ZOOM®

Handy Audio Interface U-44

Contents

Introduction

Thank you for choosing the ZOOM U-44 Handy Audio Interface. To achieve the best results—and to protect your investment—please read this manual carefully and retain it for future reference. Use this product only as directed.

4-in/4-out Audio Interface

The ZOOM U-44 is a high quality audio interface that supports audio recording and playback at resolutions up to 24-bit/96 kHz.

Featuring an asynchronous transfer system, U-44 is not impacted by computer jitter, and reproduces audio with complete accuracy.

U-44 can be used with computers running Windows and Mac OS X, as well as with an iOS device.

High-Performance Mic Preamps

U-44 is equipped with high-performance mic preamps that are based on the same design as our H-Series Handy Recorders.

+48V phantom power can be supplied to each input. INPUT 1 also supports Hi-Z input.

Additionally, H-Series mic capsules can be connected to the U-44.

Designed with the DJ in Mind

The U-44 features 2 RCA outputs that make it easy to connect DJ mixers or other devices. The balance between computer playback signals 1-2 and 3-4 can be adjusted for the LINE OUT 2 and PHONES outputs.

For example, you can balance the PHONES output between click and MAIN OUT signals during a live performance. Or you can balance between the cue and MAIN OUT signals during a DJ performance.

Plus, the PHONES jack delivers enough volume output for use in clubs and other small venues.

Standalone AD/DA Mode

In standalone mode, the U-44 can be used as a high-quality mic preamp and AD/DA converter.

U-44 can convert digital output from a DVD or Blu-ray player to analog output, and also convert analog input to digital output.

Safety and Usage Precautions

Safety Precautions

In this operation manual, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows.

⚠️ **Warning**	Something that could cause serious injury or death
⚠️ **Caution**	Something that could cause injury or damage to the equipment

Other symbols used

❗	An action that is mandatory
🚫	An action that is prohibited

⚠️Warning

Alterations

🚫 Do not open the case or modify the product.

Operation using an AC adapter

❗ Never use any AC adapter other than a ZOOM AD-17.

❗ Always hold the AC adapter itself when disconnecting it from an outlet.

Operation with external DC power supply

❗ Use a 5V external DC power supply.

❗ Carefully study the warning indications of the external DC power supply before use.

Operation using batteries

❗ Use 2 ordinary 1.5-volt AA batteries (alkaline or nickel-metal hydride).

❗ Read battery warning labels carefully.

❗ Always close the battery compartment cover when using the unit.

⚠️Caution

Product handling

❗ Do not drop, bump or apply excessive force to the unit.

❗ Be careful not to allow foreign objects or liquids to enter the unit.

Battery handling

❗ Install the batteries with the correct +/– orientation.

❗ Use a specified battery type.
Do not mix new and old batteries or different brands or types at the same time.

❗ When not using the unit for an extended period of time, remove the batteries.
If a battery leak should occur, wipe the battery compartment and the battery terminals carefully to remove all residue.

Operating environment

🚫 Do not use in extremely high or low temperatures.

🚫 Do not use near heaters, stoves and other heat sources.

🚫 Do not use in very high humidity or where it could be splashed by water.

🚫 Do not use in places with frequent vibrations.

🚫 Do not use in places with much dust or sand.

Mic handling

❗ Before connecting a mic, always turn the power off. Do not use excessive force when connecting it.

❗ Attach the protective cap when no mic is connected for extended periods.

Connection cables and input/output jacks

❗ Always turn the power OFF for all equipment before connecting any cables.

❗ Always disconnect all connection cables and the AC adapter before moving the unit.

Volume

🚫 Do not use at a loud volume for a long time.

Usage Precautions

Interference with other electrical equipment

For safety considerations, U-44 is designed to minimize the emission of electromagnetic waves and suppress interference from external electromagnetic waves. However, interference could still occur if U-44 is placed next to equipment that is very susceptible to interference or that emits powerful electromagnetic waves. If this occurs, place the U-44 and the other device farther apart.
With any type of digital control device—including the U-44—electromagnetic interference can cause malfunction, corrupt or destroy data, or cause other unexpected issues. Always exercise caution.

Cleaning

Use a soft cloth to clean the exterior of the unit if it becomes dirty. If necessary, use a damp cloth that has been wrung out well to wipe it.
Never use abrasive cleansers, wax or solvents such as alcohol, benzene or paint thinner.

Temperature considerations

The U-44 may become warm after long periods of continuous use. This is normal, as long as the unit does not become too hot to touch.

Breakdown and malfunction

If the U-44 malfunctions or operates abnormally, disconnect it immediately. Contact the store where you purchased the unit, or contact ZOOM customer service with the following information: product model, serial number, and the specific symptoms of the breakdown or malfunction—along with your name, address, and telephone number.

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ZOOM Corporation will not assume any responsibility related to infringements of copyrights.

