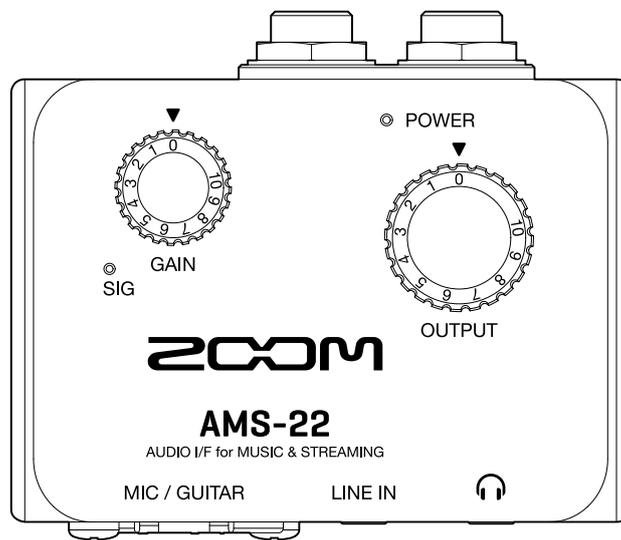


# AMS-22

AUDIO I/F for MUSIC & STREAMING



## Operation Manual

You must read the Usage and Safety Precautions before use.

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Proper display is not possible on grayscale devices.

# Notes about this Operation Manual

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You might need this manual in the future. Always keep it in a place where you can access it easily. The contents of this document and the specifications of the product could be changed without notice.

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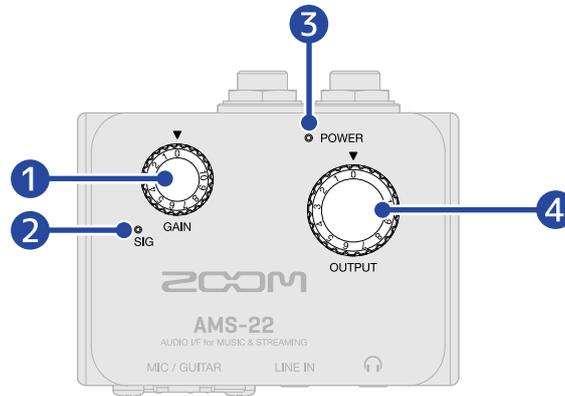
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# Functions of parts

## Top



### 1 Gain knob

Use this to adjust the input signal level from the MIC/GUITAR jack. (→ [Adjusting the input gain](#))

### 2 Level indicator

This indicator shows the signal level after gain knob adjustment.

The indicator color changes according to the signal level.

Lit green: Input signal is present. (-48 dBFS or higher)

Lit red: Input signal is clipping. (-1 dBFS or higher)

### 3 POWER indicator

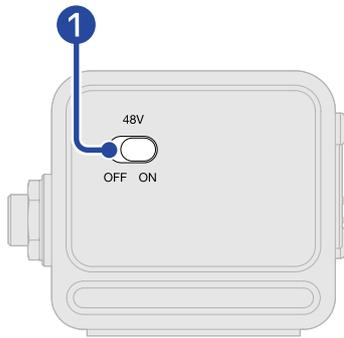
This lights when the power is on.

### 4 OUTPUT knob

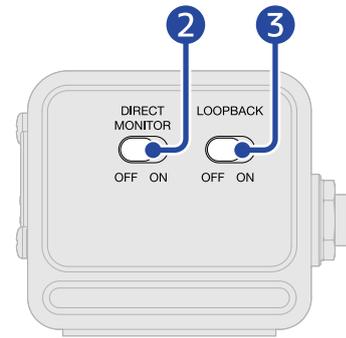
Use this to adjust the volume of signals output from the standard phone OUTPUT and headphone jacks.

# Left and right sides

## ■ Left side



## ■ Right side



### 1 48V switch

This turns +48V phantom power ON/OFF. Set this to ON when connecting condenser mics.

### 2 DIRECT MONITOR switch

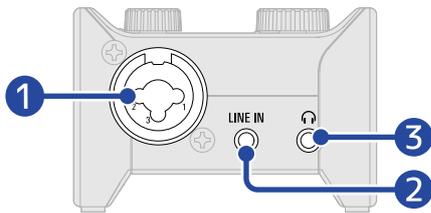
Set this to ON to directly monitor sound from the MIC/GUITAR jack before it passes through the computer. (→ [Using direct monitoring](#))

### 3 LOOPBACK switch

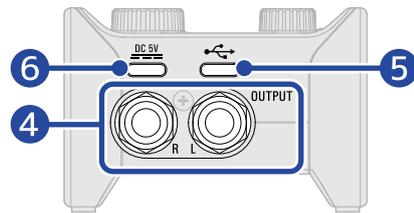
Set this to ON to send a mix of the sounds played by the computer and input through the AMS-22 back to the computer. (→ [Enabling the loopback function](#))

# Front and back

## ■ Front

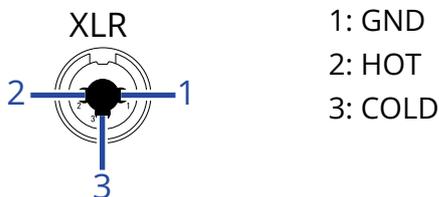


## ■ Back



### 1 MIC/GUITAR jack

This input jack has a built-in mic preamp. Connect mics, keyboards, guitars and other audio sources to this. This can be used with both XLR and standard phone (balanced or unbalanced) plugs. (→ [Connecting instruments and mics](#))



### 2 LINE IN jack

Use this line jack to connect tablets and other devices with a stereo mini cable.

### 3 Headphone output jack

This outputs a stereo signal. Connect headphones to this.

### 4 OUTPUT standard phone jacks

These output the left (L) and right (R) channels of a stereo signal. Connect these to speakers with built-in amplifiers, for example.

### 5 USB port (Type-C)

Use this USB port to connect computers, smartphones and tablets. (→ [Connecting to a computer](#), [Connecting smartphones and tablets](#))

### 6 DC 5V port (Type-C)

Use this power supply USB port to connect an AC adapter or mobile battery. (→ [Supplying power](#))

# Connecting to a computer

The AMS-22 is compatible with USB bus power, so power can be supplied to it from a computer through a USB cable. In addition to USB bus power, it can also be operated using an external power supply (dedicated AC adapter or mobile battery). (→ [Supplying power](#))

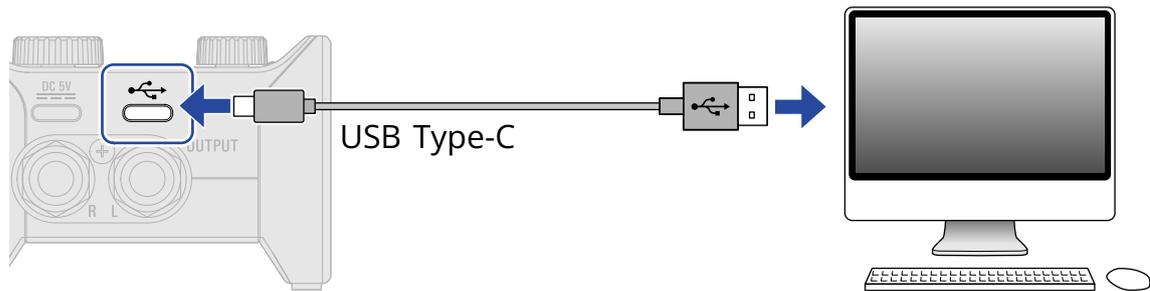
1. Install the dedicated driver before using an AMS-22 to record for the first time with a DAW application on a Windows computer. (→ [Installing the driver on Windows computers](#))

**NOTE:**

- A driver is not necessary when using a Mac.

