

# the t.mix

## 402-USB Play mixer



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# 1 General information

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

## 1.1 Further information

On our website ([www.thomann.de](http://www.thomann.de)) you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

## 1.2 Notational conventions

This manual uses the following notational conventions:

### Letterings

The letterings for connectors and controls are marked by square brackets and italics.

**Examples:** *[VOLUME]* control, *[Mono]* button.

## 1.3 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

Signal word	Meaning
<b>DANGER!</b>	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
<b>NOTICE!</b>	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.
Warning signs	Type of danger
	Warning – high-voltage.
	Warning – danger zone.

## 2 Safety instructions

### Intended use

This device is intended to be used for amplification, mixing and playback of signals from musical instruments and microphones. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

### Safety



#### **DANGER!**

##### **Danger for children**

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.



#### **DANGER!**

##### **Electric shock caused by high voltages inside**

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

Do not use the device if covers, protectors or optical components are missing or damaged.



#### **DANGER!**

##### **Electric shock caused by short-circuit**

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.



#### **NOTICE!**

##### **Risk of fire**

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.



**NOTICE!**

**Operating conditions**

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.



**NOTICE!**

**Power supply**

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

### 3 Features

- 4-channel DJ mixer with USB / MP3 player
- 2 × microphone inputs with + 48 V and talk over (XLR / 6.35mm jack combo jack)
- 2 × microphone inputs (1/4" phone socket)
- 1 × headphones output (stereo, as 1/4" phone jack)
- 2 × master outputs (XLR and RCA sockets) for left and right channel
- 1 × FX Send / Return (RCA sockets)
- 4 × line inputs (RCA sockets)
- 2 × phone inputs (RCA sockets)
- 4 × CD inputs (RCA sockets)
- 1 × Booth output (RCA sockets)
- 1 × USB port for playback

## 4 Installation



**NOTICE!**

**Danger of short circuit**

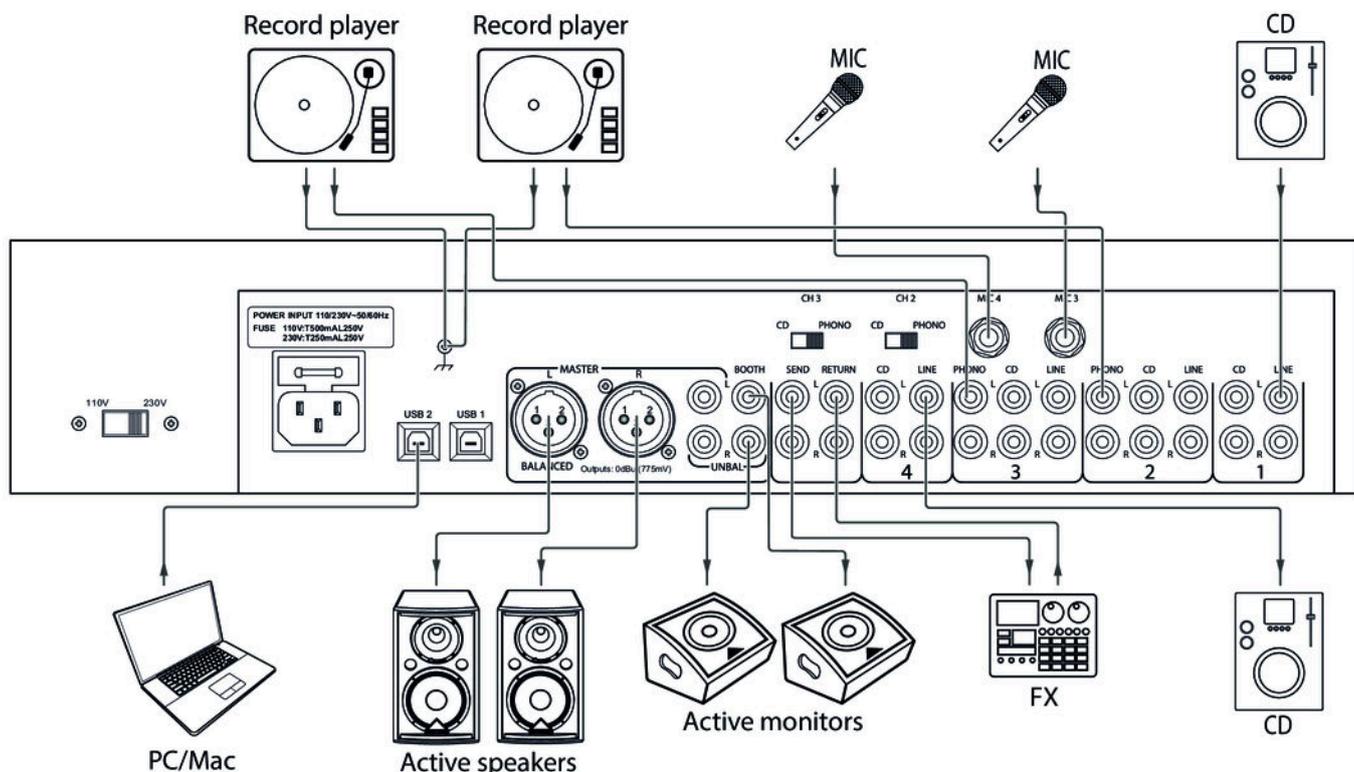
Switching on phantom power will damage the device if unbalanced XLR cables are connected.

