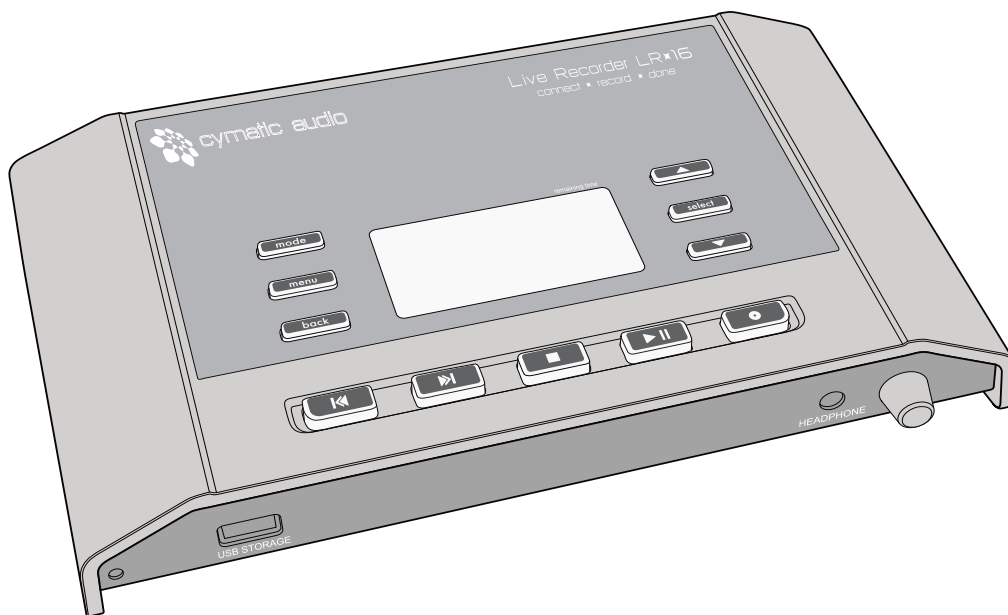# Live Recorder LR✸16
connect ✸ record ✸ *done*

Quick Start Guide
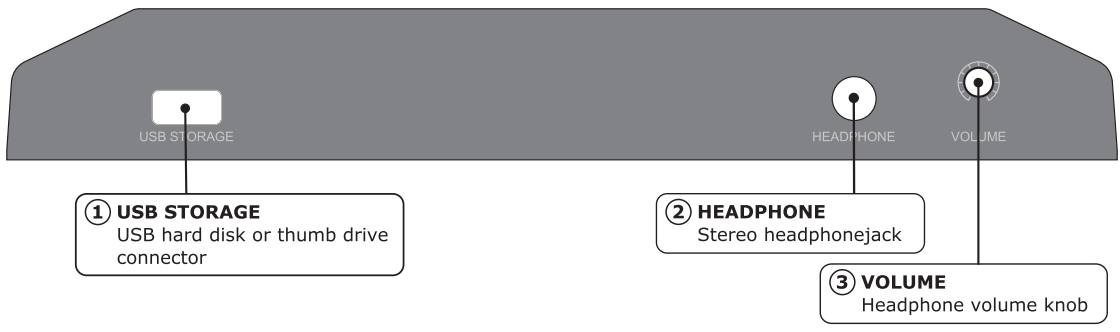16 Track Digital Direct-to-USB Recorder

16X2 USB Audio Interface

This guide is intended to help get you started quickly.
In order to achieve optimal usage of your new LiveRecorder LR-16,
we recommend that you carefully study this Quick Start Guide and
also obtain and study the product manual which can be downloaded
from http://www.cymaticaudio.com
For support requests please write to support@cymaticaudio.com.