FCC regulation warning (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
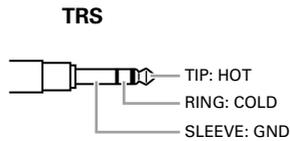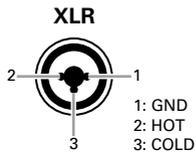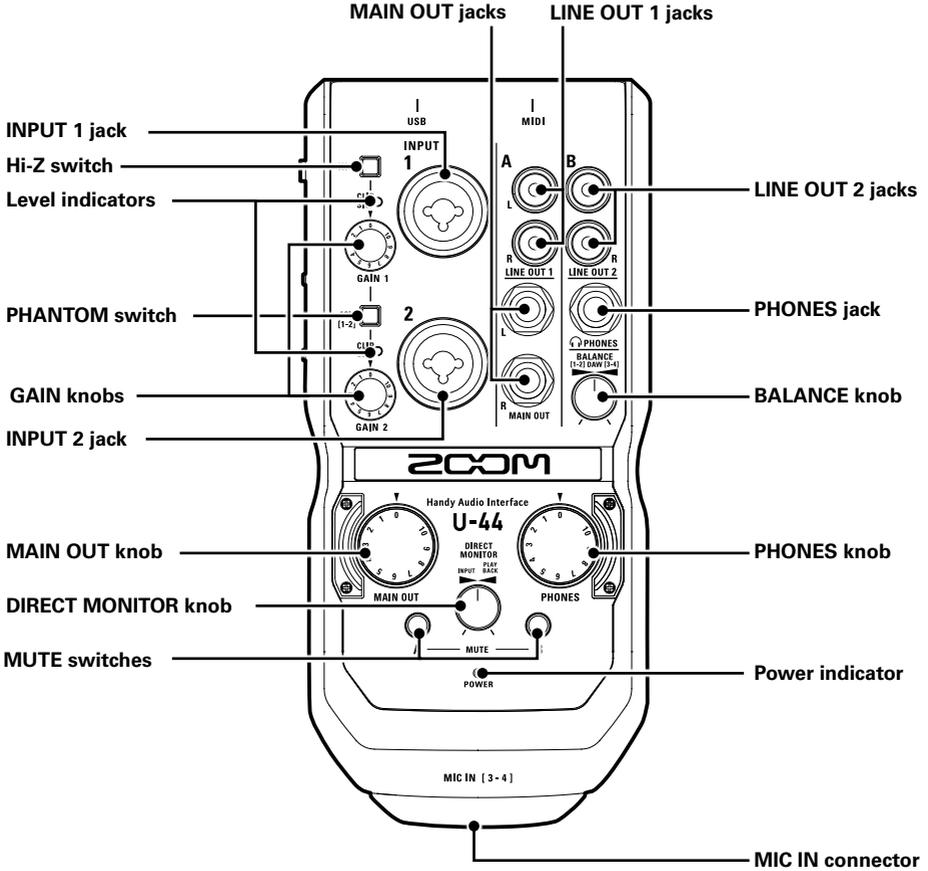• Consult the dealer or an experienced radio/TV technician for help.
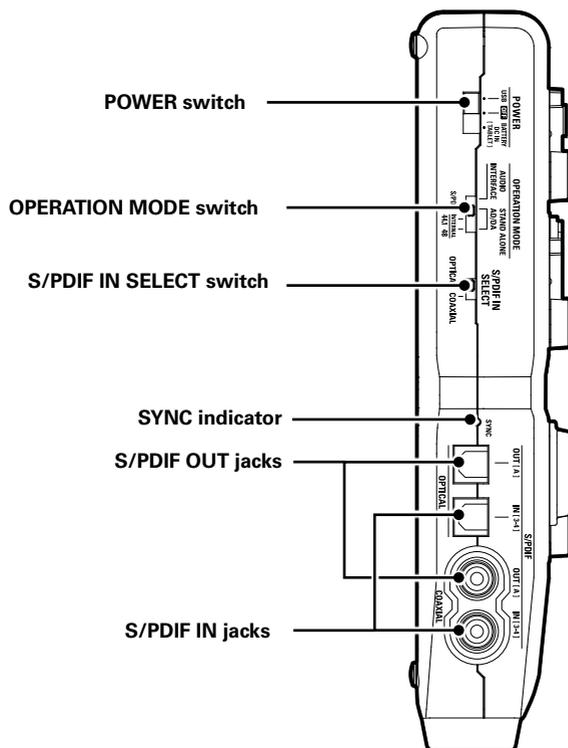
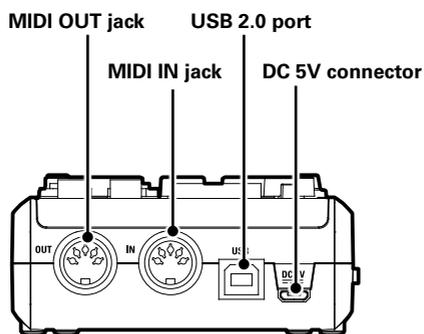### For EU Countries

C E   Declaration of Conformity

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Part Names

■Top

MAIN OUT jacks
LINE OUT 1 jacks
INPUT 1 jack
Hi-Z switch
Level indicators
PHANTOM switch
GAIN knobs
INPUT 2 jack
MAIN OUT knob
DIRECT MONITOR knob
MUTE switches
LINE OUT 2 jacks
PHONES jack
BALANCE knob
PHONES knob
Power indicator
MIC IN connector

XLR
2 1
3
1: GND
2: HOT
3: COLD

TRS
TIP: HOT
RING: COLD
SLEEVE: GND

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Part Names (continued)

■ Left side

POWER switch

OPERATION MODE switch

S/PDIF IN SELECT switch

SYNC indicator

S/PDIF OUT jacks

S/PDIF IN jacks

■ Back

MIDI OUT jack

USB 2.0 port

MIDI IN jack

DC 5V connector

Installing the Driver

Do not connect the **U-44** until installation completes.

■ **Windows**

1. Download the ZOOM U-44 Driver from **http://www.zoom.co.jp/downloads/** to your computer.

NOTE
- You can download the latest ZOOM U-44 driver from the above website.
- Download the driver for the operating system that you are using.

2. Launch the installer and install the driver.

Follow the instructions that appear on screen to install the ZOOM U-44 driver.

NOTE
- See the Installation Guide included in the driver package for detailed installation procedures.

■ **Mac**

Driver installation is not necessary when using a Mac.

Choosing a Power Source

■ Using bus power

Use a USB cable to connect the **U-44** to the computer.
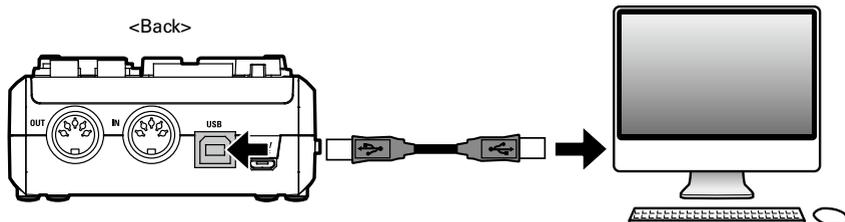
■ Using batteries

1. Open the battery cover on the **U-44** bottom.

2. Install the batteries.
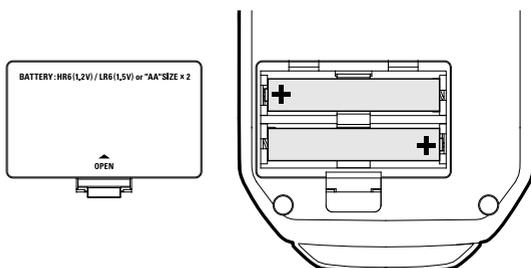
3. Replace the battery cover.

NOTE
- Use only alkaline alkaline batteries or rechargeable NiMH batteries.
- The power indicator will blink when the battery charge becomes low. Turn the power off immediately and install new batteries.

