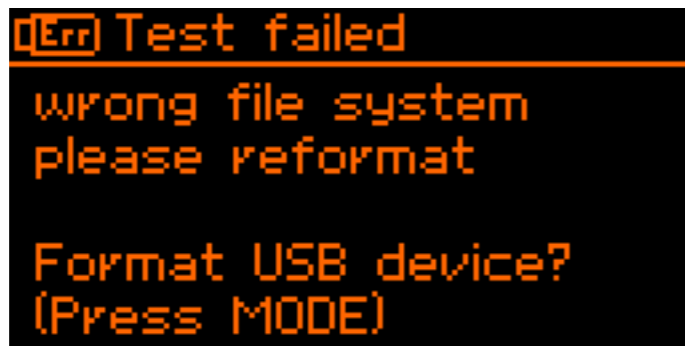


- If the LP-16 determines that the storage device is suitable for playback, a new screen will appear for a few seconds, displaying the amount of free space available on the attached drive

After displaying this information for a few seconds, the LP-16 display will switch to the playback “home screen”.

11.1. Test failed: Wrong file system

If the inserted drive is not formatted in the required FAT32 format, the LP-16 will display an error message.

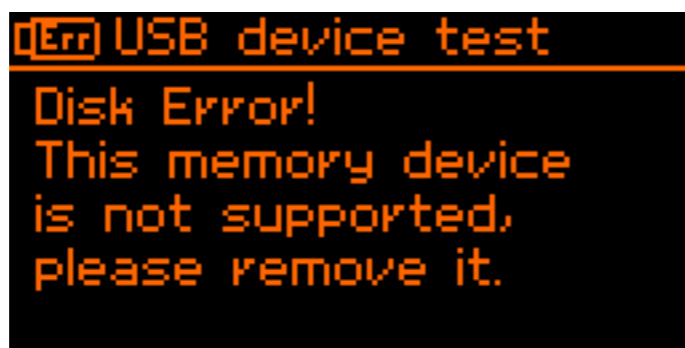


Please see the section “Format USB device” to format the attached USB drive in the FAT32 format.

Please keep in mind that formatting the attached USB drive will erase all data currently residing on the drive.

11.2. Test failed: Disk error

If the inserted drive is defective the screen will give a “Disk Error”



If this occurs, please remove the device and refer to section “Supported USB storage devices”

12. MULTI-TRACK (MT) MODE OPERATIONS AND MENUS

12.1. Multitrack Mode Home Screen

After the attached USB drive has been successfully tested, the LP-16’s screen will display the MT mode “home screen”.



1. LP-16 Mode Status

Shows the currently selected playback mode for the LP-16: Multitrack (MT), Stereo (ST), or USB (USB). When the LP-16 is in USB interface mode, the status message will display “PC” or “MAC”

2. Playback Status

These four animated playback icons move when playback of the current song is active.

3. Playback Mode Icon

This icon displays whether the LP-16 is operating in normal mode (▶) or playlist mode (□).

4. Remaining time

This number represents the remaining playback time of the currently playing song.

5. Name of Current Playlist

This line displays the name of the currently selected playlist.

6. Number and Name of Current Song

7. Next Song Icon

This icon indicates how the next song will play back relative to the currently playing song:

- ▶ There will be no pause between the current and the next song
- || The next song will pause until play / footswitch is pressed
- ⌚ The next song will play after seconds specified in playlist. Can be overruled by play button / footswitch

8. Name of Next Song in Playlist

This line displays the name of the next song in the playlist, which will play when the current song is completed.

9. Signal Level Meters (-30dB / -3dB / 0dB)

This group of meters displays the approximate signal strength of the audio tracks that are playing back.

10. MIDI Input Indicator Light

This circle flashes in time with the data stream of any incoming MIDI signals that are feeding the MIDI input connector.

11. MIDI Output Indicator Light

This circle flashes in time with the data stream of any outgoing MIDI signals that are sent out of the MIDI output connector.

12.2. Multitrack Mode Menus

Pressing the Menu Button while in multitrack mode will take you to the Multitrack Mode Menu.



This menu contains assorted settings that affect the operation of the LP-16 when it is operating in multitrack mode, including the following:

- Playback Mode
- Select Playlist
- MIDI Settings
- Footswitch Settings
- Display Settings
- Format USB Device

Use the Next / Previous buttons, or alternatively the Up / Down buttons, to navigate to the desired menu setting, which will be highlighted on the display.

Press the Select button to adjust the highlighted selection, and the display will switch to the specific settings for that menu selection, as detailed below:

12.2.1. Playback Mode

This screen allows you to select between the two playback modes available in MT mode:



- **Playlist Mode:** In this mode, the LP-16 will play back files in the order that has been set up in the playlist. To make a playlist, use the LP-6 Playlist Editor software.
- **Normal Mode:** In this mode, all MT files residing in the currently selected folder will display and can be played.

12.2.2. Select Playlist

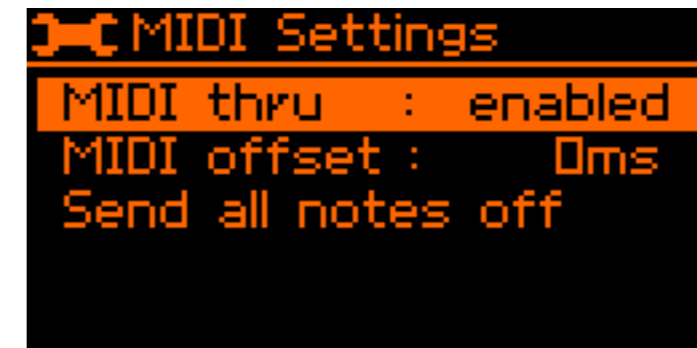
This screen allows you to select a playlist to load into memory, from the available playlists located on the attached USB drive.



- The LCD display shows a list of all available playlists.
- Use the up and down buttons to scroll to the desired playlist
- Use the select button to select the highlighted playlist.

12.2.3. MIDI Settings

This screen allows adjustment of various setting related to the MIDI input and output connectors.



MIDI Thru: Use this menu to toggle a “MIDI Through” function on/off for the front panel MIDI output.

- When MIDI through is activated, all MIDI messages coming into the LP-16 will be merged with the currently playing MIDI file (if one is being played back) and then routed to the LP-16’s MIDI output.
- If MIDI through is turned off, this merge activity does not occur

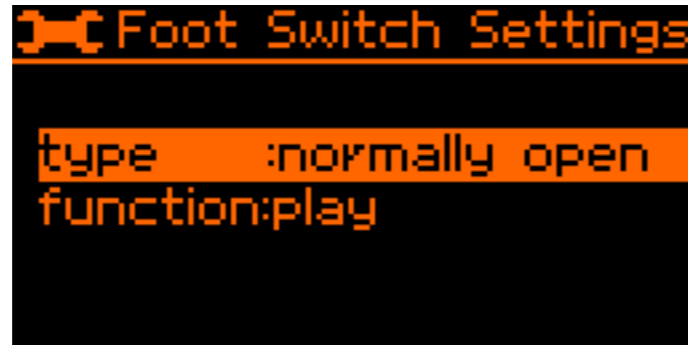
MIDI Offset: Adjust this setting to provide an offset (delay) between the start time of a loaded standard MIDI file, and the start time of the associated song. This setting allows you to fine-tune the synchronization timing between the MIDI file and the triggered audio.