2. Minimize the volume before connecting speakers, headphones or other output devices to the AMS-22. (→ [Adjusting the volume](#))

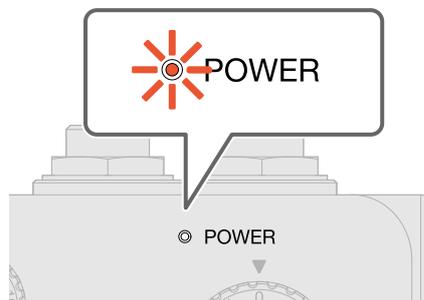
3. Use a USB cable to connect the AMS-22 USB port (Type-C) to a USB port on the computer.



**NOTE:**

Use a USB cable that supports data transfer.

4. Confirm that the POWER indicator is lit red.



# Installing the driver on Windows computers

The dedicated driver must be installed on a Windows computer before using a DAW app on it to record.

1. Download the “ZOOM AMS-22 Driver” from [zoomcorp.com](https://zoomcorp.com) to the computer.

**NOTE:**

The latest “ZOOM AMS-22 Driver” can be downloaded from the above website.

2. Launch the installer and follow the instructions to install the “ZOOM AMS-22 Driver”.

**NOTE:**

- Do not connect the AMS-22 to the computer during installation.
- See the Installation Guide included in the driver package for detailed installation procedures.

# Connecting smartphones and tablets

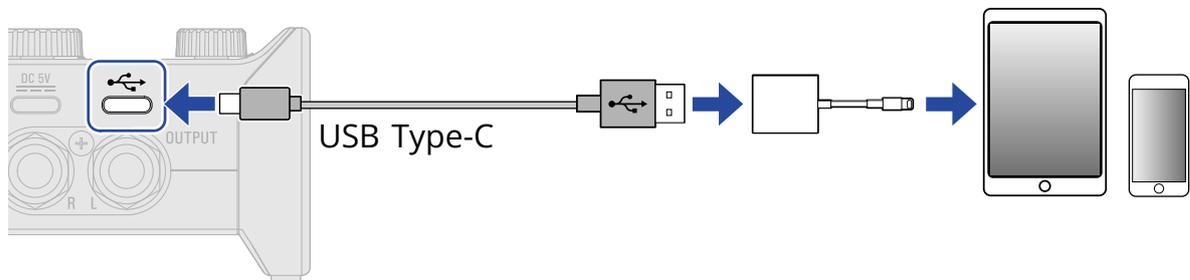
During use with a smartphone or tablet, an external power supply must be used.

1. Minimize the volume before connecting speakers, headphones or other output devices to the AMS-22. (→ [Adjusting the volume](#))
2. Connect an external power supply. (→ [Supplying power](#))

**NOTE:**

Power must be provided before connecting a smartphone or tablet to the AMS-22.

3. Use a USB cable to connect the AMS-22 USB port (Type-C) to the smartphone/tablet.



To connect smartphones and tablets, prepare USB cables and adapters that match their connectors as necessary.

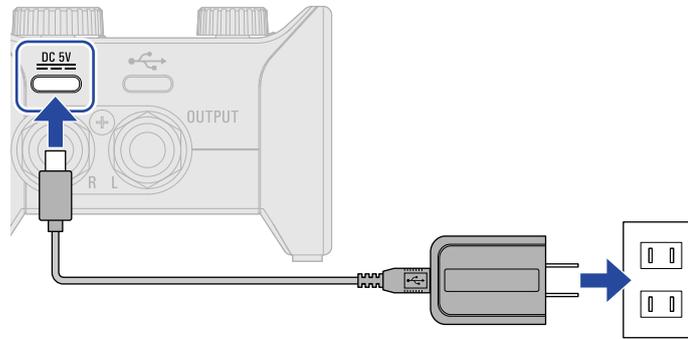
Use a USB cable that supports data transfer.

Connector type	Necessary USB cable/adaptor
Lightning connector	USB Type-A to Type-C cable, Lightning to USB 3 Camera Adapter
Type-C connector	USB Type-C to Type-C cable

# Supplying power

A dedicated AC adapter (ZOOM AD-17) or a commercially-available USB mobile battery can be used.

1. Connect the USB connector of the dedicated AC adapter to the DC 5V port (Type-C), and plug the AC adapter into an outlet.



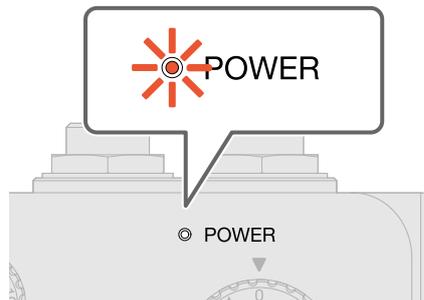
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**HINT:**

To use a USB mobile battery, connect its USB cable to the DC 5V port (Type-C).

---

2. Confirm that the POWER indicator is lit red.

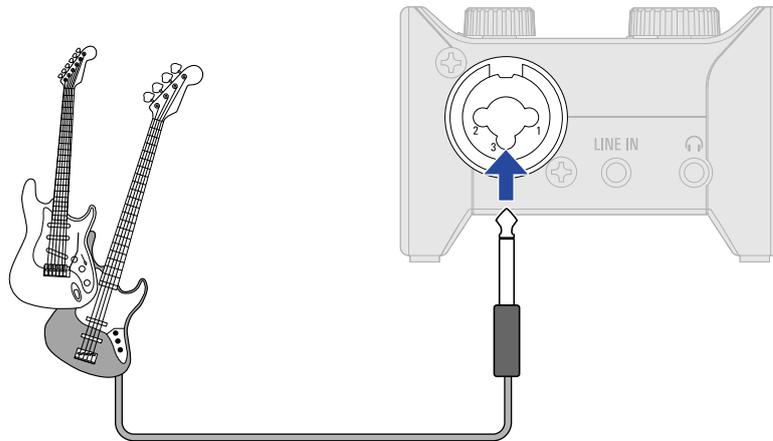


# Connecting instruments and mics

Always set  to 0 and  to OFF before connecting instruments and mics.