■ Using an external power supply

Connect either the optional AD-17 adapter, a commercially available USB power adapter, or a mobile USB battery to the DC 5V connector.
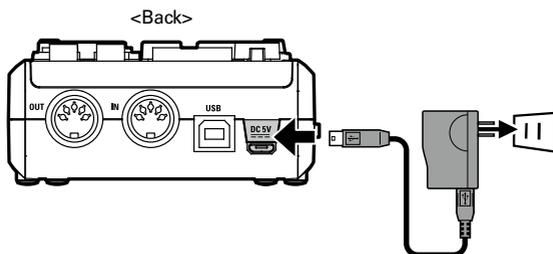
Connecting with a Computer

1. Minimize the volume of any output devices that are currently connected to the **U-44**.

2. Set OPERATION MODE AUDIO INTERFACE / STAND ALONE AD/DA to AUDIO INTERFACE.

3. Use a USB cable to connect the **U-44** to the computer.

<Back>
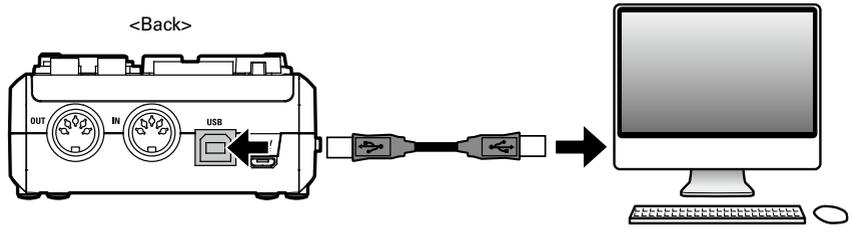
4. Set POWER USB OFF BATTERY DC IN [TABLET] to USB or BATTERY/DC IN to turn the power on.

> **NOTE**
> • If OPERATION MODE AUDIO INTERFACE / STAND ALONE AD/DA is set to AUDIO INTERFACE, the **U-44** can only be used if it is connected to a computer.
> • When using batteries or an external power supply, set POWER USB OFF BATTERY DC IN [TABLET] to BATTERY/DC IN.
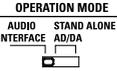
5. Confirm that the power indicator is lit.

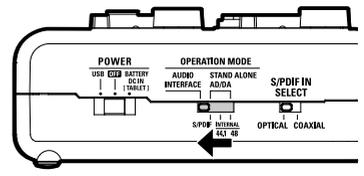MAIN OUT   PHONES

A — MUTE — B

MIC IN [3 - 4]
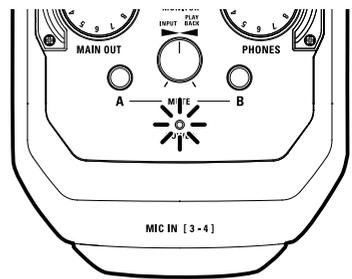
iOS device Connection

You can connect the **U-44** to an iOS device when using either the optional AD-17 power adapter, an external DC power supply, or AA batteries.
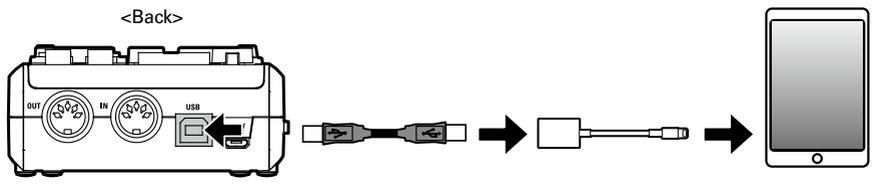
1. Minimize the volume of any output devices that are currently connected to the **U-44**.
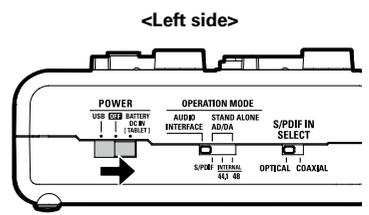
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2. Set [OPERATION MODE AUDIO INTERFACE / STAND ALONE AD/DA] to AUDIO INTERFACE.

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3. Install batteries or connect an external power supply. (→ P. 7)

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4. Connect the **U-44** to the iOS device using an Apple iPad Camera Connection Kit or Lightning to USB Camera Adapter.

<Back>

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5. Set [POWER USB OFF BATTERY DC IN [TABLET]] to BATTERY/DC IN.

After the **U-44** turns on, it will connect to the iOS device.

<Left side>

NOTE

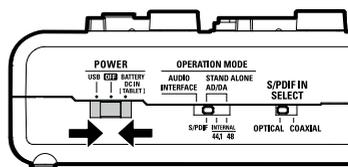• **U-44** cannot accept bus power from an iOS device.

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6. Confirm that the power indicator is lit.

Turning the Power Off

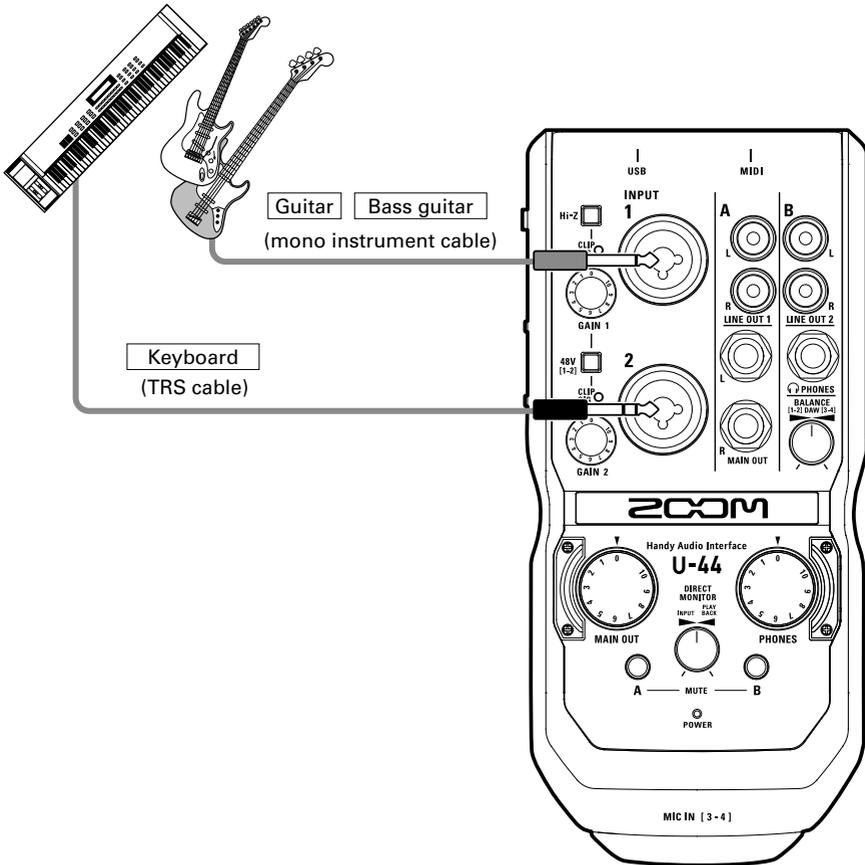**1.** Minimize the volume of any output devices that are currently connected to the **U-44**.