Send All Notes Off: Select this menu to issue an “all notes off” out of the LP-16’s MIDI output, message to a connected MIDI device, useful if any “stuck notes” occur on a connected MIDI playback device.

Usually when a MIDI “all notes off” message is required, the need for it is time sensitive due to a stuck MIDI note on the downstream sound generator. To issue the command immediately, press the “prev + next + select”

12.2.4. Foot Switch settings

The LP-16 can use a standard 1/4" equipped footswitch to perform various functions. The foot switch settings screen allows you to adjust what specific actions occur when you press the attached foot switch.



Type: Adjust the “type” setting to tell the LP-16 if you are using a “normally open” or “normally closed” type footswitch. Consult your footswitch’s documentation to determine which type you have.

Function: Adjust this setting to configure what specific function the footswitch will perform, when it is pressed

- Play: Pressing the footswitch mimics the top panel “play” button.
- Play and Pause: Pressing the footswitch will begin playback. A second press of the footswitch will pause playback, and a third press will un-pause the playback.

12.2.5. Display settings

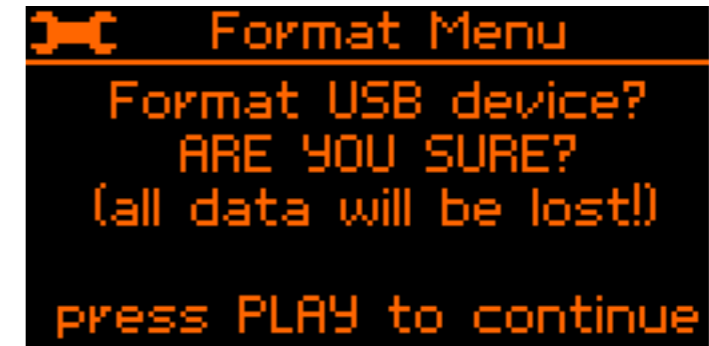
This screen allows you to adjust the LCD display’s contrast, as well as its brightness, in order to ensure optimal readability at different viewing angles.



- Press the Up/Down buttons to choose between setting the contrast or the brightness
- Press the Select button to select the highlighted setting
- Press the Up/Down buttons to adjust the value of the highlighted setting

12.2.6. Format USB Device

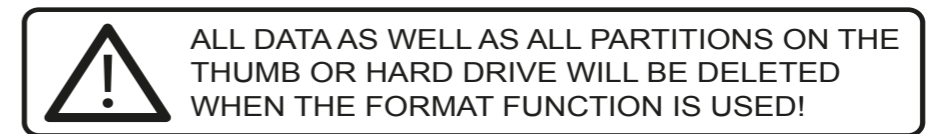
The format function can be used to format an attached hard drive or thumb drive that is connected to the Live Player.



This operation can be useful in the following scenarios:

- The attached drive has not passed the LP-16’s drive test, because it is not currently formatted in the required FAT-32 disk format
- The attached drive has been previously formatted in the correct FAT-32 format, but has not had its data blocks optimized properly by the computer it was formatted on, resulting in a failure of the LP-16 disk test.

In these cases, formatting the drive on the LP-16 may allow the disk to pass, since the LP-16 will format the attached disk with the best possible settings for using with itself.



13. STEREO (ST) MODE OPERATIONS AND MENUS

13.1. Stereo Mode Home Screen (Playlist)

If the LP-16 has been switched to stereo mode, the ST mode home screen will be displayed.

The ST mode home screen displays pertinent settings and displays, when performing a stereo playback operation.



1. Mode Status

This icon will display “ST” to show that the LP-16 is currently operating in Stereo mode.

2. Playback Status

This icon shows the current state of the playback transport (play/stop/pause)

3. Playback Mode Icon

This icon shows the specific song-to-song mode that the LP-16 is set to while in stereo mode (playlist, normal, continuous, repeat, or shuffle).

4. Remaining Time In Song

This counter shows the remaining time left in the currently playing song

5. Playlist Name

This field shows the name of the currently selected playlist

6. Current Song Name

This field shows the name of the song in the playlist that is currently playing back

7. Next Song Icon

This icon indicates how the next song will play back relative to the currently playing song:

- ▶ There will be no pause between the current and the next song
- || The next song will pause until play / footswitch is pressed
- ⌚ The next song will play after seconds specified in playlist. Can be overruled by play button / footswitch

8. Next Song Name

This field shows the name of the next song in the playlist that will play back when the current one is completed.

9. Level Meters (-30dB / -3dB / 0dB)

These meters show the output level of the currently playing song. In ST mode, only the 2 output channels that have been assigned the stereo playback will illuminate with meter activity.

13.2. Stereo Mode Menus

Pressing the Menu Button while in stereo mode will take you to the Stereo Mode Menu.



This menu contains assorted settings that affect the operation of the LP-16 when it is operating in stereo mode, including the following:

- Playback Mode
- Select playlist (see previous section for details)
- Play-out channels
- Foot switch Settings (see previous section for details)
- Display Settings (see previous section for details)
- Format USB Device (see previous section for details)

Use the Next / Previous buttons, or alternatively the Up / Down buttons, to navigate to the desired menu setting, which will be highlighted on the display.

Press the Select button to adjust the highlighted selection, and the display will switch to the specific settings for that menu selection, as detailed below:

13.2.1. Playback Mode

This menu allows you to set the LP-16’s stereo mode to use one of 4 specific playback modes, which operates as follows:

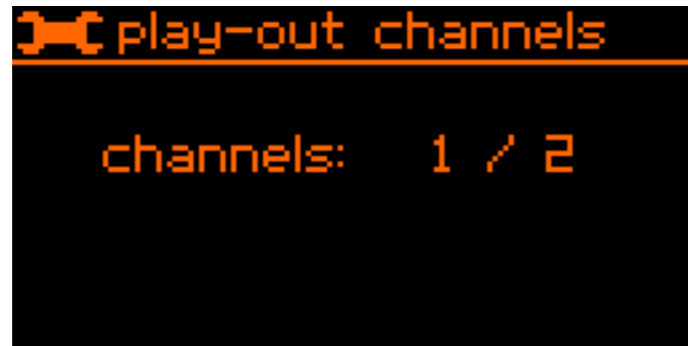


- Playlist: Files will be played back as part of the playlist they belong to, as configured in the Playlist Editor software
- Normal: Files will be played back in alphabetical order from the music folder they reside in
- Continuous Play: All of the songs contained in the “Music” folder will be played in alphabetical sequence
- Repeat: The currently selected song will be repeated endlessly
- Shuffle: The LP-16 will continuously choose songs to play at random.

The currently selected playback mode will be shown, as an icon, at the top of the home page, to the left of the time counter.

13.2.2. Play-out Channels

This menu allows you to set which specific pair of rear-panel outputs the stereo audio file will be output to.



Use the select arrows and select button to select between outputs 1 and 2, 3 and 4, etc.

14. SUPPORTED USB STORAGE DEVICES

The LP-16 player can play back directly from two different types of USB drives:

- Small-format USB “thumb drives” that connect directly to the front-panel USB port and are bus-powered by the USB port itself.
- External USB hard drives, that connect to the front-panel USB port with a separate USB cable, and are either powered from their own power supply, or are bus-powered from the USB port.