Only turn on phantom power when exclusively balanced XLR cables are connected.

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

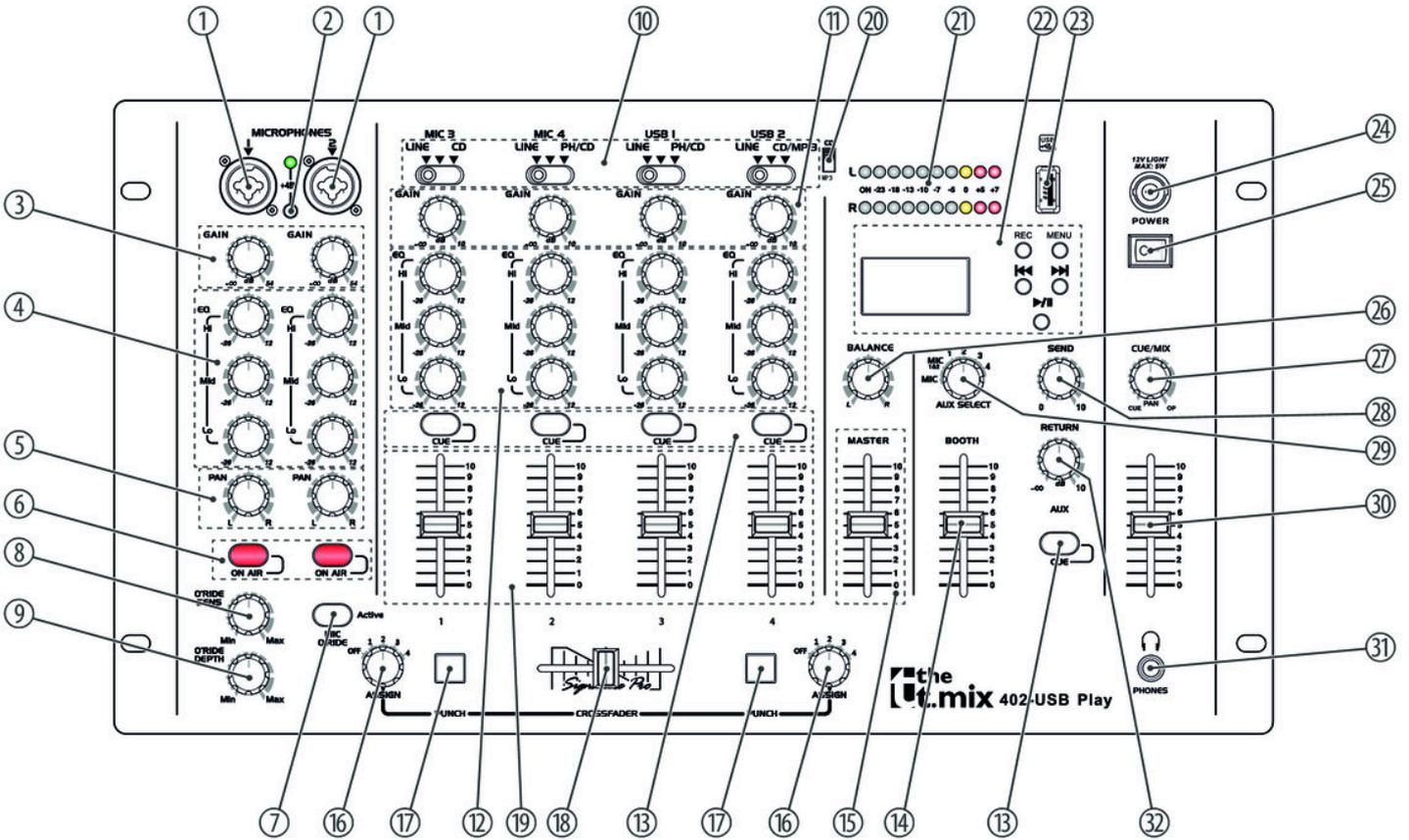
Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