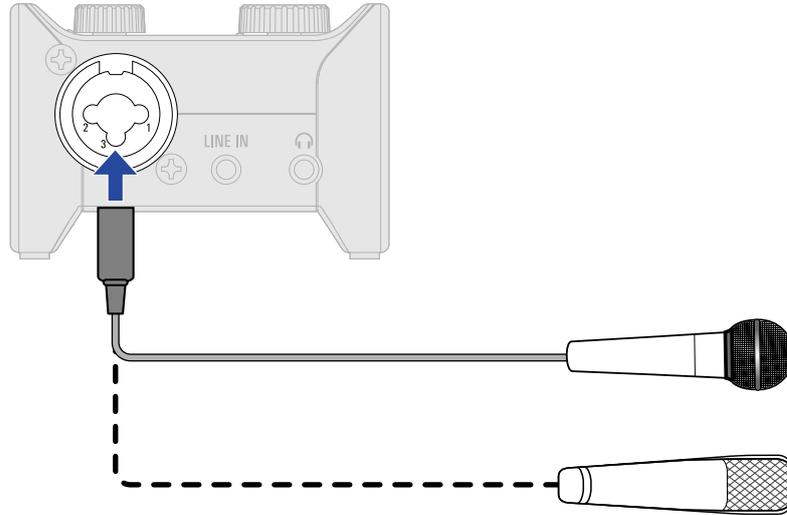
## Connecting instruments

1. Connect an instrument to the AMS-22.  
Use an instrument cable to connect a guitar or bass, for example, to the MIC/GUITAR jack.

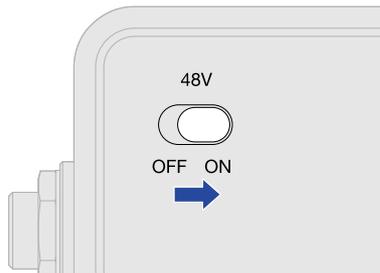


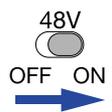
# Connecting mics

1. Use a mic cable to connect a dynamic or condenser mic to the MIC/GUITAR jack.



2. Use  to set phantom power.



Switch position	Explanation
	Use this to supply phantom power to condenser mics.
	Use this when connecting dynamic mics.

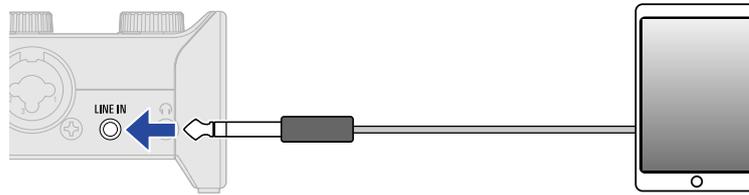
**NOTE:**

- Do not set  to ON when connecting equipment that is not compatible with phantom power. Doing so could damage the equipment.
- Phantom power (48 V) is not supplied to the standard phone (TRS) connectors.

## Connecting stereo sound sources

### 1. Connect a stereo sound source to the AMS-22.

Use a stereo mini cable to connect a tablet or other stereo sound source to the LINE IN jack.

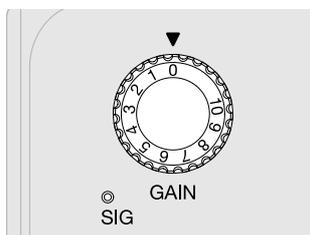


#### NOTE:

- The gain is fixed for the LINE IN jack.
- Sounds input through the MIC/GUITAR and LINE IN jacks at the same time will be mixed.

# Adjusting the input gain

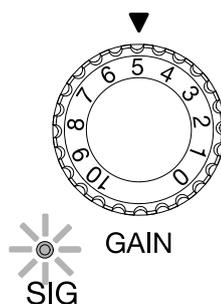
Adjust the MIC/GUITAR jack input sensitivity.



1. Use  to adjust the input signal while inputting sound from an instrument or mic.

Level indicator

-  : Input signal present. (-48 dBFS or higher)
-  : Input signal is clipping. (-1 dBFS or higher)



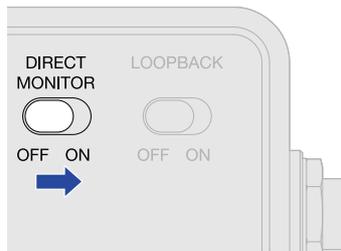
## NOTE:

- Set this so that the level indicator does not light red.

## Using direct monitoring

When the DIRECT MONITOR switch is ON, sound input to the AMS-22 can be directly monitored with headphones, for example, before it passes through the computer. This enables monitoring without latency.

1. Set  to ON.



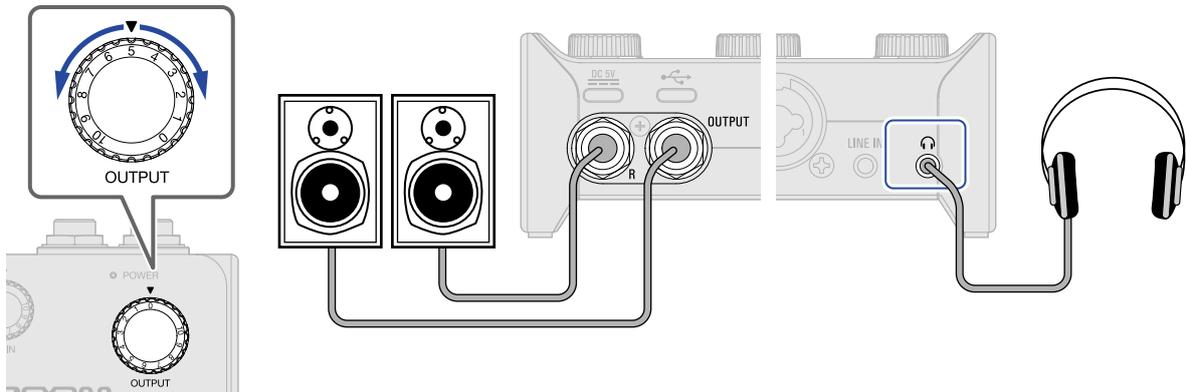
# Adjusting the volume

The volume output from speakers and headphones connected to the AMS-22 can be adjusted.