Live Recorder LR ✕ 16

1. What's in the box

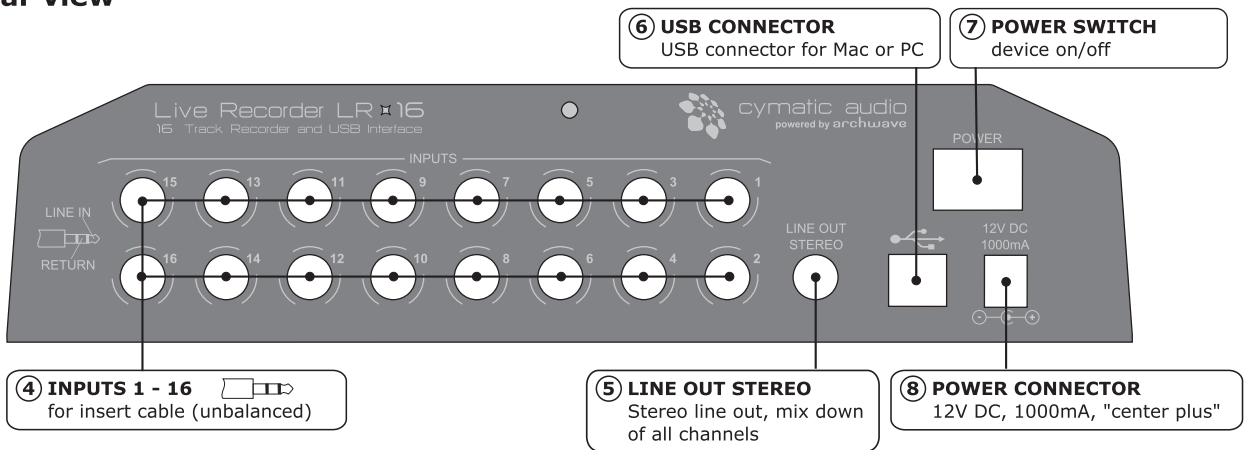- LiveRecorder LR-16 unit
- Power supply / AC/DC adaptor
- Power cable
- USB cable
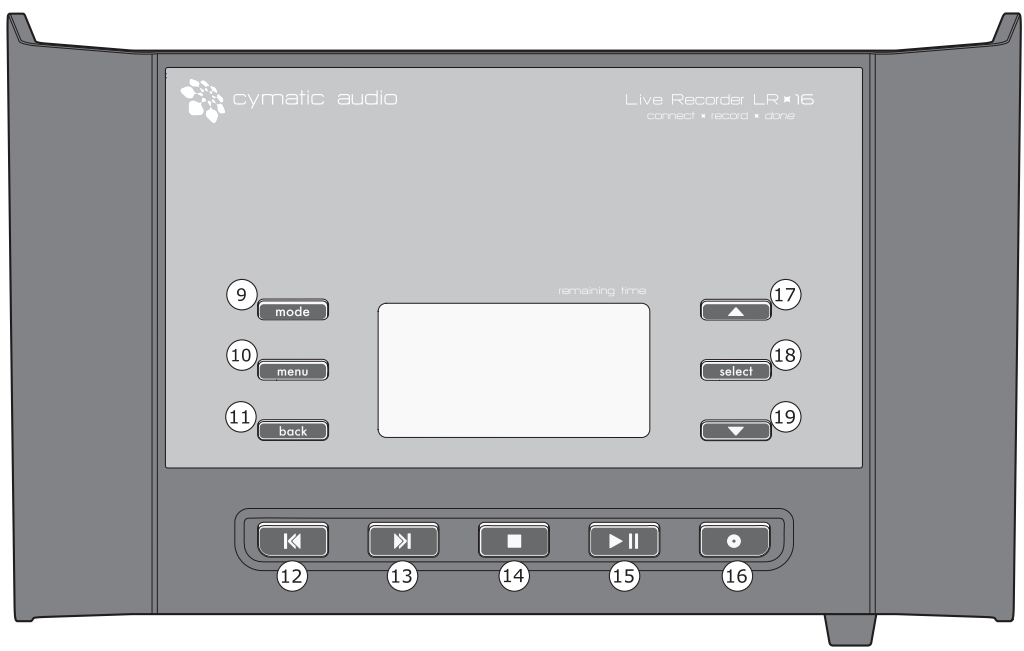- this Quick Start Guide

2. Connections / User interface

▪ Front view

USB STORAGE   HEADPHONE   VOLUME

① USB STORAGE
USB hard disk or thumb drive connector

② HEADPHONE
Stereo headphonejack

③ VOLUME
Headphone volume knob

▪ Rear view

⑥ USB CONNECTOR
USB connector for Mac or PC

⑦ POWER SWITCH
device on/off

Live Recorder LR ✕ 16
16 Track Recorder and USB Interface

cymatic audio
powered by archwave

POWER

INPUTS
15 13 11 9 7 5 3 1
LINE IN
RETURN
16 14 12 10 8 6 4 2

LINE OUT
STEREO

12V DC
1000mA

④ INPUTS 1 - 16
for insert cable (unbalanced)