**Connection options**



## 5 Connections and controls

### Front panel



1 [MICROPHONES 1], [MICROPHONES 2]

Microphone input, designed as XLR / 1/4" phone combo socket

2 [+48 V]

Enables the phantom power. This LED lights up when the phantom power is turned on.

The phantom power leads to damage to the device if unbalanced cables are connected. Only switch on phantom power while exclusively balanced cables are connected.

3 [GAIN]

Rotary control to adjust the microphone input signal to the working level of the unit.

4 [EQ]

Rotary control for direct tone control of the microphone input signal (bass, mids, treble)

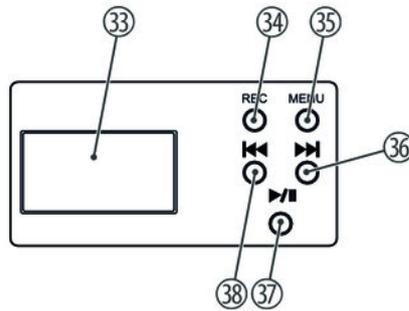
5 [PAN]

Rotary control to adjust the position of the microphone signal in the stereo image (Panorama)

6	<i>[ON AIR]</i> Activates and deactivates the microphone
This mixer offers the possibility to attenuate the main music programme automatically when the microphone inputs are active, except for signals of the microphones 3 and 4 which use the channels 1 and 2.	
7	<i>[MIC O'RIDE / Active]</i> Activates the attenuation of the main music programme. When the button is pressed, the signal is attenuated by the level preset with <i>[O'RIDE DEPTH]</i> . When the button is released, all signals retain their original level.
8	<i>[O'RIDE SENS]</i> Rotary control to adjust the sensitivity of the talk over function. The higher the setting of this control the quicker the volume of the sum signal will be reduced.
9	<i>[O'RIDE DEPTH]</i> Rotary control to adjust the volume reduction of the talk over function. The higher the setting of this control the more the volume of the sum signal will be reduced. The control range is adjustable from 0 dB...20 dB.
10	Input source selector switch for the respective channel
11	<i>[GAIN]</i> Rotary control to adjust the input signal of the respective channel to the working level of the unit.
12	<i>[EQ]</i> Rotary control for direct tone control of the input signal in the respective channel (bass, mids, treble).
13	<i>[CUE]</i> Selects the channel that can be heard through the headphones.
14	<i>[BOOTH]</i> Control for setting the BOOTH output level.
15	<i>[MASTER]</i> Control for adjusting the master out volume
16	<i>[ASSIGN]</i> Rotary control to select the channel assigned to the left or right side of the crossfader.
17	<i>[PUNCH]</i> If the button is pressed, the current signal of the active channel is interrupted and the signal of the counter channel is turned on.
18	<i>[CROSSFADER]</i> Rotary control to crossfade the stereo signal to another. If the controller is in middle position, both channels can be heard.
19	Slider for adjusting the volume of the respective channel
20	<i>[CD / MP3]</i> Selector switch for choosing CD or MP3 player input.
21	Level meter shows the volume of the output channel or the currently selected solo channel/Cues.