**NOTE:**

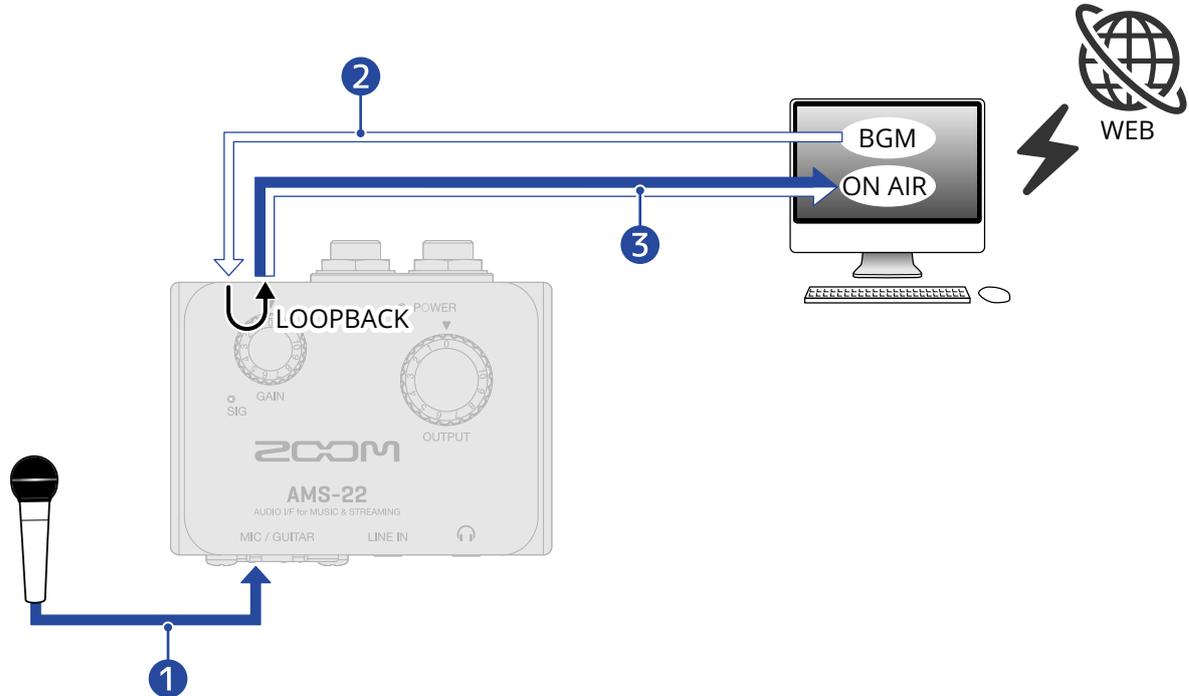
Set the AMS-22 volume to 0 before connecting speakers or headphones.  
Failure to do so could result in unexpected loud sounds, causing harm to hearing, for example.

Turn  to adjust the volume for the headphone output jack on the front of the unit and OUTPUT standard phone jacks on the back of the unit.



# Enabling the loopback function

By turning the LOOPBACK function ON, sound input through the AMS-22 MIC/GUITAR jack and sound output from the computer can be mixed and then input to the computer again (looped back). This is convenient for mixing background music played on the computer with sound input through the AMS-22 and streaming it live, for example.



- 1 The mic or instrument sound is input to the AMS-22.
- 2 BGM from the computer is input to the AMS-22.
- 3 The mic or instrument sound and the BGM from the computer are mixed and output to the computer.

1. Set **LOOPBACK**  OFF  ON to ON.



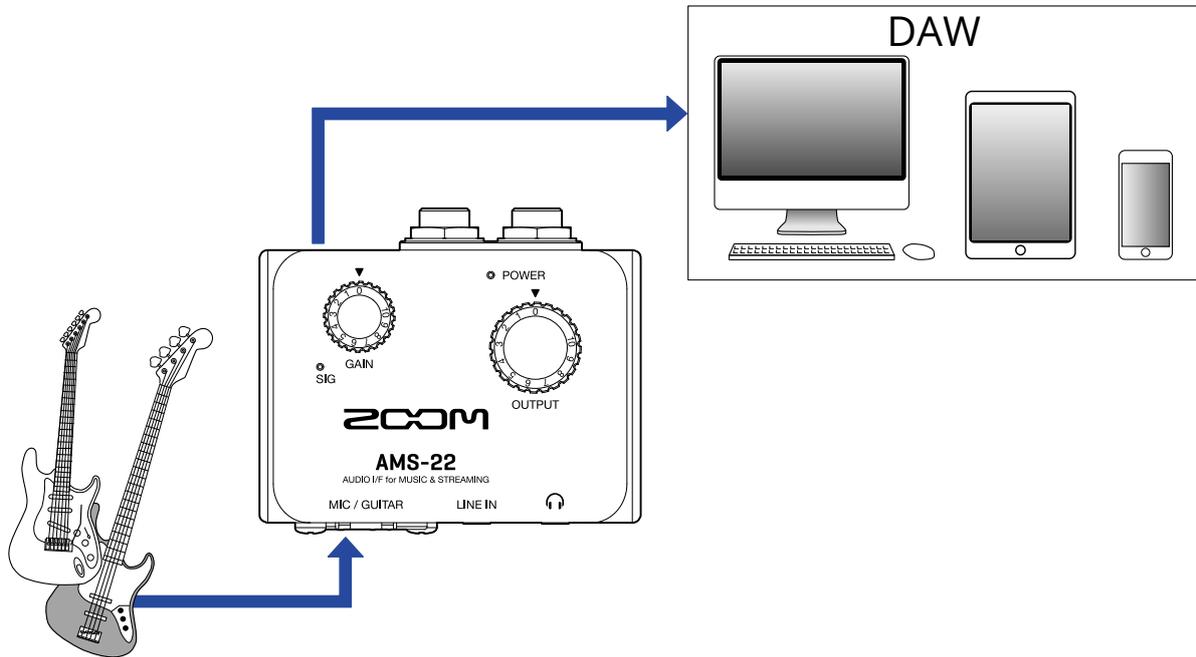
**NOTE:**

When **LOOPBACK**  is set to ON, disable AMS-22 monitoring in the DAW or streaming application.

If enabled, a feedback loop could be generated, which might cause loud noise to be output.

# Use example: Making music

Use with a DAW app to record guitars and vocals, for example, and create music.

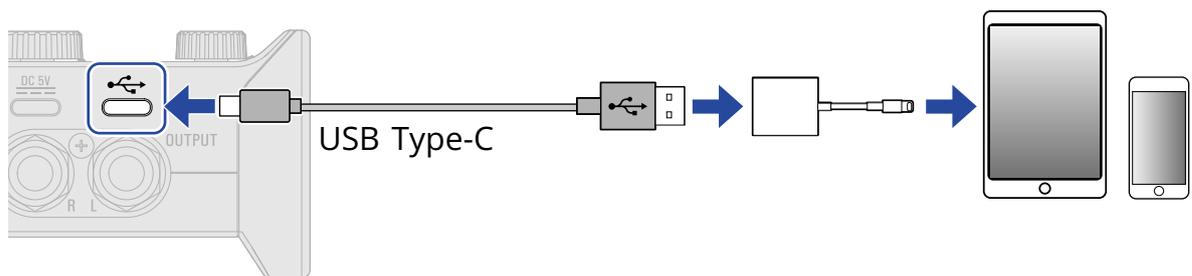
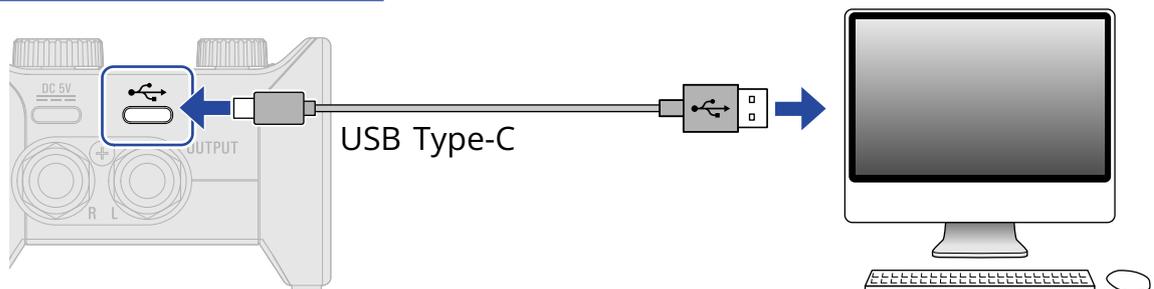