⑤ LINE OUT STEREO
Stereo line out, mix down of all channels

⑧ POWER CONNECTOR
12V DC, 1000mA, "center plus"

▪ Top view

cymatic audio

Live Recorder LR ✕ 16
connect ▪ record ▪ done

remaining time

⑨ mode
⑩ menu
⑪ back

⑰ ▲
⑱ select
⑲ ▼

⑫ |◄◄   ⑬ ►►| ⑭ ■   ⑮ ►|| ⑯ ●

		Recorder Mode	**Player Mode**
⑨	mode	Switch to player mode	Switch to recorder mode
⑩	menu	Show recorder menu	Show player menu
⑪	back	Go back to previous screen	Go back to previous screen
⑫	◄◄	Go to previous song	Go to previous song
⑬	►►|	Go to next song	Go to next song
⑭	■	Stop recording / playback	Stop playback
⑮	►❙❙	Start / pause playback	Start / pause playback
⑯	●	Start new recording	Switch to recorder mode and start new recording
⑰	▲	Selection up	Selection up
⑱	select	Select	Select
⑲	▼	Selection down	Selection down

3. Getting started

▪ **Preparing the USB mass storage device for recording**

> ⚠ **The direct-to-USB recording mode is only active when a USB mass storage device is plugged into the 'USB Storage' connector ①**

The Live Recorder LR-16 records 16 tracks directly to a USB thumb drive or USB 2.0 hard disk. After turning on ⑦ the Live Recorder and connecting a new USB Mass storage device to the 'USB Storage' connector ①, the recorder will automatically perform a series of tests to determine the performance of the USB Mass storage device.

▪ **Performance test outcome**

USB flash drive too slow:
> The USB mass storage device's performance seems to be too slow to be useful for recording. Try using the format function after which the device performance might be good enough for recording. If this message still appears after formatting, the USB device is too slow for recording.

Wrong file system:
> The USB mass storage device is not formatted as FAT32. The device needs to be formatted in order to be used with the Live Recorder. If this message still appears after formatting, the storage device might be defective or otherwise unsuitable for usage with the Live Recorder.

Test passed:
> The performance test has determined that the USB mass storage device's performance is sufficient for recording

```
┌─────────────────────────────┐
│ [ R ]  Test passed          │
├─────────────────────────────┤
│ USB Flash Drive:            │
│    free space:   7.398GB    │
│    remain time:  01:24:10   │
│    sample rate:  48.0kHz    │
│    sample width: 16         │
└─────────────────────────────┘
```

free space: space remaining on USB mass storage device in GB
remain time: space remaining on stick in minutes when recording at 48kHz
sample rate: default sample rate
sample width: sample width chosen for type of device (16 or 24 bit)

▪ **Recording to USB thumb drives:**

In order to prepare and optimize the file system on a USB thumb drive, it is strongly advised to format the drive with the Live Recorder's format function regardless of the outcome of the performance test in order to minimize the risk of drop-outs during recording (Menu ⑩ -> Format USB device)
The default sample width for recording to a thumb drive is automatically set to 16 bit.

> ⚠ **All data on the USB mass storage device will be lost when formatting!**

> ⚠ **Some USB thumb drives show, even when the Live Recorder performance test was passed successfully, an unstable performance when used for longer recordings.**
> **For 'mission critical' recordings please use a USB2.0 hard disk or make sure to thoroughly test the thumb drive you are intending to use by recording to it for a longer period of time and checking whether the device indicates that drop-outs have occurred while recording (number of drop-outs will be shown at top of screen)**