2. Turn off amps, monitor speakers, and any other output equipment that is currently connected to the **U-44**.

3. Set ⬚ to OFF.

Connecting Instruments

Instruments can be connected to INPUTS 1 and 2 using TRS or mono instrument cables.

Guitar | Bass guitar
(mono instrument cable)

Keyboard
(TRS cable)

Using the Hi-Z Function

- The Hi-Z function can only be used with INPUT 1.
- When connecting a guitar or bass with passive pickups, use INPUT 1 and turn Hi-z on (▬▬).
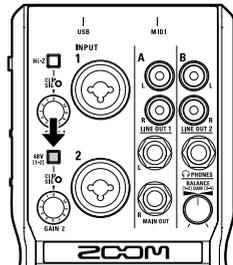- When connecting a keyboard or other instrument, connect it to INPUT 1 and turn Hi-z off (▬▬), or connect it to INPUT 2.
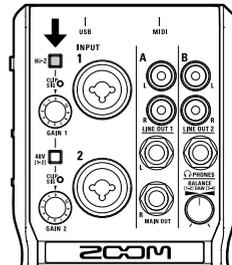
Connecting Mics

Mics can be connected to INPUTS 1/2 using XLR cables.

Dynamic mic
(XLR cable)

Condenser mic
(XLR cable)
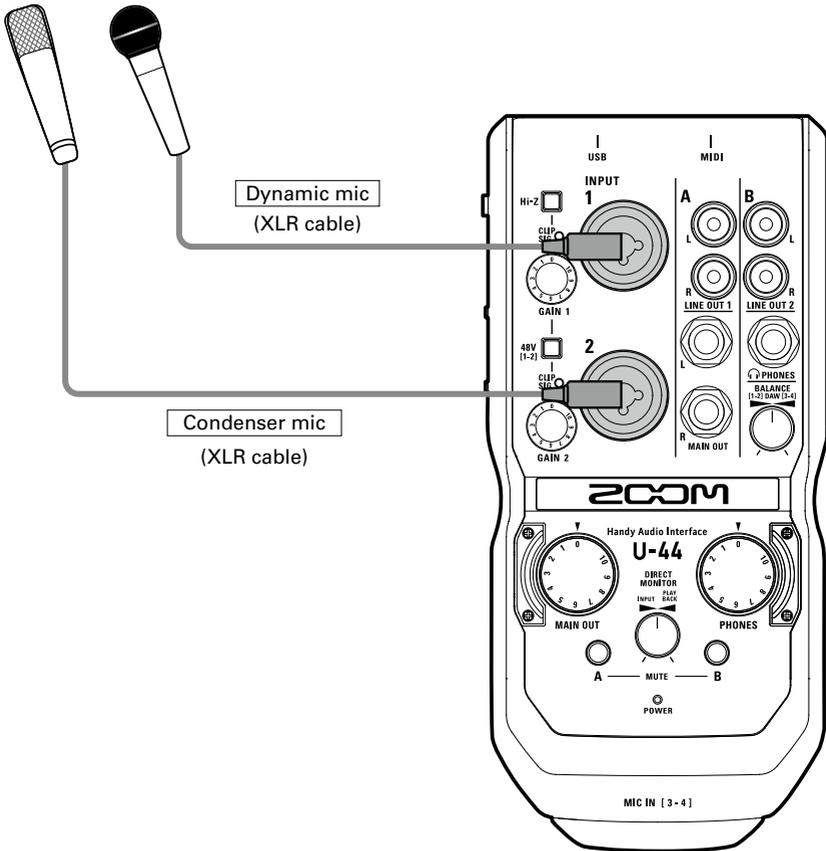
Using Phantom Power

• When using a condenser mic, turn 48V [1-2] on (▬▬).
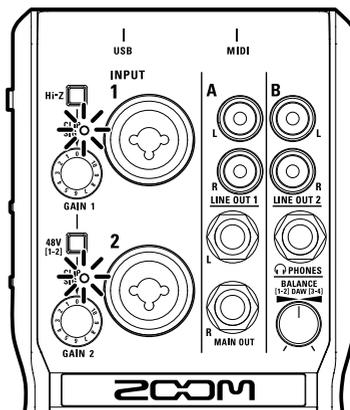• When on, phantom power is supplied to both INPUTS 1 and 2.

Adjusting Input Gain

You can adjust the gain of each input.
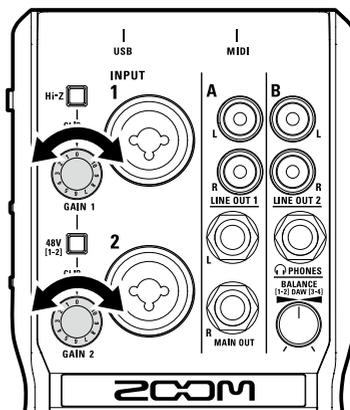
1. Check the status of the input signal.

Green light: Input signal is present.
Red light: Input signal is clipping.

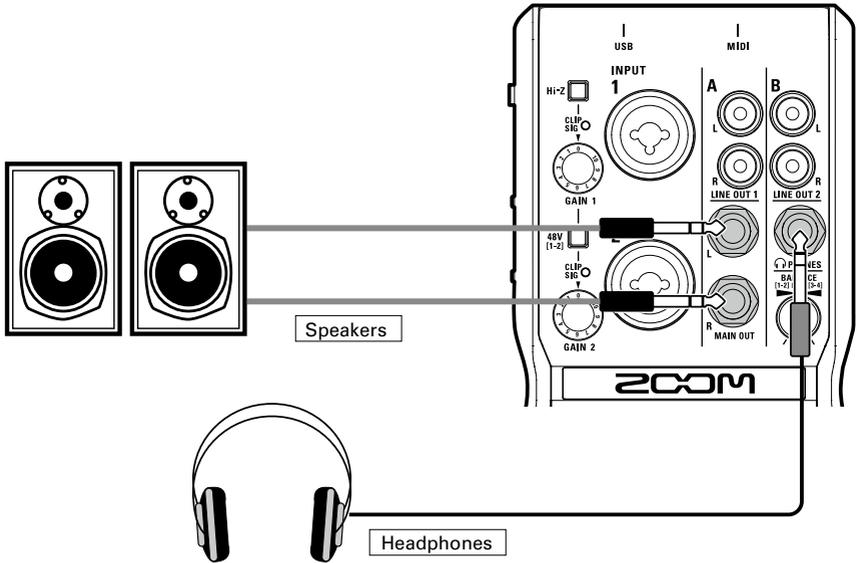## 2. Adjust the input gain.