1. Supply power if using a smartphone or tablet. (→ [Supplying power](#))

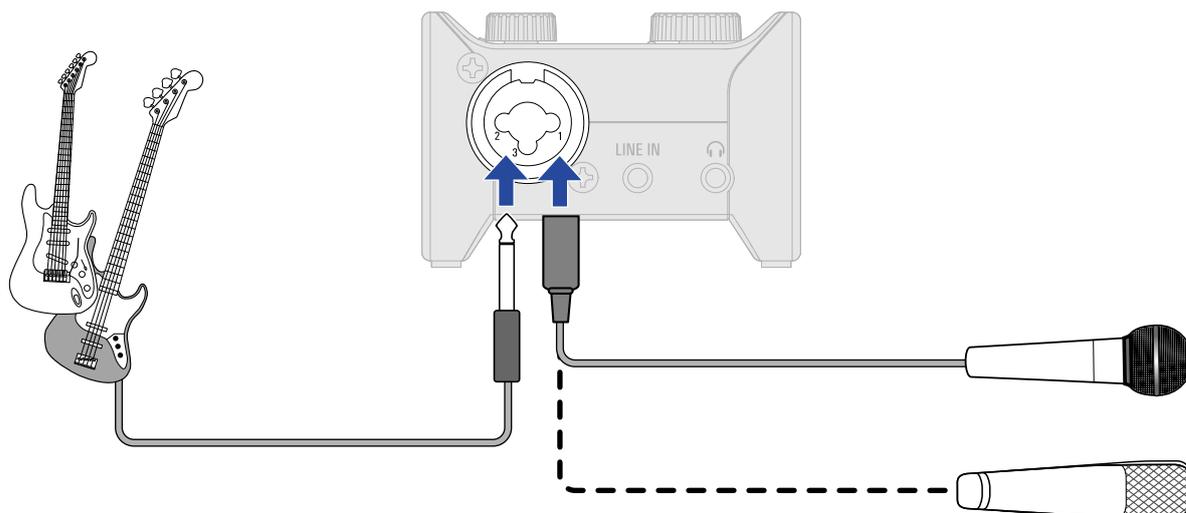
**NOTE:**

Power must be provided before connecting a smartphone or tablet to the AMS-22.

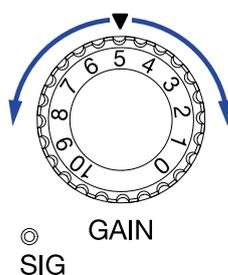
2. Connect the AMS-22 and the computer, smartphone or tablet. (→ [Connecting to a computer](#), [Connecting smartphones and tablets](#))



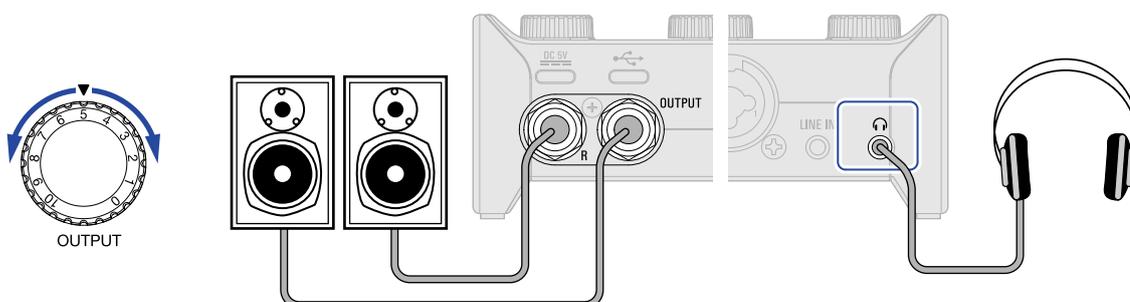
- 3.** Connect an instrument or mic. (→ [Connecting instruments](#), [Connecting mics](#))



- 4.** Adjust the input gain. (→ [Adjusting the input gain](#))



- 5.** Adjust the output volume. (→ [Adjusting the volume](#))



- 6.** Launch the DAW app on the computer, smartphone or tablet, and select the AMS-22 as the audio interface.

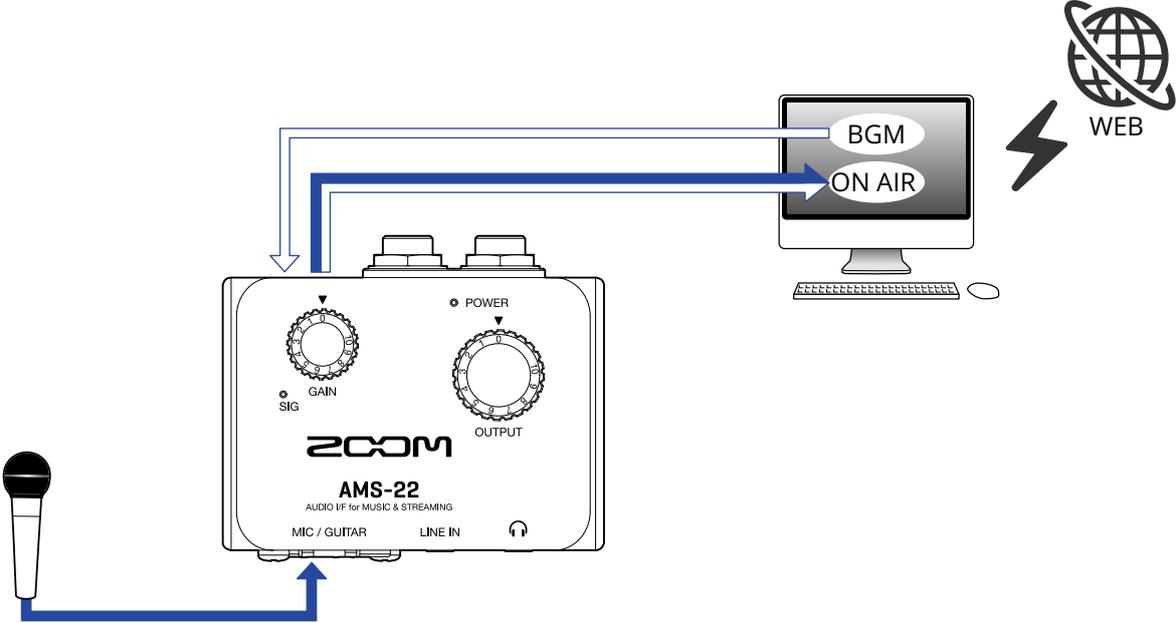
- 7.** Create recording tracks in the DAW app, and start recording.