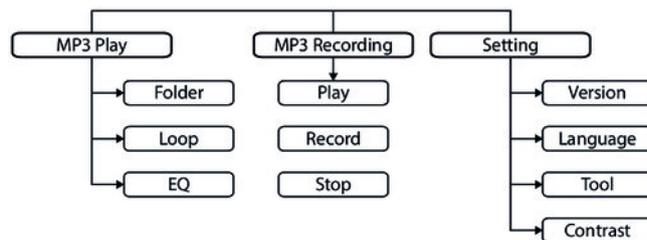
22	MP3 player with display (see ↗ 'Display' on page 13)
23	<p>[USB]</p> <p>Connection for recording or playback via a USB device. Finish the playback or select another signal source before removing the USB stick.</p>
24	BNC plug for attachment of a goose neck lamp
25	<p>[POWER]</p> <p>Main switch. Turns the device on and off.</p>
26	<p>[BALANCE]</p> <p>Rotary control for adjusting the stereo balance of the master output.</p>
27	<p>[CUE/MIX]</p> <p>Selector switch to listen to the CUE or the active programme simultaneously or separately</p> <p>At left-hand stop [CUE], mainly the headphone signal is audible; at right-hand stop [OP], mainly the master output signal is audible.</p>
28	<p>[SEND]</p> <p>Rotary control to adjust the signal output level of the connected device.</p>
29	<p>[AUX SELECT]</p> <p>Rotary control to select the signal source to be sent to the connected device.</p>
30	Control for adjusting the headphones volume
31	<p>[PHONES]</p> <p>Monitor output for headphones, designed as 1/4" phone socket (stereo).</p>
32	<p>[RETURN]</p> <p>Rotary control to adjust the signal input level of the connected device.</p>

**Display**



33	Display
34	[REC] Pressing the button opens the recorder. Press the button again to start or stop the recorder. A long press will save the recording.
35	[MENU] Pressing the button opens the menu of the player or recorder. Press the arrow keys to navigate through the menu. Press the button again to confirm a selection. A long press returns you to the main menu.
36	▶▶ Selects the next track for playback.
37	▶   Starts or pauses playback.
38	◀◀ Selects the previous track for playback.

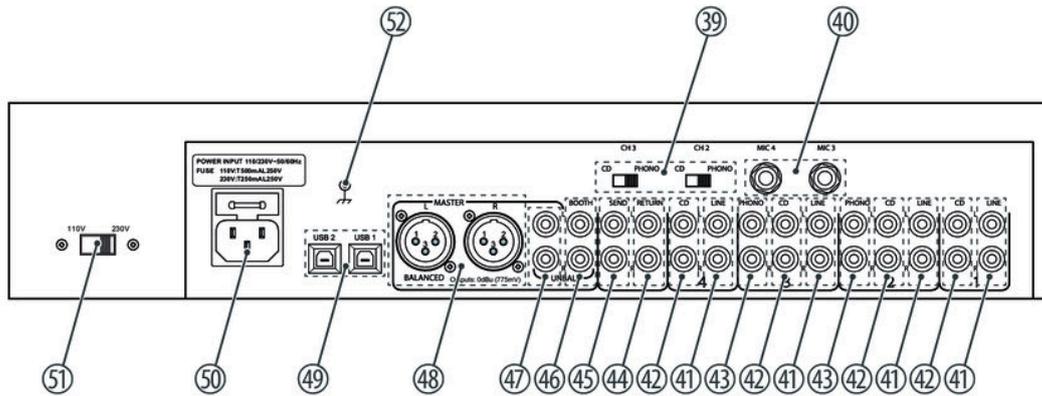
**Menu**



**System information**

- Accepted data: MP3, WMA and WAV
- Accepted drive's format: FAT16 and FAT32
- Maximum storage capacity: 32 GB