Each of these two types of drives has their own unique considerations to keep in mind, when using them with the LP-16, as described below.

14.1. USB 2.0 Thumb Drives

Thumb drives used for Direct-from-USB playback must be USB2.0 compatible

USB thumb drives traditionally tend to offer a less predictable and less consistent read speed than traditional USB hard drives. Their unpredictable read speed makes them a less preferred playback storage medium than a traditional USB hard drive, especially for ‘mission critical’ multitrack playback situations.

14.2. USB 2.0 Hard Drives

USB Hard drives used for multi-track playback must be:

- Fully compatible with the USB2.0 specification without requiring custom software drivers
- Powered from their own external power supply
- If “bus-powered”, the drive must be bus-powerable from the standard amount of USB bus-power offered by computer USB ports, and not require any extra amount of USB bus power beyond this standard.

USB hard drives traditionally tend to offer a more reliable and predictable read speed than USB thumb drives.

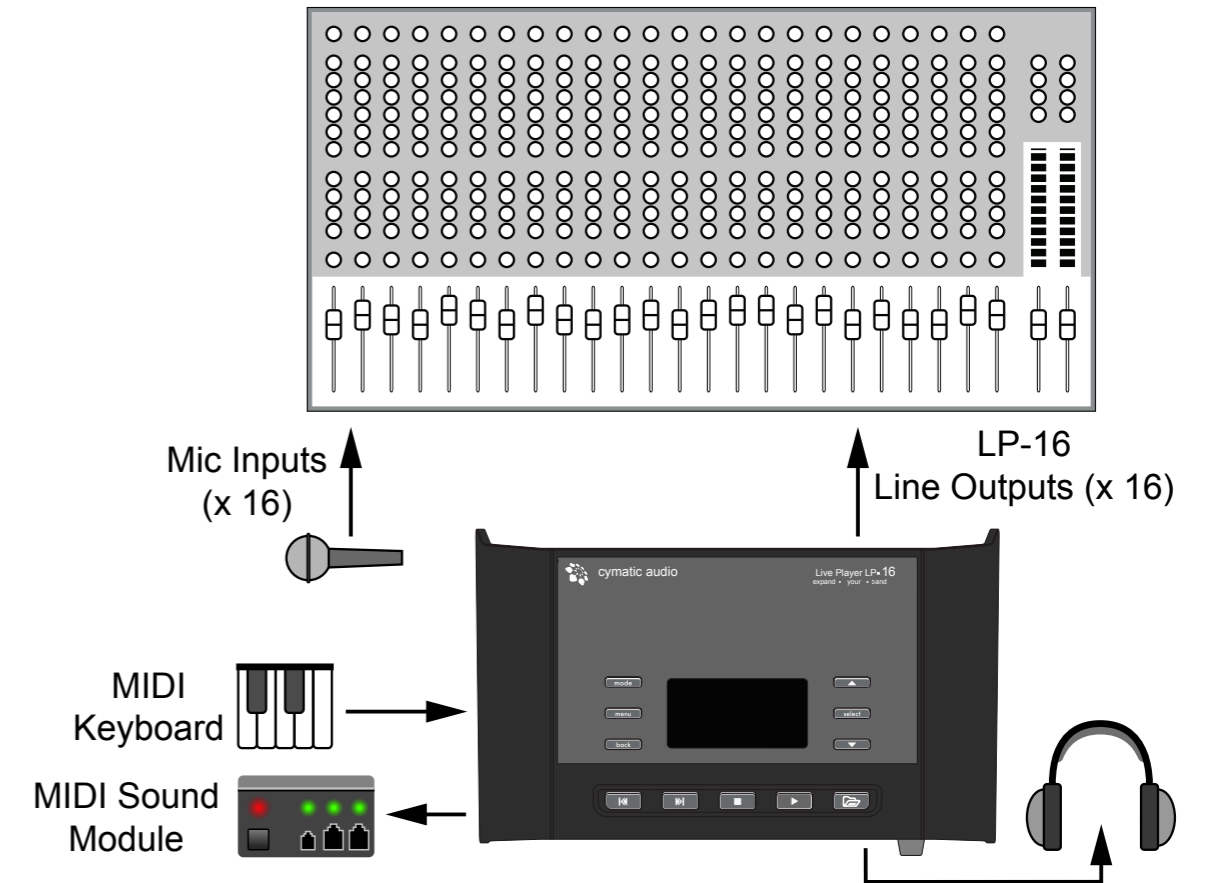
15. CONNECTING THE LP-16 TO AN AUDIO MIXER

15.1. Connecting the LP-16 to a Mixer with Unbalanced Line Inputs

The LP-16 offers 16 unbalanced analog 1/4” output connectors, using a TS (tip-sleeve) configuration. Thus, it is best connected to a mixing console with unbalanced, tip-sleeve line inputs.



TS-to-TRS Adapter (ring not connected)



The illustration above shows the following connections:

- 16 tracks of pre-recorded playback are sent from the LP-16 to 16 separate line inputs of a large format live sounding mixing console
- MIDI keyboard connected to LP-16 MIDI in, MIDI sound module connected to MIDI out
- Additional live musicians are fed into another 16 inputs of the console, using its mic inputs
- The live sound engineer mixes the pre-recorded backing tracks of the LP-16 alongside the live signals. In effect, the pre-recorded tracks from the LP-16 act as “virtual band members”, allowing for a more fleshed out production without the added expense of extra live musicians.

15.2. Connecting the LP-16 to a Mixer with Balanced Line Inputs

In some situation, the LP- 16 will be connected to inputs of a mixing console that only offers balanced inputs, in the form of tip-ring-sleeve (TRS) inputs. As long as the mixing console has a properly designed balanced input, you can use a normal unbalanced TS to TS 1/4” cable, with no special cables or adapters required.