Turn the ⊘ / ⊘ .

HINT
• To avoid distorted recordings, adjust the input gain so the level indicator doesn't light up red.

Connecting Headphones and Speakers

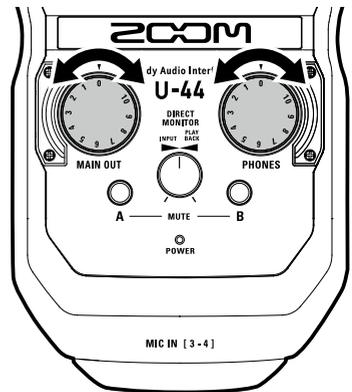Connect headphones to the PHONES jack, speakers to the MAIN OUT jacks, and adjust the volume levels accordingly.

1. Connect headphones or speakers.

2. Adjust the headphones/speakers volume.

Headphones volume: Turn ⬭ PHONES.

Speakers volume: Turn ⬭ MAIN OUT.

NOTE

- The LINE OUT 1 jacks deliver the same signal output as the MAIN OUT jacks.
- The LINE OUT 2 jacks deliver the same signal output as the PHONES jack.
- The LINE OUT 1 and 2 volume levels can't be changed.
- The MAIN OUT/LINE OUT 1 jacks deliver output from computer playback signals 1-2.
- The PHONES/LINE OUT 2 jacks deliver output from the adjusted balance of computer playback signals 1-2 and 3-4. (→ P. 17)
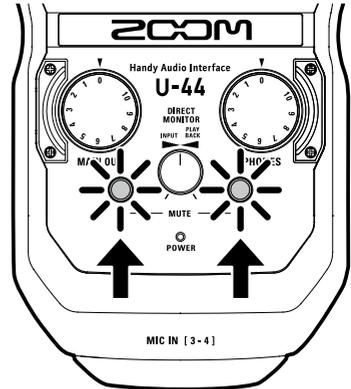
Muting Outputs

The outputs of channels A (MAIN OUT/LINE OUT 1) and B (PHONES/LINE OUT 2) can be muted/unmuted.

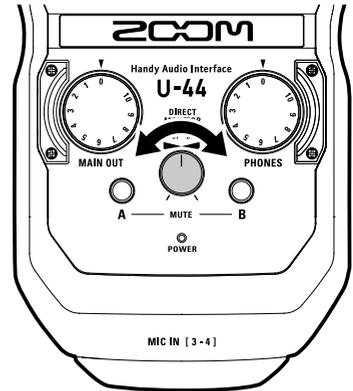**1.** Press ⬭ for the channel you want to mute.

Lit: Muted
Unlit: Not muted

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Using Direct Monitoring

Direct monitoring enables you to listen to input signals before they pass through the computer. This allows you to hear the sound coming into the **U-44** without latency.

1. Turn ⬤ to adjust the balance between the **U-44** audio input and the computer playback signals.
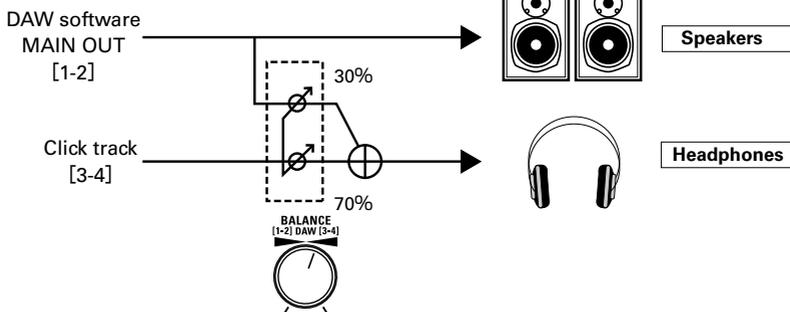
Adjusting the Computer Playback Signal Balance

The balance between computer playback signals 1-2 and 3-4 can be adjusted for the LINE OUT 2 and PHONES outputs.

For example, you can balance the PHONES output between click track and MAIN OUT signals during a live performance. Or you can balance between the cue and MAIN OUT signals during a DJ performance.

Live performance

DJ performance
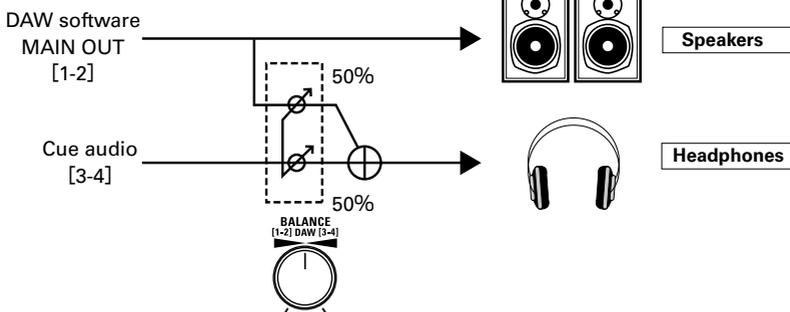
1. Turn to adjust the balance between computer playback signals 1-2 and 3-4.

NOTE

- Computer playback signals 1-2 are output from the MAIN OUT/LINE OUT 1 jacks.
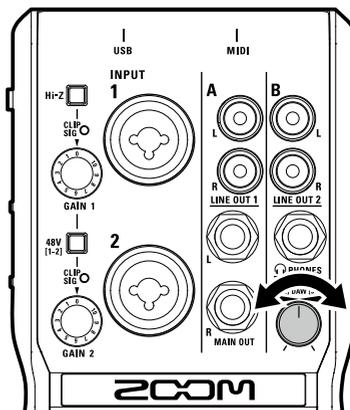

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Connecting MIDI Devices

Use MIDI cables to connect MIDI devices to the MIDI IN and MIDI OUT jacks.