## Rear panel



39	[CD / PHONO] Input source selector for channel 2 and 3.
40	Microphone input, designed as 1/4" phone jack.
41, 42	[LINE], [CD] Inputs for line level signals (e.g., CD, DVD, MP3), designed as RCA sockets.
43	[PHONO] Inputs for signals with phono level (e.g. turntables), designed as RCA sockets.
44	[RETURN] Input for connecting an effects device, recorder or the like, designed as RCA sockets.
45	[SEND] Output for connecting an effects device, recorder or the like, designed as RCA sockets.
46	[BOOTH] Output for connecting an amplifier or other audio device, designed as RCA sockets
47	Output for connecting an amplifier or active speakers, designed as RCA sockets.
48	[MASTER] Master output for connecting an amplifier or active speakers, designed as XLR sockets.
49	[CH4 / CH3] Type B USB port to connect a computer for channels 3 and 4.
50	IEC chassis plug for operating voltage supply with fuse holder Should the fuse have blown, disconnect the unit from the power supply and replace the fuse with a new fuse of the same type.
51	Selector switch for power supply voltage.
52	Grounding screws to reduce hum noise when connecting turntables

## 6 Technical specifications

Inputs	Microphone: 1.55 mV Phono: 4.8 mV Line/CD: 300 mV
Outputs	Main: 0 dBu / 775 mV / < 50 Ω Booth: 0 dBu / 775 mV / < 50 Ω Phone: 20 dB / 112 mV / 32 Ω
Input impedance	Microphone: 2 kΩ Phono: 47 kΩ Line/CD: 10 kΩ
Output impedance	10 kΩ
Tone control (bass, mids, treble)	-26 dB...+12 dB
Frequency range	20 Hz...20 kHz
Gain	-70...+10 dBu
Signal-to-noise ratio	Microphone: -118 dB Phono: -118 dB Line/CD: -100 dB
Phantom power	48 V
THD	Microphone: < 0.042 % Line/CD: < 0.005 %
Operating supply voltage	110 / 230 V ~ 50 / 60 Hz
Fuse	110 V: 5 mm × 20 mm, 500 mA, 250 V, slow-blow 230 V: 5 mm × 20 mm, 250 mA, 250 V, slow-blow
Dimensions (W × H × D)	484 mm × 266 mm × 101 mm
Weight	5.8 kg

## 7 Plug and connection assignment

### Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

### Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

### 1/4" TS phone plug (mono, unbalanced)



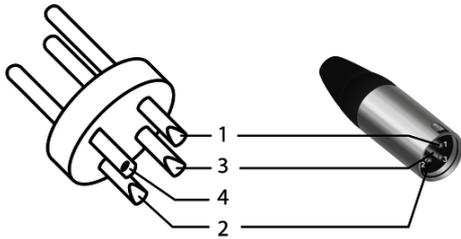
1	Signal
2	Ground, shielding

### 1/4" TRS phone plug (mono, balanced)



1	Signal (in phase, +)
2	Signal (out of phase, -)
3	Ground

**XLR plug (balanced)**



1	Ground, shielding
2	Signal (in phase, +)
3	Signal (out of phase, -)
4	Shielding on plug housing (option)

**RCA connection**



Drawing and table indicate the pin assignment of an RCA plug.

1	Signal
2	Ground, shielding

## 8 Protecting the environment

### Disposal of the packaging material



For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

### Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.