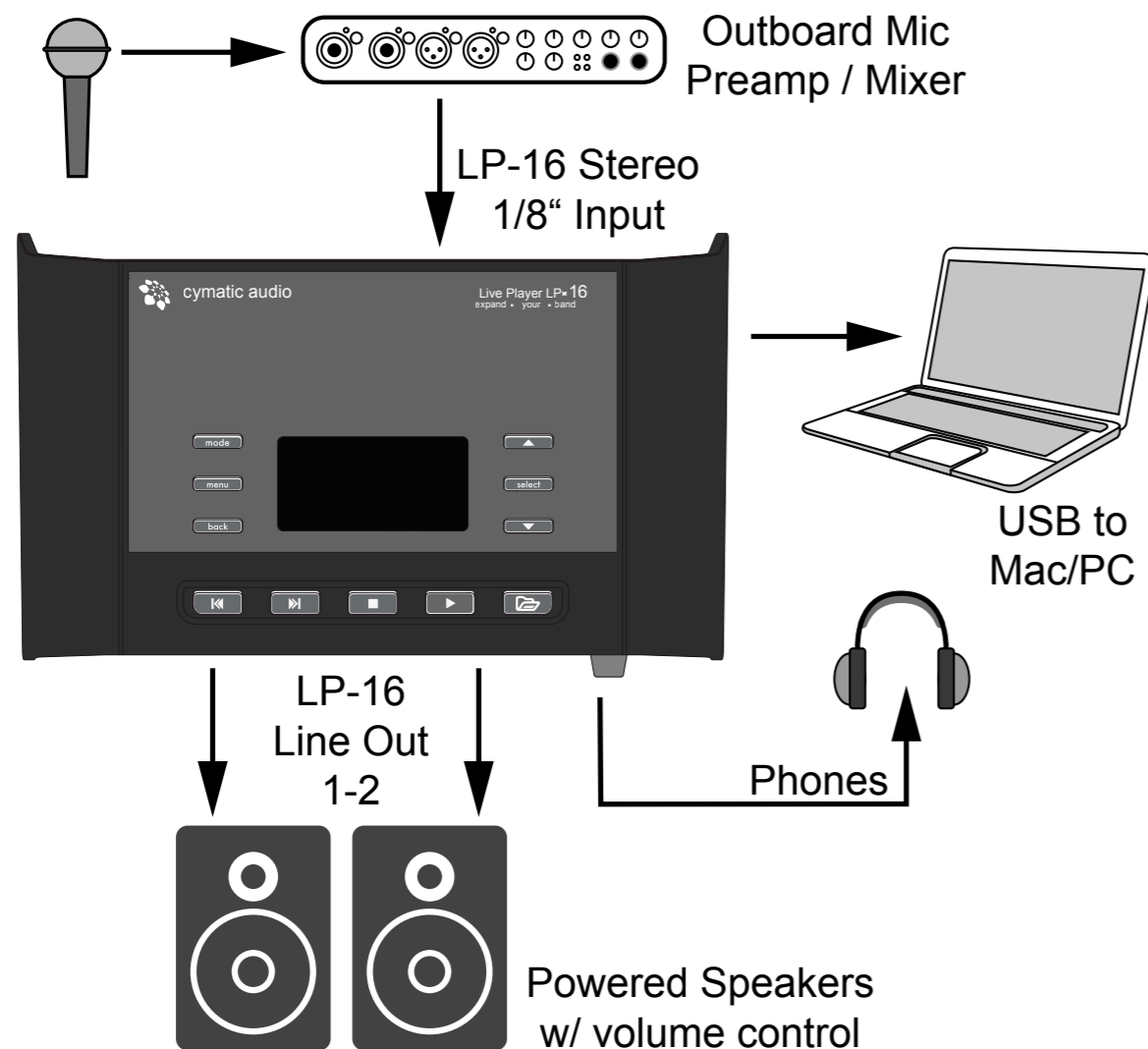
In the event that you are using a console that does not have a properly balanced input and the connection does not work properly, use a TS to TS cable, and on the end of the cable that connects to the mixing console’s balanced TRS inputs, add a TS-to-TRS adapter. This will convert the unbalanced signal from the LP-16 to a TRS signal that will operate correctly with the console’s balanced inputs.

16. USB INTERFACE MODE

In addition to functioning as a direct from USB 16-track player, the LP-16 has the ability, when connected to your Mac®, PC, or iPad®, to operate as a 2-input, 18-output, 24 bit kHz USB class compliant computer audio interface, running at 44.1 or 48kHz.

To operate the LP-16 as a computer audio interface, perform the following steps:

- Make sure that there is no USB storage device connected to the front-panel USB storage connector. If any drive is connected to the front panel USB port, the LP-16 will only operate in standalone playback mode.
- Connect one end of the included USB cable to the LP-16's rear panel USB port on one end, and an available USB port of your Mac/PC on the other end
- If using the LP-16 with an Ipad, connect the USB cable to the USB port of an: Apple Ipad Camera Connection Kit or Apple Lightning to USB Camera Adapter



- Microphones or other input sources are connected to the inputs of a standalone microphone preamplifier.
- Audio is fed from the microphone preamp or mixing console to the 2-channel 1/8" TRS input of the LP-16.
- A set of headphones is connected to the front panel headphone output, allowing you to monitor the 2-channel stereo output of your favorite DAW software, the stereo output of the LP-16's internal mixer, or a combination of both signal paths

16.1. Using the LP-16 as an Audio Interface with Microsoft Windows

16.1.1. Minimum System Requirements

Operating Systems (32 or 64bit):

- Windows® XP (SP2), Windows Vista, Windows 7, Windows 8
- Microsoft .NET Framework 4.0 (usually installed automatically by Windows update.)
- For Windows versions where the .NET Framework 4.0 is not already installed, the installation wizard will automatically start when the mixer / control panel is started for the first time.)
- The LP-16 device drivers do not require the .NET Framework.

Hardware:

- Pentium® IV 1.2 GHz or better
- 512 MB Ram (1GB or more recommended)
- 1 free USB2.0 compatible port on PC

! *NOTE: The speed of your computer's processor, amount of RAM, and the capacity, size, and speed of your hard drives will greatly affect the overall performance of your recording system. A faster processor and more RAM can reduce signal latency (delay) and improve overall performance.*

16.1.2. WDM and ASIO Driver Installation

Before connecting the LP-16 to your PC, please download the driver package from www.cymaticaudio.com/downloads.

After the download has finished:

- Unzip the downloaded archive to a folder on your PC.
- In the resulting folder, double click the "setup.exe" file and follow the on-screen instructions. (It is strongly recommended that you exit all other programs before running the LP-16 driver installation program)
- When prompted by the installation program, connect the LP-16 to your PC by connecting the supplied USB cable to the LP-16 USB 2.0 connector on the rear panel and an available USB2.0 port on your PC.

16.2. LP-16 Mixer / Control Panel for PC

The LP-16 driver installer program will automatically install the LP-16 Mixer / Control panel on your Windows PC.