**NOTE:**

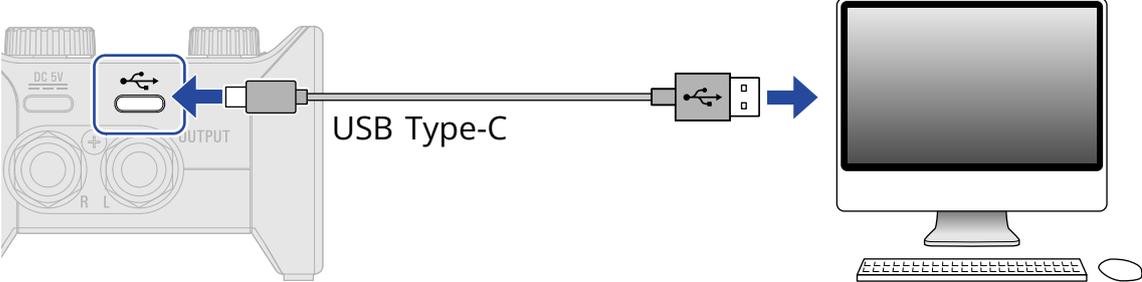
Refer to the DAW app manual for how to use it.

# Use example: Web streaming using a computer

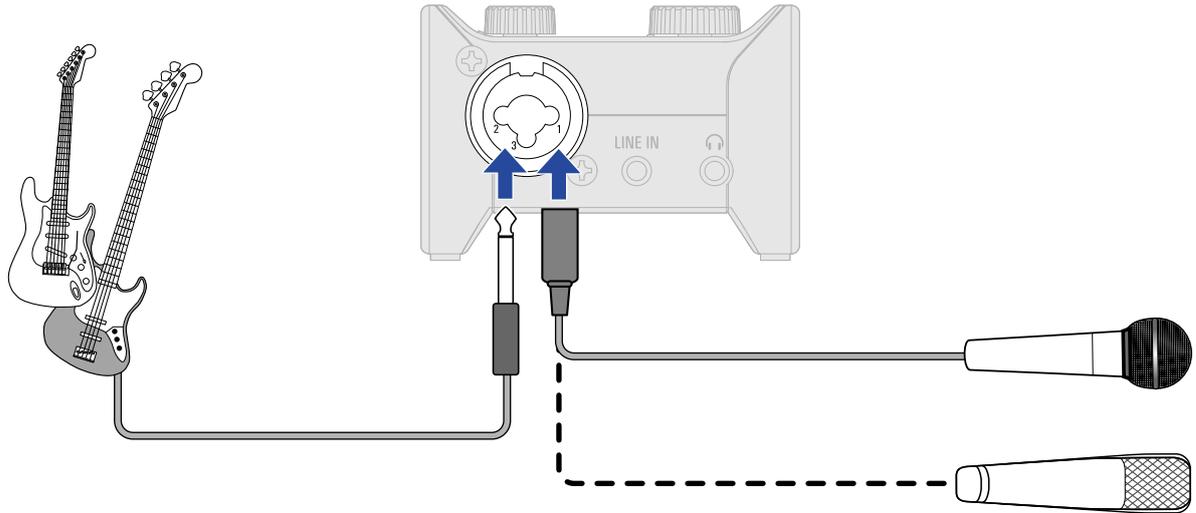
Connect to a computer and use for web streaming or podcast recording.



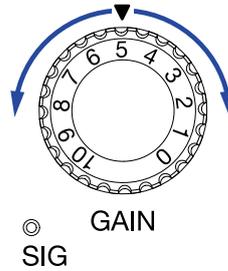
1. Connect the AMS-22 and the computer. (→ [Connecting to a computer](#))



**2.** Connect an instrument or mic. (→ [Connecting instruments](#), [Connecting mics](#))



**3.** Adjust the input gain. (→ [Adjusting the input gain](#))

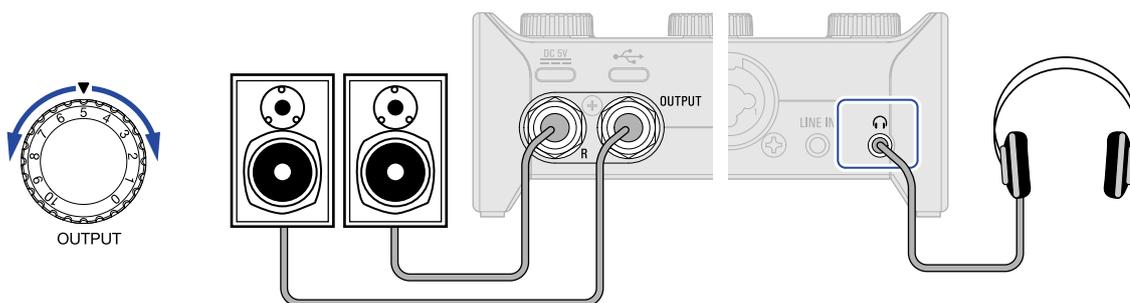


**4.** Select the AMS-22 as the computer input and output device.

**5.** To enable the loopback function, set  LOOPBACK to ON. (→ [Enabling the loopback function](#))



**6.** Adjust the output volume. (→ [Adjusting the volume](#))



**7.** Launch the streaming app on the computer, smartphone or tablet, and select the AMS-22 as the "audio" or "input/output" device.

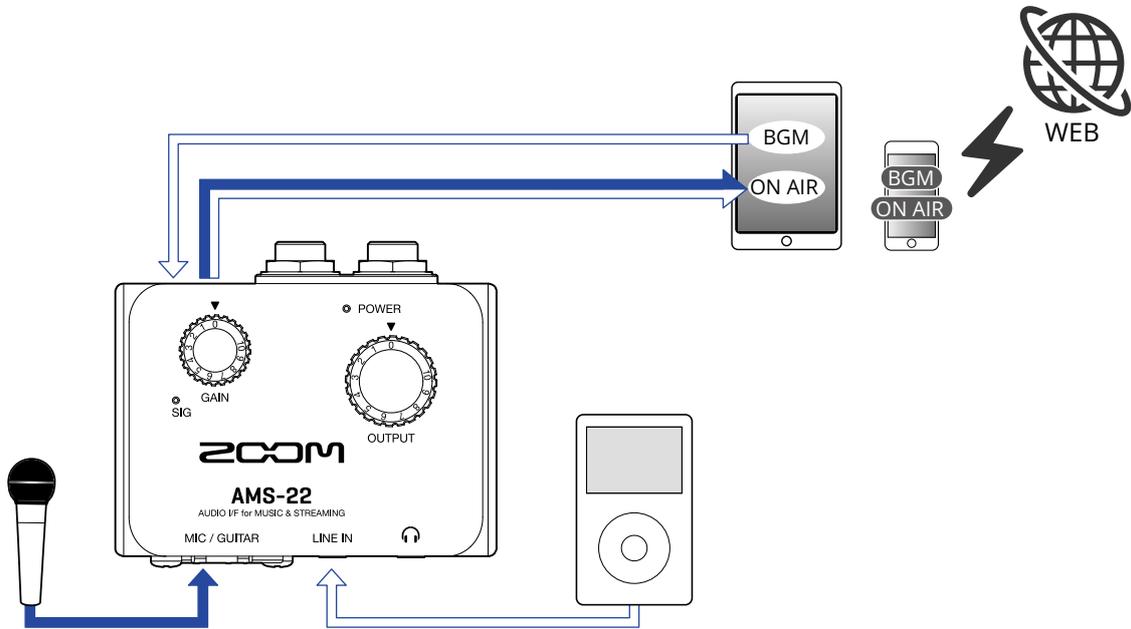
**8.** Start streaming.