▪ **Recording to USB hard drives:**
USB Hard drives used for recording have to be fully compatible with the USB2.0 specification without requiring custom software.
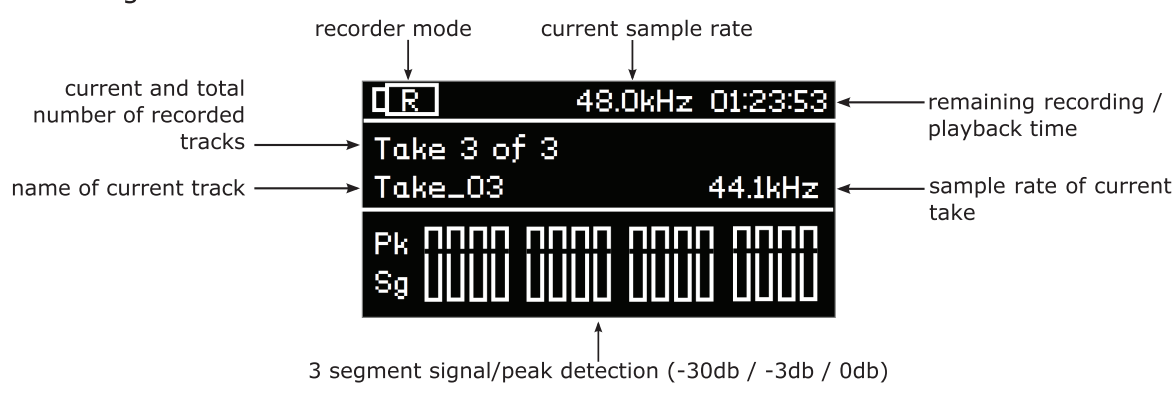If the hard disk has more than one partition the primary partition will be used for recording.
The LiveRecorder's USB Storage connector ① supplies power to run external USB hard disks, but depending on the hard disk's power consumption an additional power supply for the hard disk might be needed.
The default sample width for recording to a USB hard disk is automatically set to 24 bit.

▪ **Recording / playback recording**
After the USB mass storage device has been successfully tested the recorder will display the following screen:

recorder mode   current sample rate

current and total number of recorded tracks

name of current track

remaining recording / playback time

sample rate of current take

3 segment signal/peak detection (-30db / -3db / 0db)

Connect your recording source with standard 'insert cables' to the inputs ④ on the rear side of the LiveRecorder.

return   line in

standard insert jack configuration
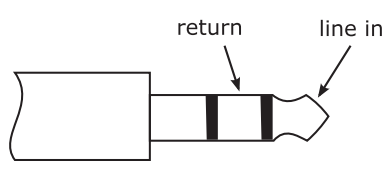
Recording sources can be:
▪ Mixer desks equipped with channel inserts
▪ Audio interfaces or amplifiers equipped with channel inserts.

If you are not using an insert source for recording (tip=send, ring=return) it is recommended to use a special cable where only the tip is connected and the ring is left unconnected. The LR-16 should always have a TRS connection to ensure proper unbalanced loads.

▪ Recording / playback recording (cont.)

When pressing the record button ⑯ the device will start recording audio coming to the 16 inputs and store the recording as 16 separate wave files into the 'Recording/Take_xx' folder on the USB mass storage device (xx = number of current take). While recording the red recording LED is on.

When pressing stop ⑭ the recording is finished.

> ⚠ **After the recording has been stopped, the Live Recorder will continue to write to the USB device for a few seconds which is indicated by the blinking stop button**
> **DO NOT remove the USB mass storage device until the blinking has stopped - your recording might become unusable.**

▪ Playing back the recording
The recording can be played back by selecting the desired take with the up/down ⑰/⑲ or previous/next ⑬/⑫ button and pressing the play ⑮ or select ⑱ button. A mix down of all recorded tracks will be played out to the stereo line out and to the headphone output. The output signal can be adjusted in the monitoring section (Menu ⑩ -> monitoring)

▪ Recorder menu
The recorder menu can be accessed by pushing the menu button ⑩ while the device is not recording. The following menu options are available:

sample rate & width
　　The recording sample rate can be set to 44.1kHz or 48kHz.
　　The recording sample width can be set to 16 or 24 bit. The sample width for USB thumb drives is set to 16 bit by the device automatically. Even though the sample width can be set to 24 bit for thumb drives by the user, this should only be done if it has been established that the thumb drive's performance is sufficient to support 24 bit recording. **Using 24 bit recording with USB thumb drives that do not deliver the necessary performance will lead to recording drop outs.**
　　The default sample width for hard drives is 24bit.

input sensitivity (pad)
　　The input sensitivity can be set to high or low (-10db) by turning the pad on or off for all or for individual channels. By default pad is turned off for all channels.