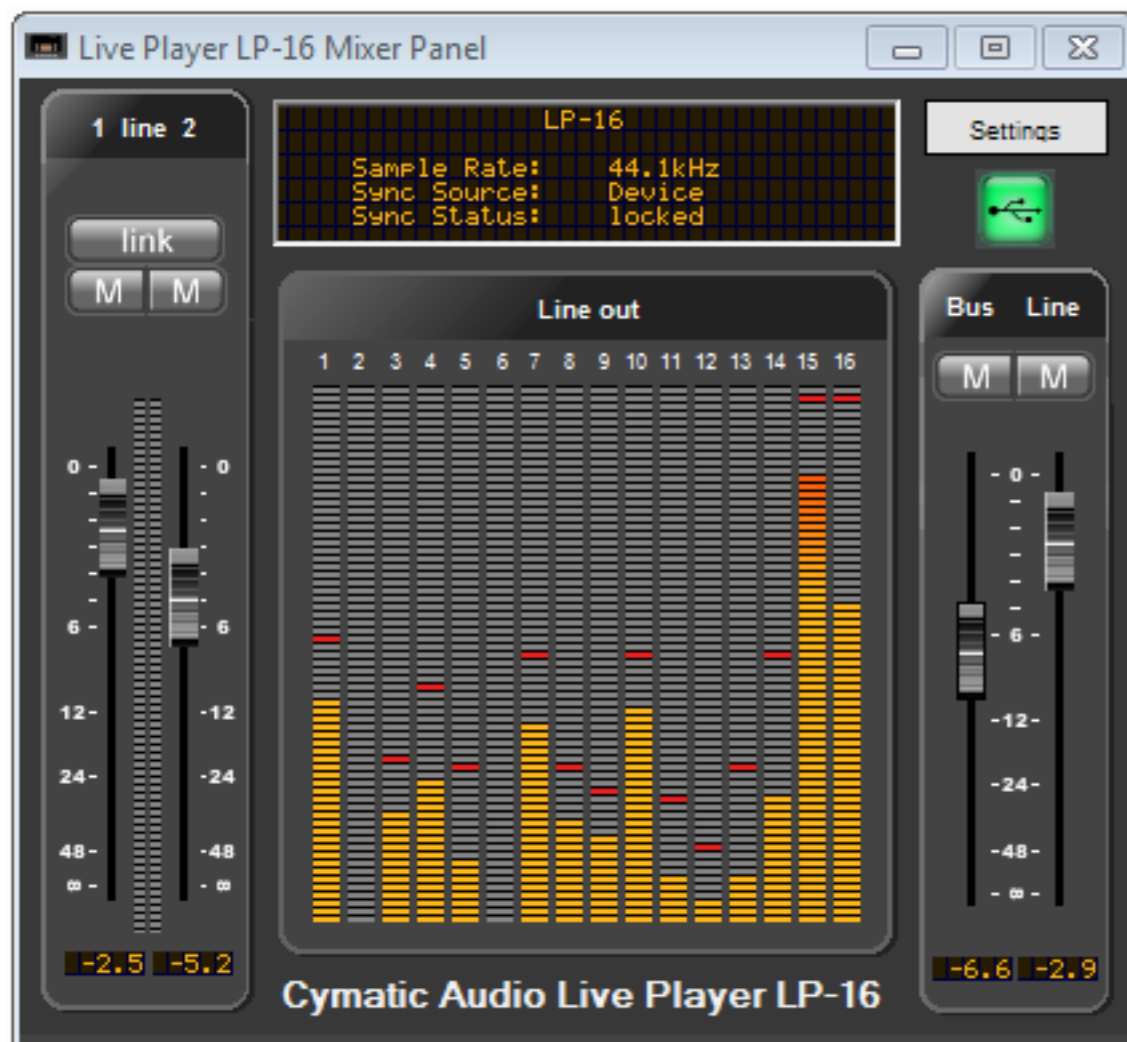
You can launch it by clicking on the LP-16 icon that will be present in the Windows task bar, or by locating the program's entry in the Windows start menu.

The Mixer control panel allows adjustment of the LP-16's internal DSP mixer. When connected to a computer and operating as a USB interface, graphical control of the internal DSP mixer is offered, for quicker and easier adjustments.

You can use the internal DSP mixer to generate a monitor mix that has a lower latency (delay) when monitoring tracks you are recording, than is often possible when monitoring through your DAW software.

16.2.1. Mixer View

The mixer screen of the control panel is where most of the interaction with the LP-16 occurs, when it is serving as a computer audio interface. It offers the following controls:



Input 1&2 Level Faders

These on-screen faders control the input levels of analog signals that feed the LP-16's 1/8" stereo input. Adjust the level of the faders to configure an optimum level on the corresponding input meter.

Link Button

Press this button to link both input channels. Input level adjustments made to either fader will affect the input level of both channels.

Linking both channels is useful when you are feeding the 1/8" analog input a single stereo channel and you wish to adjust its overall input level.

Input 1&2 Level Meters

The input level meters display the signal level of the audio feeding the LP-16's 1/8" analog input.

Mute

Press the mute button of either input channel to mute the incoming audio for that channel.

Settings Display

The orange text in this display indicates various settings that are configured in other tabs of the control panel, including:

- Sample Rate
- Synchronization Source
- Synchronization Status

Line Output Meters

These 16 separate level meters display the signal level of any audio that is being streamed from the 16 outputs of the computer's DAW software, and are being routed to the LP-16's 16 separate line level outputs.

If you see any of the 16 channels showing an overload (red light) on its corresponding level meter, be sure to reduce the level of the signal source, from the DAW software itself.

Settings Button

Click the settings button to navigate to the different settings tabs of the control panel, where you can make further adjustments.

USB Icon

The USB icon illuminates in a green color when the LP-16 has made a valid connection to the Windows computer, and the LP-16 can serve as a computer audio interface for that machine.

Bus Level

These on-screen faders control the input levels coming from the connected PC

Line Level

These on-screen faders control the input levels of the analog signals that feed the LP-16's 1/8" stereo input.

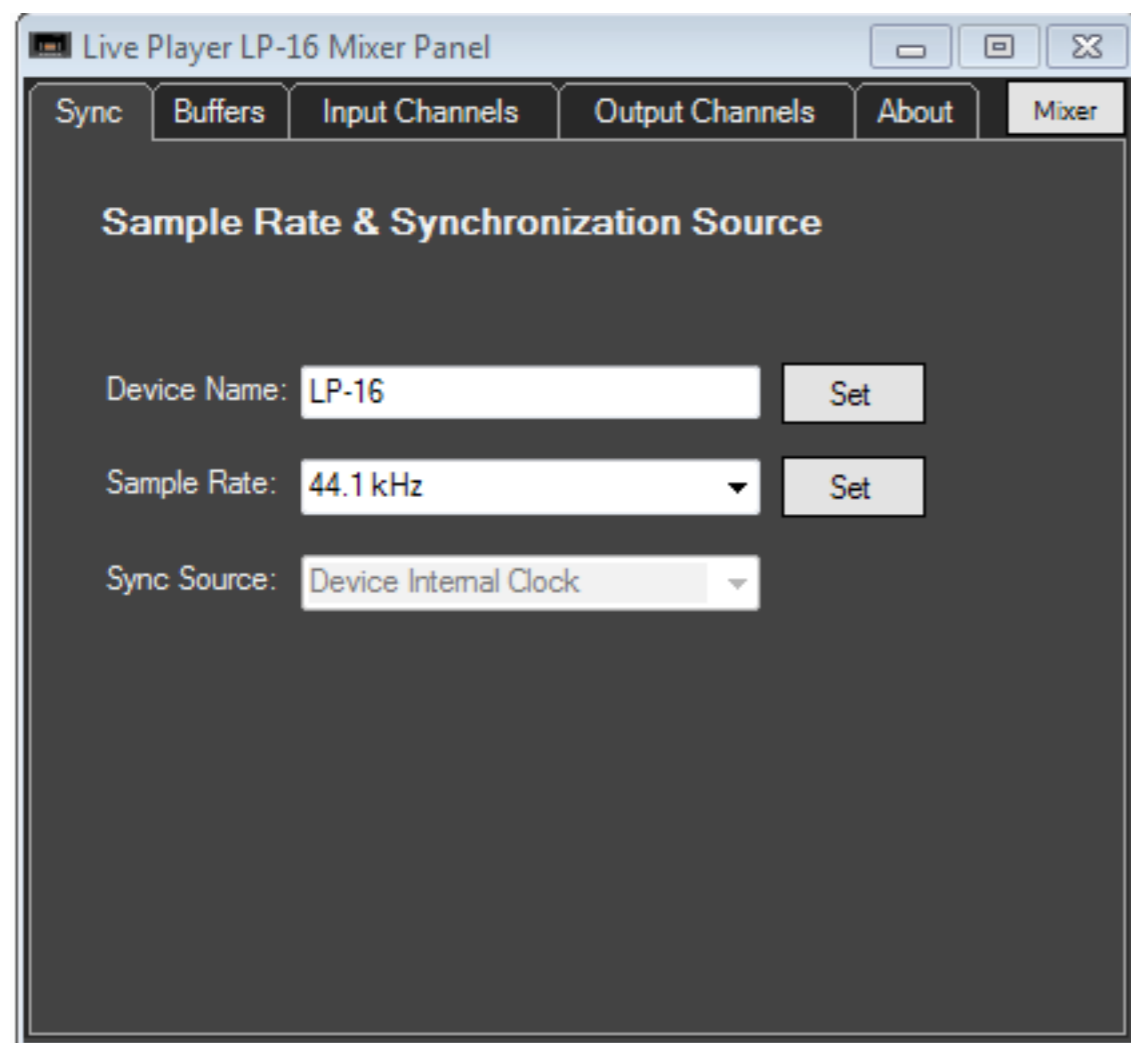
Bus Mute

Mutes the input signal coming from the connected PC

Line Mute

Mutes the input signal coming from the LP-16's 1/8" stereo input.