<Back>

MIDI OUT jack

MIDI IN jack

Sound module

MIDI IN jack

MIDI keyboard or
MIDI controller

MIDI OUT jack
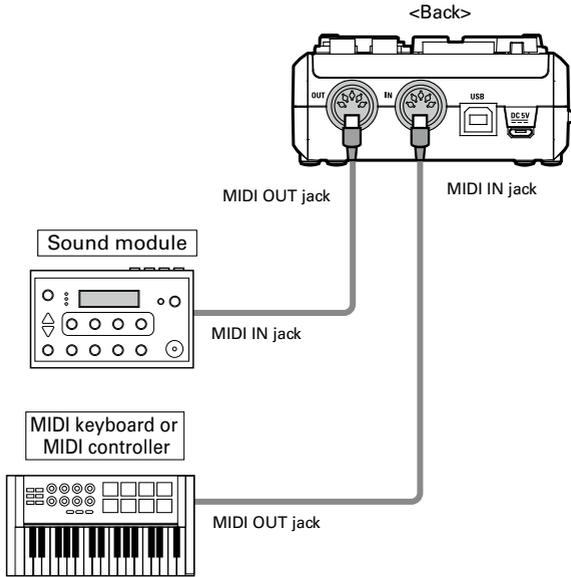
NOTE

• When you connect the **U-44** to a DAW using a MIDI port, follow the instructions below to ensure proper connectivity and functionality.

<Windows>

Use ZOOM U-44 Driver. Do not use MIDI IN/OUT 2 (ZOOM U-44 Driver).

<Mac>

Use ZOOM U-44 MIDI I/O Port. Do not use ZOOM U-44 Reserved Port.

Using Digital Audio Equipment

About the Digital Audio Clock

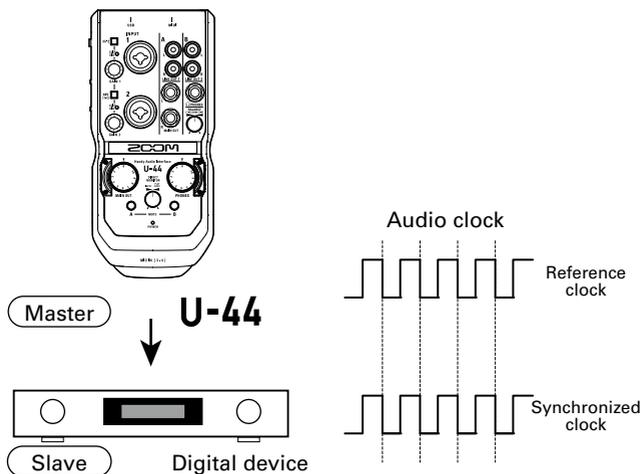When the **U-44** is connected to other digital audio equipment, the audio clock must be synchronized in order to accurately transfer audio data. If the devices are not synchronized, unwanted noise and other problems will occur.
To synchronize the audio clock, one device must operate as the master—which sets the reference clock—and the other must operate as a slave.

Audio clock

Master   **U-44**

Reference clock

Slave   Digital device

Synchronized clock

The **U-44** is operating as the master, and the audio clock of the **U-44** and the other digital device are synchronized.

■ Connecting S/PDIF Devices

1. Minimize the volume of any output devices that are currently connected to the **U-44**.

HINT
• After you connect the device, noise may occur until the audio clock is synchronized.

2. Set the same sampling rates for the **U-44** and the connected device.

Follow the procedures below to change the sampling rate.
<Windows>
Open the Control Panel on your computer. Select "Hardware and Sound" and select the desired sample rate on the ZOOM **U-44** Control Panel.
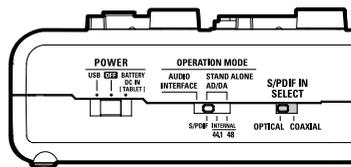<Mac>
Open the Utilities folder in the Applications folder, double-click the Audio MIDI Setup application, and then select the **U-44**.
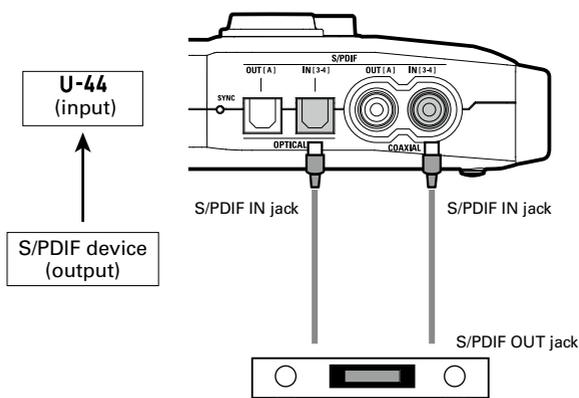
Using Digital Audio Equipment (continued)

■ Inputting an S/PDIF signal

1. Switch S/PDIF IN SELECT to OPTICAL or COAXIAL to select the input you want to use.

2. Connect the S/PDIF device to the S/PDIF IN jack set in step 1.

U-44 (input)

S/PDIF IN jack   S/PDIF IN jack

S/PDIF device (output)

S/PDIF OUT jack

NOTE
- When a mic capsule is connected to the MIC IN connector, the S/PDIF inputs are disabled.
- The S/PDIF inputs are assigned to INPUT 3/4.

3. Confirm synchronization has occurred by checking that the SYNC indicator is lit.
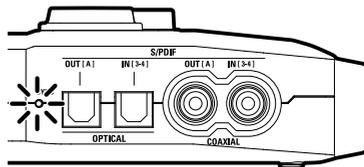
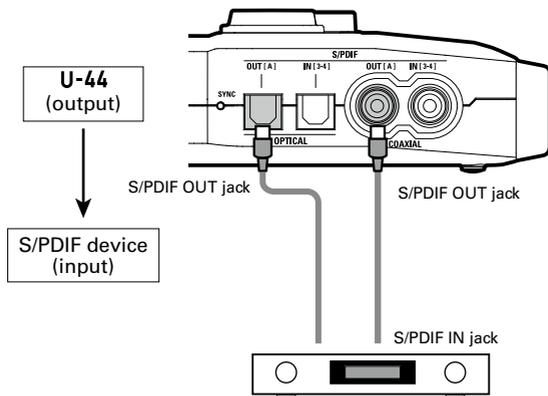**NOTE**
- To synchronize audio clock, the U-44 and the connected device must have the same sampling rate settings.
- The SYNC indicator will blink when a digital audio device is connected to a S/PDIF IN (OPTICAL or COAXIAL) but synchronization with the digital audio device is not possible. In this case, the U-44 will operate using its internal clock. Check the S/PDIF IN SELECT switch setting.

Using Digital Audio Equipment (continued)

■ Outputting a S/PDIF signal

1. Connect the S/PDIF device to the S/PDIF OUT jack.

NOTE
• S/PDIF outputs the same signals as the MAIN OUT and LINE OUT 1 jacks.