monitoring
　　With the monitoring menu option output levels, left/right panning and mute/solo can be set for individual channels. The solo setting will only be active while the monitoring menu is active. The mute setting will only be active until the device is restarted. The volume and panning settings are saved the Live Recorder's internal memory.

delete recording
　　Individual recordings can be deleted from the thumb or hard drive connected to the Live Recorder LR-16

format USB device
　　The format function can be used to format thumb or hard drives connected to the Live Recorder. **Please note that all data as well as all partitions on the thumb or hard drive will be deleted when the format function is used.**

5. Stereo Wave Player

In order to play back stereo wave files with the Live Recorder simply place the wave files in the 'Music' folder that was created on the USB mass storage device during the performance test using your PC or Mac®. Plug in the USB device into the USB Storage connector ① and use the Mode button ⑨ to switch to player mode after the device has booted.

6. USB audio interface mode

System requirements:

- 512MB RAM minimum (1GB or more recommended)
- One free USB 2.0 compatible port on computer

- **PC:**   - Pentium® IV 1.2GHZ or better
                - Windows® XP (SP2), Windows Vista, Windows 7, Windows 8
                - 32 or 64 bit system
                - Internet connection for driver download

- **Mac®:**   - G5 800MHz or better
                - Apple® OS-X® 10.5 or better

- **iPad®:**   - iOS® 5 or higher with USB adapter (Apple® Camera Kit)

⚠ **The USB audio interface mode is active when the Live Recorder's USB connector ⑥ is connected to an Apple Macintosh or a PC and there is no USB mass storage device connected to the USB storage connector ①**

ASIO and device driver installation

Windows based computers: Please download the USB device drivers from

http://www.cymaticaudio.com

Install the drivers by double clicking the downloaded installation program and following the on-screen instructions. After the installation has finished connect the Live Recorder to your PC using the supplied USB cable.
Your device is ready to be used as a 16 in / 2 out ASIO recording interface.
The driver package also contains a mixer panel and a control panel that will be installed automatically.

Apple Macintosh® computers: driver installation is not necessary; the device will be recognized after it is connected to the Mac using the supplied USB cable

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SAFETY PRECAUTIONS

AC adapter operation

Be sure to use only an AC adapter which supplies 12 V DC, 1000 mA and is equipped with a "center plus" plug . The use of an adapter other than the specified type may damage the unit and 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 plug 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.

Environment

To prevent the risk of fire, electric shock or malfunction, avoid using your Live Recorder LR-16 in environments where it will be exposed to:
• Extreme temperatures
• Heat sources such as radiators or stoves
• High humidity or moisture
• Excessive dust or sand
• Excessive vibration or shock

Handling

Never place objects filled with liquids, such as vases, on the Live Recorder LR-16 since this can cause electric shock. Do not place naked flame sources, such as lighted candles, on the Live Recorder LR-16 since this can cause fire. The Live Recorder LR-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 or pins etc.) or liquids can enter the unit.

Connecting cables and input and output jacks

You should always turn off the power to the Live Recorder LR-616 and all other equipment before connecting or disconnecting any cables. Also make sure to disconnect all connection cables and the power cord before moving the Live Recorder LR-16.

Alterations

Never open the case of the LiveRecorder RE16 or attempt to modify the product in any way since this can result in damage to the unit.

Volume

Do not use the Live Recorder LR-16 at a loud volume for a long time since this can cause hearing impairment.

Usage Precautions

Electrical interference
For safety considerations, the Live Recorder LR-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 Live Recorder LR-16, as the possibility of interference cannot be ruled out entirely. With any type of digital control device, the Live Recorder LR-16 included, electromagnetic interference can cause malfunctioning and can corrupt or destroy data. Care should be taken to minimize the risk of damage.

Cleaning
Use a soft, dry cloth to clean the Live Recorder LR-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. Please keep this manual in a convenient place for future reference.

Limited warranty

What is covered by this warranty?
Cymatic Audio warrants the Product you have purchased from Cymatic Audio or from any Cymatic Audio Authorized source to be free from defects in materials or workmanship under normal use during the warranty period. This warranty extends only to you, the original purchaser. It is not transferable to anyone who subsequently purchases, leases, or otherwise obtains the product from you.

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