16.2.2. Settings View: Synchronization Tab



Device Name

The device name field controls what device name will appear in your DAW software. The default name is “LP-16” but it can be modified to the name of your choosing.

Sample Rate

Click on this field to select what sample rate you wish to operate the LP-16 at when using it as an audio interface. Choices include:

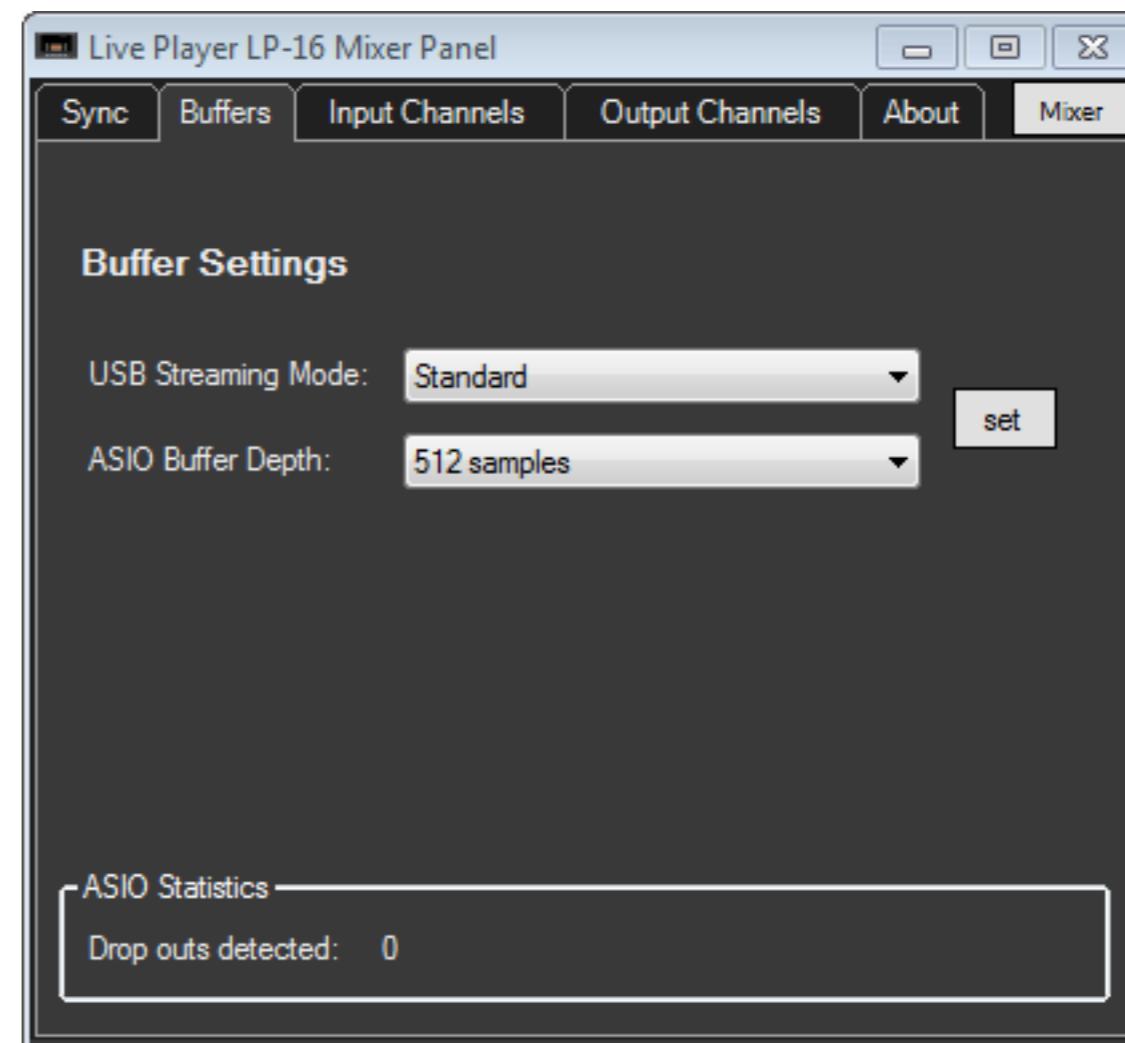
- 44.1kHz
- 48kHz

Sync Source Display

This field displays the current synchronization source.

16.2.3. Settings View: Buffers Tab

The control panel's buffers screen allows adjustment of the ASIO buffers used by your ASIO compatible DAW software.



USB Streaming Mode

Adjust this value to set the basic mode of operation of the LP-16 drivers.

ASIO Buffer Depth

Adjust this setting to configure the size of the ASIO buffer, measured in samples.

When using an older, slower computer, you may need to set your latency value to a higher amount. This will reduce the overhead to the computer's CPU and allow your DAW session to run more smoothly, but will result in a higher amount of delay between the original incoming audio signal, and the DAW software'