HINT
• The S/PDIF IN SELECT switch only affects S/PDIF input. S/PDIF output signals are always delivered from both the OPTICAL OUT and COAXIAL OUT jacks.

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Connecting ZOOM H-Series Mic Capsules

A ZOOM H-Series mic capsule can be connected to the MIC IN connector on the front of the **U-44**.

NOTE
- The mic capsule input is assigned to INPUT 3/4.
- When a mic capsule is connected, the S/PDIF IN (OPTICAL and COAXIAL) jacks cannot be used.

1. Turn the **U-44** power OFF.

NOTE
- Always turn the power off before connecting a mic capsule. If you connect a mic capsule while the power is on, it will not be usable.

2. Remove the protective caps from the **U-44** and the mic capsule or extension cable.
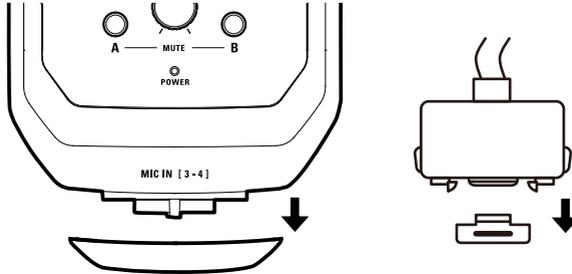
Connecting ZOOM H-Series Mic Capsules (continued)

3. Press the buttons on the sides of the mic capsule or extension cable, connect it to the **U-44** MIC IN connector, and insert it completely.
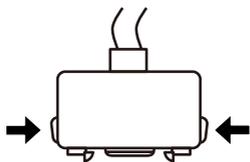
4. To disconnect a mic capsule or extension cable, turn the **U-44** off. Press the sides of the capsule or cable and pull it away.

NOTE

- Be careful not to use too much force when disconnecting. You could damage the mic capsule, extension cable, or main unit.
- Attach the protective cap when a mic capsule or extension cable is not in use.
- With the MSH-6 and SSH-6, audio data is recorded in RAW format. Since the RAW data format is different from that used by ordinary stereo files, the stereo width must be adjusted and the data must be converted to an ordinary stereo file after recording by using ZOOM MS Decoder or other plug-in software.
- The SGH-6 is a mono mic.

HINT

- ZOOM H-Series Mic Capsules and Extension Cables

XYH-6	Adjustable Stereo X/Y Microphone Capsule
XYH-5	Shock Mounted Stereo X/Y Microphone Capsule
MSH-6	Mid-Side Microphone Capsule
SGH-6	Shotgun Microphone Capsule
SSH-6	Mid-Side Stereo Shotgun Microphone Capsule
EXH-6	Dual XLR/TRS Input Capsule
ECM-3	The three-meter-long extension cable for ZOOM's Mic Capsule options.
ECM-6	The six-meter-long extension cable for ZOOM's Mic Capsule options.

Using as a Standalone AD/DA Converter and Mic Preamp (Standalone Mode)

1. Minimize the volume of output devices connected to the U-44.
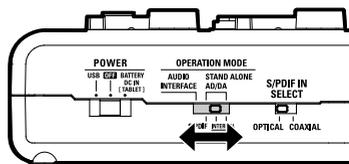
2. Supply power. (→ P. 7)
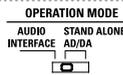
3. Use [OPERATION MODE AUDIO INTERFACE / STAND ALONE AD/DA] to set the sampling rate.

INTERNAL: Function using 44.1 or 48 kHz sampling rate. (Master)

S/PDIF: Use the sampling rate of the signal input through the OPTICAL IN or COAXIAL IN. (Slave)

4. Turn the U-44 on using the power supplied in step **2**.
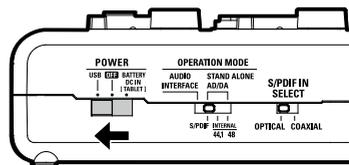
5. Confirm that the power indicator is lit.

NOTE
• See P. 27 for the signal flow diagram when using standalone AD/DA mode.
• The sampling rate cannot be changed using [OPERATION MODE AUDIO INTERFACE / STAND ALONE AD/DA] after start up.

Troubleshooting

Cannot select or use the U-44 device

- Confirm that the U-44 is connected to the computer correctly.
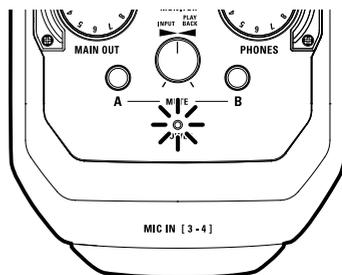- Quit all the software that is using the U-44, and disconnect and reconnect the USB cable connected to the U-44.
- Reinstall the driver.
- Connect the U-44 directly to a USB port on the computer. Do not connect it to a USB hub.
- Set OPERATION MODE to AUDIO INTERFACE. (→ P. 8)

Playback sound cannot be heard or is quiet

- Check the speaker connections and volume settings on the speakers.
- Adjust the OUTPUT and PHONES volume controls.
- Confirm that the Sound setting of the computer that you are using is set to "ZOOM U-44".
- Adjust the DIRECT MONITOR knob.
- If no sound can be heard or the volume is low from the PHONES/LINE OUT 2 outputs, adjust the BALANCE knob.

Recorded audio is too loud, too quiet or silent

- Adjust the input gain of the U-44.
- When using a condenser mic, turn phantom power on.
- Confirm that the Sound setting of the computer that you are using is set to "ZOOM U-44".

The sound of the device connected to the input jack is distorted

- Confirm that the level indicators are not lighting red. If they are, lower the input levels.

Sound skips during playback or recording

- If you can adjust the audio buffer size of the software that you are using, increase the buffer size.
- Turn the automatic sleep function and other computer power saving settings OFF.

- Connect the U-44 directly to a USB port on the computer. Do not connect it to a USB hub.

Cannot play or record

- Confirm that the Sound setting of the computer that you are using is set to "ZOOM U-44".
- Confirm that U-44 is set for input and output in the software you are using.
- Confirm that U-44 is connected to the computer correctly.
- Quit all software that is using the U-44, then disconnect and reconnect the U-44's USB cable.

Cannot use with an iOS device

- Set OPERATION MODE to AUDIO INTERFACE. (→ P. 8)
- Confirm that the batteries are loaded or the external power supply is connected correctly. (→ P. 7)
- Set the POWER switch to BATTERY/DC IN to turn the power on.

Sound skips during digital input or output

- Confirm that the device used for audio clock synchronization is connected correctly.
- If the U-44 is the master, confirm that audio clock is synchronized on the connected device.
- If the U-44 is a slave, confirm that the correct clock source and sampling rate are selected and that the SYNC indicator is lit.