**NOTE:**

- Use BGM with permission from its creators.
- Refer to the streaming app manual for how to use it.

# Use example: Web streaming using a smartphone/tablet

Connect to a smartphone or tablet and use for web streaming or podcast recording.

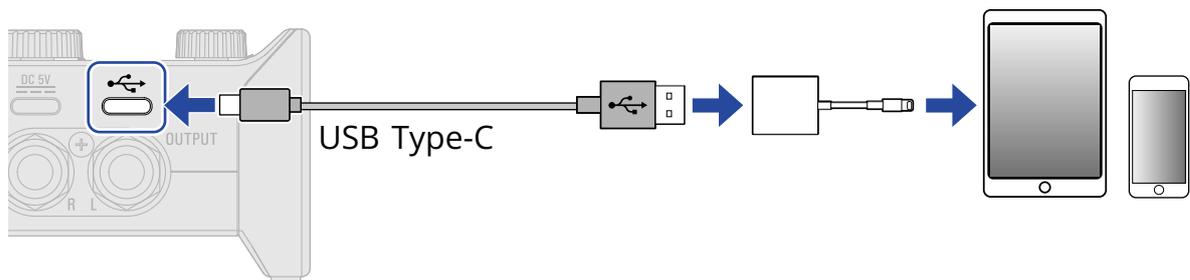


## 1. Supply power. (→ [Supplying power](#))

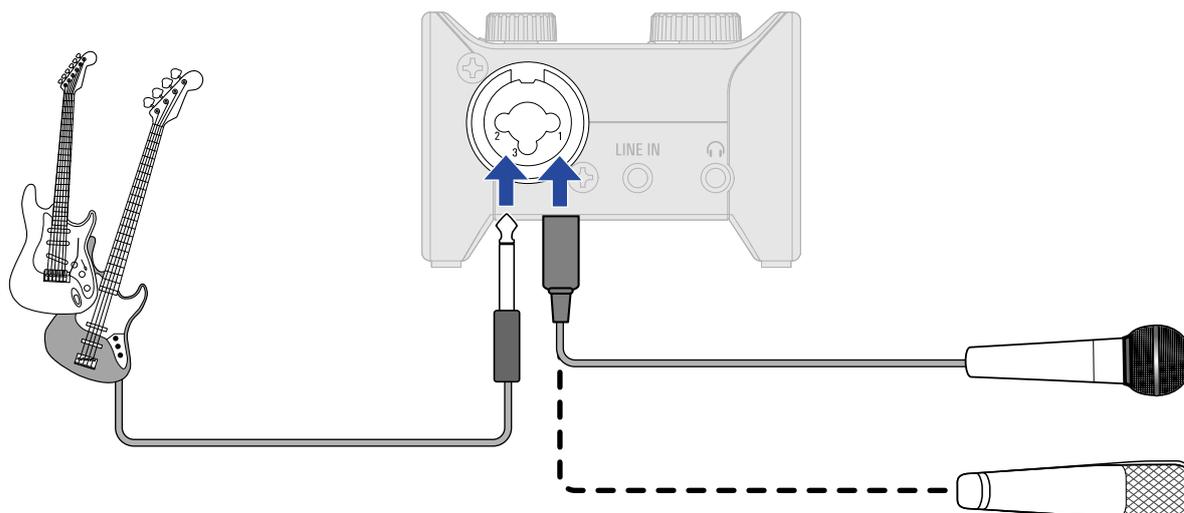
### NOTE:

Power must be provided before connecting a smartphone or tablet to the AMS-22.

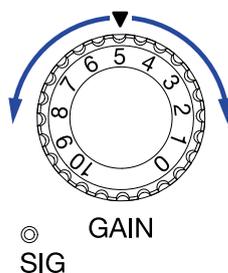
## 2. Connect the AMS-22 and smartphone/tablet. (→ [Connecting smartphones and tablets](#))



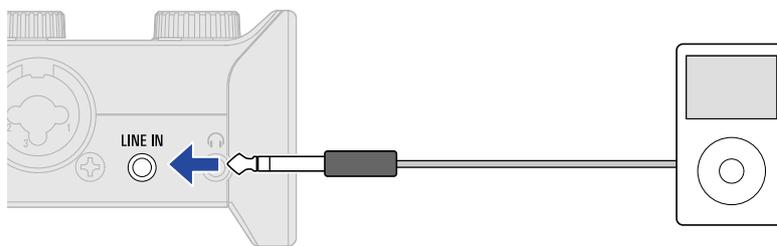
**3.** Connect an instrument or mic. (→ [Connecting instruments](#), [Connecting mics](#))



**4.** Adjust the input gain. (→ [Adjusting the input gain](#))



**5.** To use BGM from another device, connect it to the LINE IN.



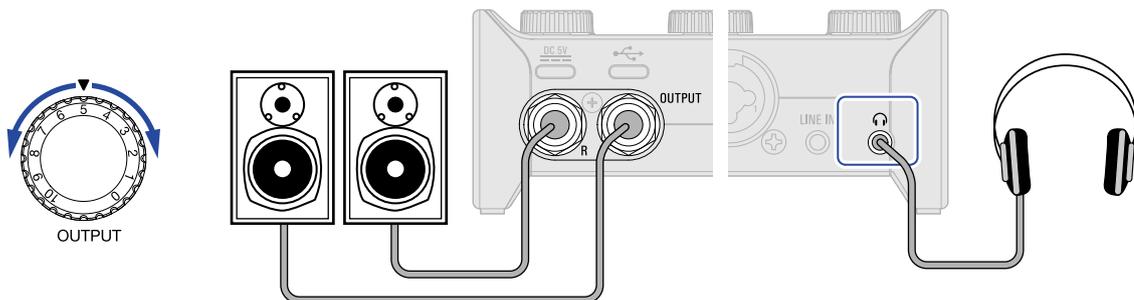
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**HINT:**

BGM can also be played back on the smartphone/tablet and looped back by USB.