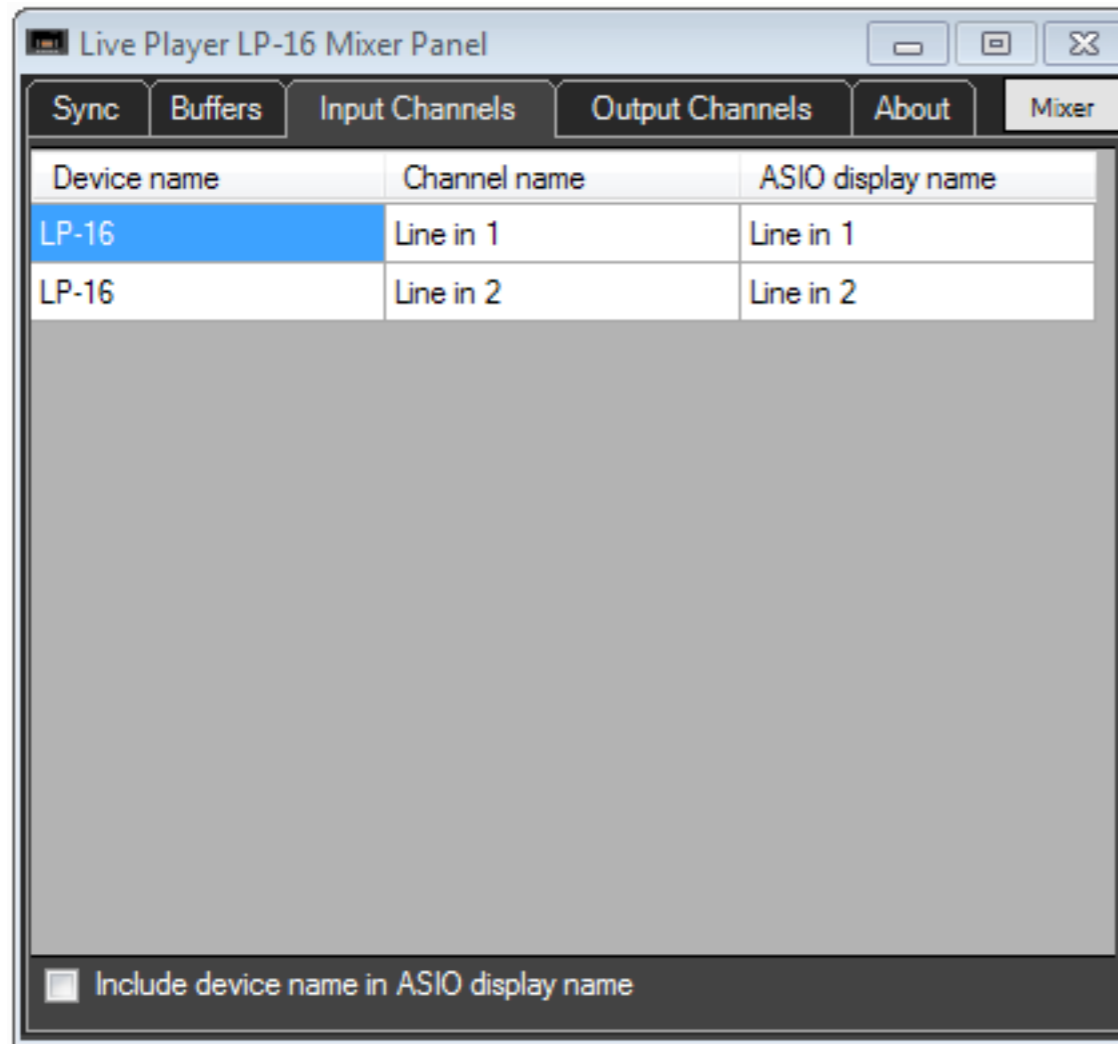
When using a newer, faster computer, the buffer depth can be set to a lower amount, and latency will be minimized.

ASIO Dropout Statistics

This display field indicates how many “drop-outs” have occurred, if any, with the currently selected buffer settings.

Dropouts indicate that your computer's CPU cannot keep up with the demand that is placed on it by the current buffer depth. If any dropouts occur, increase the size of the buffer depth and / or change the streaming mode until no more dropouts are reported.

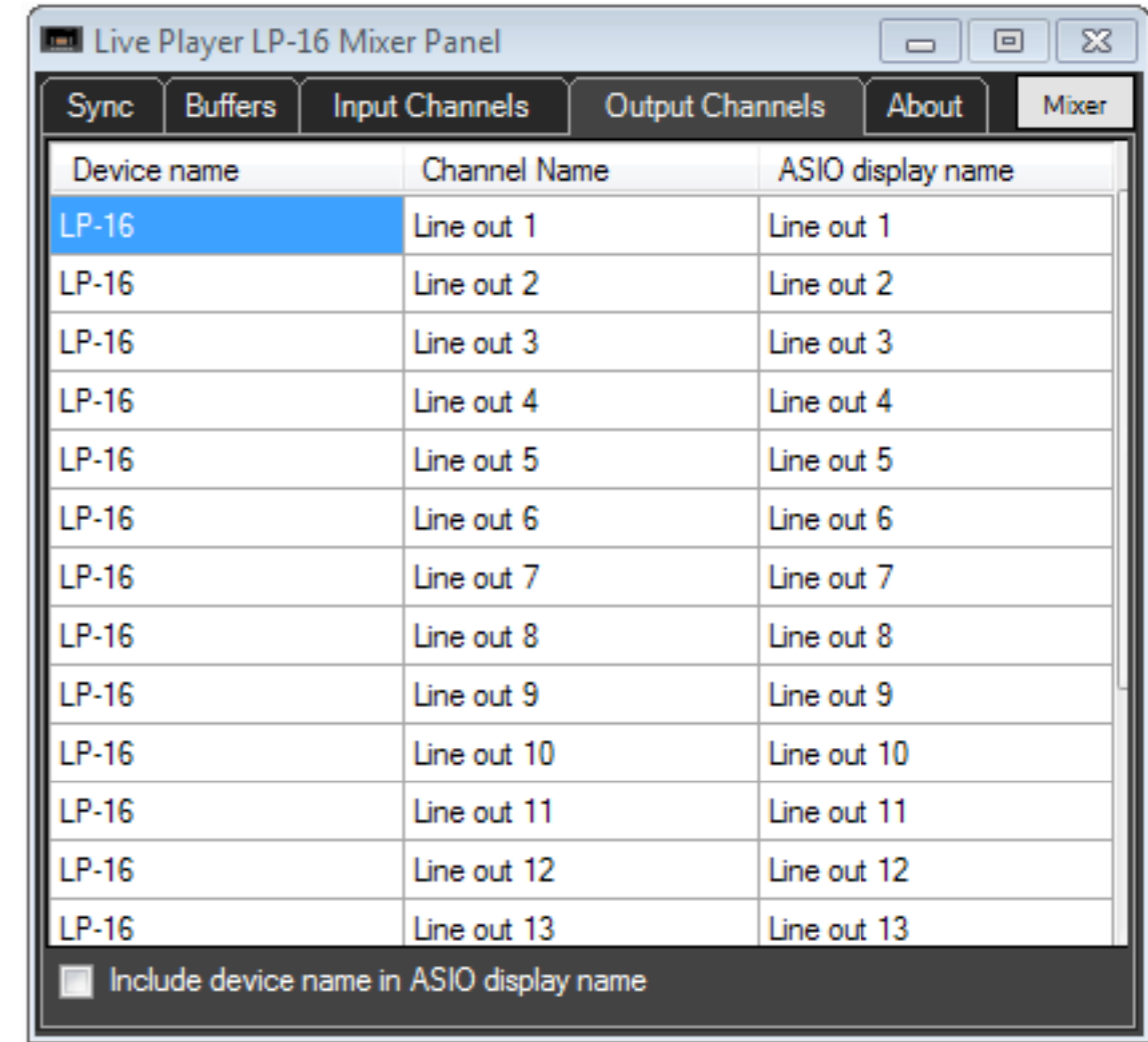
16.2.4. Settings View: Input Channels Tab



Double click on any entry in the “channel name” column to modify the input channel names as they will appear in your DAW.

Click on the checkbox labeled ‘Include device name in ASIO display name’ if you wish for the channel names to be prepended with the device name.

16.2.5. Settings View: Output Channels Tab



Double click an entry in the “channel name” column to modify the output channel names as they will appear in your DAW.

Click on the checkbox labeled ‘Include device name in ASIO display name’ if you wish for the channel output names to be prepended with the device name.

16.2.6. Settings View: About Tab



Revision

Displays the revision number of the control panel itself.

Live Player LP-16

Displays the connection-status for the LP-16, indicating if the device is connected and recognized by the computer.

Serial Number

Displays the specific serial number of the connected LP-16 unit.