Cannot use in standalone AD/DA mode

- Set the OPERATION MODE to STAND ALONE and select the correct clock source before turning the power on.

Specifications

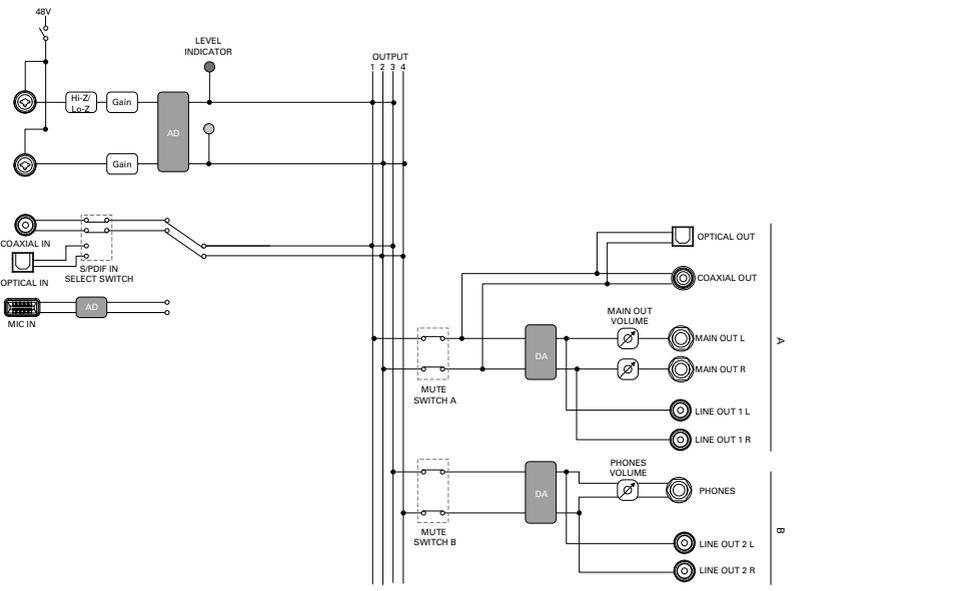| ANALOG IN	INPUT 1/2	Connector	TRS/XLR combo jacks (XLR: 2 hot, TRS: TIP hot)
		Input gain	0 – 43 dB
		Input impedance	2.6 kΩ (MIC IN) 1.1 MΩ (when Hi-Z ON)
		Maximum input level	+2.7 dBu (MIC IN) /+20.7 dBu (TRS IN)
		Phantom power	+48 V
	MIC IN	Supported mics	XYH-6, MSH-6, SGH-6, EXH-6, SSH-6, XYH-5
ANALOG OUT	MAIN OUT L/R	Connector	TRS phone jacks (unbalanced)
		Maximum output level	+10 dBu (at 0 dBFS)
		Output impedance	330 Ω
	LINE OUT 1/2	Connector	RCA (coaxial)
		Maximum output level	+8 dBu (at 0 dBFS)
		Output impedance	1 kΩ
	PNONES	Connector	Standard stereo phone jack 30 mW x 2 (into 32 Ω load)
		Maximum output level	+10 dBu (at 0 dBFS)
		Output impedance	33 Ω
DIGITAL IN/ OUT	S/PDIF OPTICAL	Connector	TOSLINK
		Supported sampling frequencies	96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz
	S/PDIF COAXIAL	Connector	RCA (coaxial)
		Supported sampling frequencies	96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz
Frequency characteristics			At 44.1 kHz: ±1.5 dB: 20 Hz - 20 kHz At 96 kHz: ±2 dB: 20 Hz - 40 kHz
Input conversion noise			Measured EIN: -119.5 dB (IHF-A) (with 43 dB, 150 Ω input)
Number of audio recording and playback channels			Recording: 4 channels
			Playback: 4 channels
Sampling frequencies			96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz
Bit depth			24-bit
Interface			USB2.0
MIDI IN/OUT			5 pin DIN jack
Power Source			USB bus power (Type B)/ZOOM AD-17 (Micro-B)/DC 5 V power supply (Micro-B)/2 AA batteries (about 4 hours continuous operation with phantom power off)
Power consumption			5 W maximum
Dimensions			198.8 mm (D) × 92.3 mm (W) × 42.7 mm (H)
Weight (main unit only)			310 g

* 0 dBu = 0.775 Vrms

Note: The continuous operation time with batteries is just an estimate. This result is from in-house testing methods. The actual time will vary greatly according to operating conditions.

Signal Flow Diagrams

■ AUDIO INTERFACE mode signal flow diagram
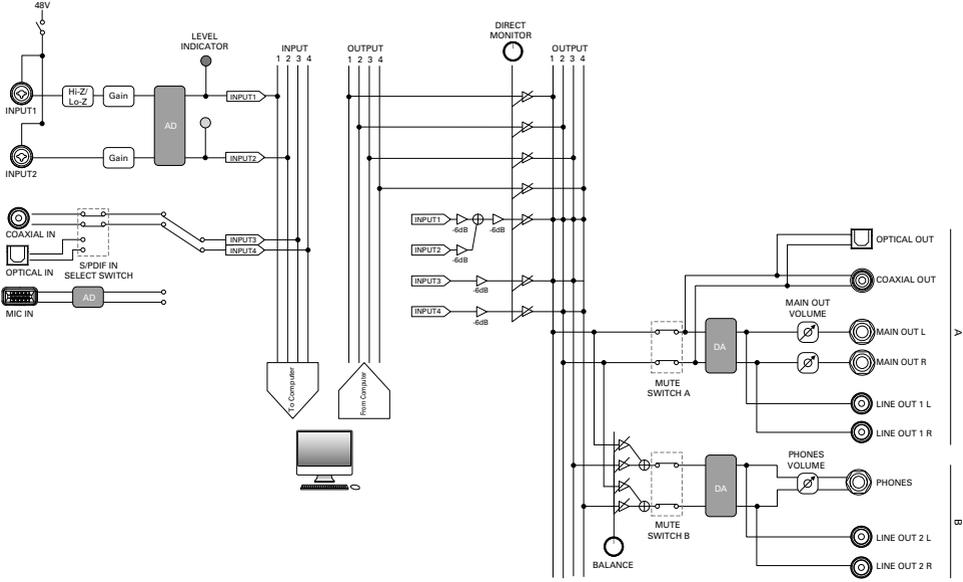
■ Standalone AD/DA mode signal flow diagram