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**6.** Adjust the output volume. (→ [Adjusting the volume](#))

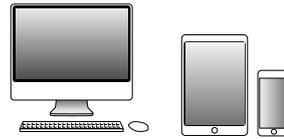
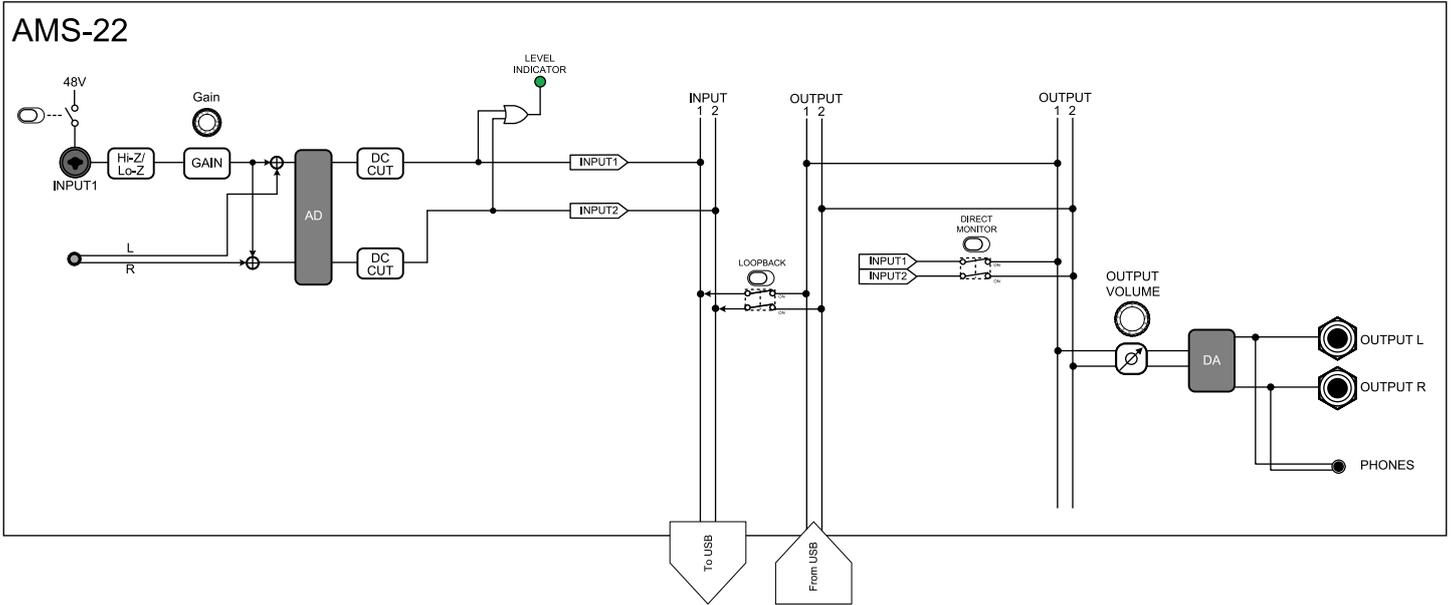


**7.** Launch the streaming app on the smartphone/tablet and start streaming.

**NOTE:**

Refer to the streaming app manual for how to use it.

# Mixer diagram



# Terms used in this manual

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## USB audio interface

This is a device that can input sound from mics and instruments, for example, to a computer, smartphone or tablet as well as output sound from such a device to speakers and headphones.

## Dynamic mic

These mics do not require phantom power and are tough and durable.

## Condenser mic

These mics usually have high sensitivity and can capture sound with high quality. These require phantom power supply for use.

## Phantom power (48 V)

This is a function that supplies power to devices that require an external power supply, including some condenser mics.

+48 V is standard.

# Troubleshooting

## Cannot select or use the AMS-22 device

- Confirm that the AMS-22 has been connected correctly on the computer. (→ [Connecting to a computer](#))
- Quit all software that is using the AMS-22. Then, disconnect and reconnect the USB cable connected to the AMS-22.
- Connect the AMS-22 directly to a USB port on the computer. Do not connect it using a USB hub.
- When connecting to a Windows computer, installing the dedicated driver can resolve problems with applications other than DAWs. (→ [Installing the driver on Windows computers](#))
- Reinstall the driver.

## The sound of the device connected to the input jack is distorted, too quiet or silent

- When using a condenser mic, set  to ON.  
OFF ON
- Confirm that the level indicator is not lighting red. If it is lighting red, use the  Gain knob to lower the input gain.
- Use the  Gain knob to adjust the signal level.
- Adjust the  OUTPUT knob.

## Cannot play or record

- Confirm that “ZOOM AMS-22” is selected in the “Sound” setting of the computer being used.
- Confirm that AMS-22 is set for input and output in the software being used.
- Quit all software that is using the AMS-22. Then, disconnect and reconnect the USB cable connected to the AMS-22.

## Playback sound cannot be heard or is quiet

- Check the connections and volume settings of the speakers.
- Adjust the  OUTPUT knob.

## Recorded audio is too loud, too quiet or silent

- Use the  Gain knob to adjust the signal level.

## A smartphone or tablet cannot be used

- Confirm that the external power supply is connected correctly. (→ [Supplying power](#))

## Sound skips during playback or recording

- If the audio buffer size of the software being used can be adjusted, increase it.
- Turn off the automatic sleep function and other computer power saving settings.
- If using a USB hub, stop using it. Connect the AMS-22 directly to a USB port on the computer.

# Specifications

Input and output channels	Number of input channels	Mono (MIC/GUITAR)	1
		Stereo (LINE IN)	1
	Number of output channels	Stereo (TRS)	1
		Stereo (PHONES)	1
Connectors	MIC/GUITAR	Type	XLR/TRS combo jack (XLR: 2 HOT, TRS: TIP HOT)
		Input gain	+8 - +54 dB (MIC) / +8 - +54 dB (GUITAR)
		Input impedance	XLR: 2 k $\Omega$ (MIC) TS: 1 M $\Omega$ (GUITAR)
		Maximum input level	XLR: +0.6 dBu (MIC) TS: +11 dBu (GUITAR)
		Phantom power	+48 V
	OUTPUT (standard phone jacks)	Type	TRS phone jacks (impedance balanced)
		Maximum output level	-2 dBu (at 0 dBFS)
		Output impedance	100 $\Omega$
	OUTPUT (headphone jack)	Type	3.5mm stereo mini jack 20 mW + 20 mW (32 $\Omega$ load)
		Output impedance	10 $\Omega$
	USB		USB Type-C (audio interface function) • Use a USB cable that supports data transfer. USB bus power is supported.
	DC 5V		USB Type-C (for power supply)
	LINE IN	Type	3.5mm stereo mini jack
Input impedance		20 k $\Omega$	
Maximum input level		+1.5 dBu	
Frequency response		44.1 kHz: +0/-2 dB (20 Hz - 20 kHz) 96 kHz: +0/-3 dB (20 Hz - 40 kHz)	
Equivalent input noise		-120 dBu or less (IHF-A) at +54dB/150 $\Omega$ input	
Audio interface	Input and output channels	Recording: 2 channels Playback: 2 channels	

	Sampling frequencies	96 kHz, 88.2 kHz, 48 kHz, 44.1 kHz
	Bit depth	24-bit
	Interface	USB 2.0
	Class	USB Audio Class 2.0
Power		AC adapter (ZOOM AD-17): DC 5 V/1 A • USB bus power is supported.
Rated current		USB bus power / DC 5 V power supply: 170 mA ---
Power consumption		1.8 W maximum
Dimensions		68.0 mm (W) × 57.7 mm (D) × 46.0 mm (H)
Weight (unit only)		85 g

Note: 0 dBu = 0.775 Vrms



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