Driver Version

Displays the version number of the installed device driver

Firmware Version

Displays the current firmware version of the connected LP-16 unit.

16.3. Using the LP-16 as an Audio Interface with OS X

16.3.1. Minimum System Requirements

Operating Systems:

- Mac OS X® 10.8

Hardware:

- Any Mac hardware compatible with OS X 10.7 or higher
- 512 MB Ram (1GB or more recommended)
- 1 free USB 2.0 compatible port

! *NOTE: The speed of your processor, amount of RAM, and capacity, size, and speed of your hard drives will greatly affect the overall performance of your recording system.*

A faster processor and more RAM can reduce signal latency (delay) and improve overall performance.

16.3.2. Driver Installation

There is no driver installation for OS X Computers necessary. Simply connect the LP-16 to your Mac® by connecting the supplied USB cable to the LP-16 USB2.0 connector on the rear panel, and an available USB2.0 port on your Mac.

The device will now be selectable in the “Audio MIDI Setup” application, which can be found in the Applications/Utilities folder.

Note that no custom LP-16 mixer control panel is available for the Mac, as there is when using the LP-16 with Windows. The internal DSP mixer of the LP-16 is not available when connected to a Mac, so all monitoring must be done through the DAW software.

16.4. Using the LP-16 as an Audio Interface with an Apple® iPad®

16.4.1. Minimum System requirements

Operating Systems:

- iOS® 5 or higher

Hardware:

- iPad® 2 or newer
- Apple® iPad Camera Connection Kit
- Apple Lightning to USB Camera Adapter

16.4.2. Driver Installation

There is no driver installation for the iPad® necessary. Simply connect the LP-16 to your iPad® by connecting the supplied USB cable to the LP-16 USB2.0 connector on the rear panel and the iPad® using the appropriate Apple USB adapter.

The LP-16 can now be used as a 2-input, 18-output audio interface with the iPad® and appropriate iOS recording software.

17. UPDATING THE FIRMWARE ON YOUR LP-16

Please check the Cymatic Audio website (www.cymaticaudio.com) for any available firmware updates.

The LP-16’s currently installed firmware version is shown briefly on the start screen when the unit is powering up and can also be found in the PC Mixer Panels ‘About’ tab

If you find that your firmware version number is lower than the latest firmware released on the website, please download and install the newer firmware, following the instructions that accompany the firmware download file.

18. TROUBLESHOOTING

Always make sure that you have downloaded and installed the latest drivers and firmware for your Live Player LP-16. The latest firmware and driver downloads for the LP-16 are available at www.cymaticaudio.com/downloads

18.1. Standalone Player Mode

Problem	Possible Solutions
I do not understand how to create a playlist to use with my LP-16	Playlists for the LP-16 are created using the external, Windows compatible LP-16 playlist software. Download the playlist software and refer to its documentation on how to create a playlist, then export it to a USB drive that you connect to your LP-16
My connected USB device is recognized by the LP-16 and does not pass the device test when connected.	The connected USB device must be formatted FAT-32. Format it as FAT-32 on your computer or allow the LP-16 to format the device
I am playing back a group of stereo files on the LP-16 and the playback behavior is not working as expected	From the stereo player menu, select "Playback Mode" and make sure you have configured the specific playback mode that corresponds to the playback behavior you desire
I have manually copied some audio files to the USB drive I have attached to the LP-16, but I cannot figure out how to make a playlist of the files for use with my LP-16	The LP-16's external playlist software is required to configure a playlist and copy it to an attached USB drive. See the user's manual for the external playlist software for more details

18.2. USB Audio Interface Mode

Problem	Possible Solutions
On my Windows PC, the LP-16 is not recognized by the PC, even though I the device drivers have been installed and the device is plugged in using the supplied USB cable.	Make sure that there is no USB storage device connected to the front panel USB storage connector of the LP-16. Doing so will automatically put the LP-16 into "recorder mode" and it will not be usable as a computer audio interface at the same time.
When I connect channels 1-2 of the rear-panel line output to my powered speakers, the signal is too loud and I have no way to adjust the listening volume.	The line outputs of the LP-16 do not have a volume control of their own. To use it with a set of powered speakers, you can: 1-Connect the outputs to a pair of powered speakers that have their own onboard volume control 2-Connect the output of the LP-16 to the line inputs of a small desktop audio mixer or standalone volume control unit and then connect the outputs of those to your powered monitors.
I cannot find the Macintosh OS X version of the monitor mixer control panel	Currently, no OS X version of the monitor mixer control panel is available.

19. SPECIFICATIONS

LINE OUTPUTS	Full-scale output	8.2dBu, 2 Vrms
	Frequency response	± 0.2 dB, 20 Hz-20 kHz
	THD+N @ 0dBFS (1kHz sine wave)	-85dB, < 0.005, 20 Hz-20 kHz
	THD+N @ -6dBFS	< -82dB, < 0.008, 20 Hz-20 kHz
	SNR	> 100dB, < 0.001%, 20 Hz-20 kHz
	Crosstalk	< -95 dB, 20 Hz- 20 kHz
HEADPHONES OUTPUT	Full-scale output	8.2dBu, 2 Vrms
	Frequency response	± 0.2 dB, 20 Hz-20 kHz
	THD+N @ 0dBFS (1kHz sine wave)	-80dB, < 0.005% Vrms, 20 Hz-20 kHz
	SNR	> 90 dB, 20 Hz-20 kHz
STEREO LINE INPUT	Full-scale input	Unbalanced, +8.6dBu, 2 Vrms
	Frequency response	± 0.2 dB, 20 Hz-20 kHz
	THD+N @ -1dBFS	-73dB, < 0.022% Vrms, 20 Hz-20 kHz
	SNR	>95dB, A-weighted

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Live Player LP-16

Cymatic Technologies B.V.

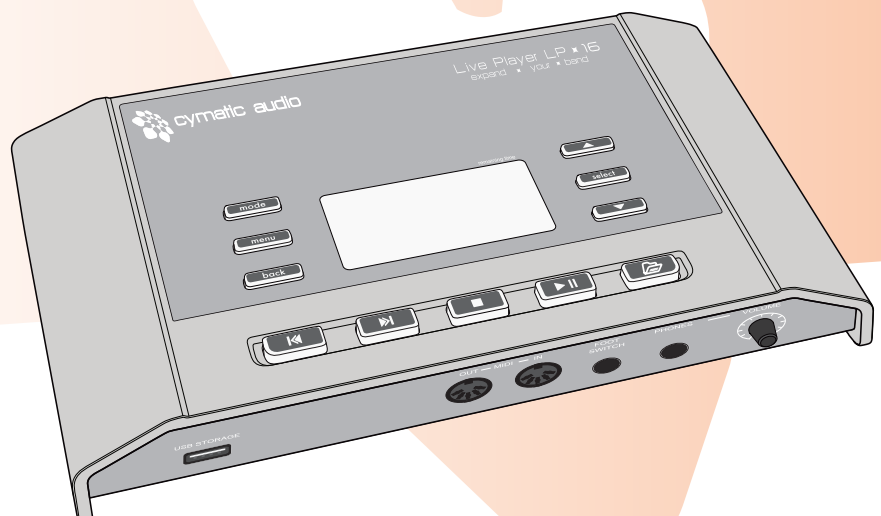
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PRODUCT MANUAL

Version 1.0

Firmware Release 83859

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