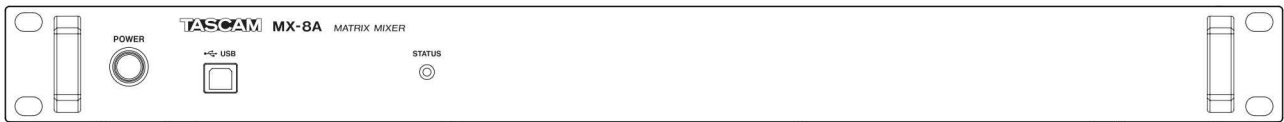


# TASCAM

D01348400A

# MX-8A

## MATRIX MIXER



OWNER'S MANUAL ENGLISH

MODE D'EMPLOI FRANÇAIS

MANUAL DEL USUARIO ESPAÑOL

BEDIENUNGSANLEITUNG DEUTSCH

MANUALE DI ISTRUZIONI ITALIANO

取扱説明書 日本語

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# OWNER'S MANUAL

## IMPORTANT SAFETY INSTRUCTIONS

  	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	The lightning flash with arrowhead symbol, within equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**IN USA/CANADA, USE ONLY ON 120 V SUPPLY.**

### For U.S.A.

#### Declaration of Conformity

Model Number: MX-8A

Trade Name: TASCAM

Responsible party: TEAC AMERICA, INC.

Address: 10410 Pioneer Blvd., Unit #1 and #4, Santa Fe Springs, CA 90640, U.S.A.

Telephone number: 1-323-726-0303

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### INFORMATION TO THE USER

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 instruction manual, 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 into 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.

#### CAUTION

Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

### For Canada

THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMERIQUE DE LA CLASSE B EST CONFORME A LA NORME NMB-003 DU CANADA.



This product complies with the European Directives request and the other Commission Regulations.

### CE Marking Information

EN55103-2

- Applicable electromagnetic environment: E1, E2, E3, E4

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.

- 12.** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13.** Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14.** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
  - The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
  - Caution should be taken when using earphones or headphones with the product because excessive sound pressure (volume) from earphones or headphones can cause hearing loss.
  - If you are experiencing problems with this product, contact TEAC for a service referral. Do not use the product until it has been repaired.

### CAUTION

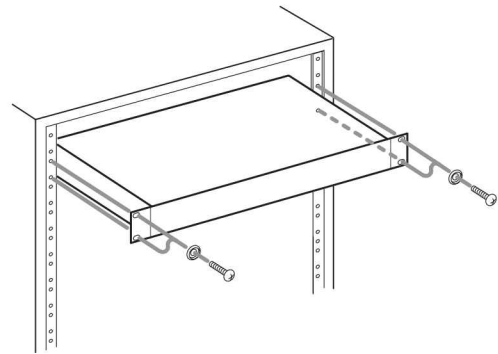
- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- If the product uses batteries (including a battery pack or installed batteries), they should not be exposed to sunshine, fire or excessive heat.
- CAUTION for products that use replaceable lithium batteries: there is danger of explosion if a battery is replaced with an incorrect type of battery. Replace only with the same or equivalent type.

### WARNING

- Products with Class I construction are equipped with a power supply cord that has a grounding plug. The cord of such a product must be plugged into an AC outlet that has a protective grounding connection.

### RACK-MOUNTING THE UNIT

Use the supplied rack-mounting kit to mount the unit in a standard 19-inch rack, as shown below. Remove the feet of the unit before mounting.




### ATTENTION

- Leave 1U of space above the unit for ventilation.
- Allow at least 10 cm (4 in) at the rear of the unit for ventilation.

### For European Customers

#### Disposal of electrical and electronic equipment and batteries and/or accumulators

- All electrical/electronic equipment and waste batteries/accumulators should be disposed of separately from the municipal waste stream via collection facilities designated by the government or local authorities.
- By disposing of electrical/electronic equipment and waste batteries/accumulators correctly, you will help save valuable resources and prevent any potential negative effects on human health and the environment.
- Improper disposal of waste electrical/electronic equipment and batteries/accumulators can have serious effects on the environment and human health because of the presence of hazardous substances in the equipment. 
- The Waste Electrical and Electronic Equipment (WEEE) symbols, which show wheeled bins that have been crossed out, indicate that electrical/electronic equipment and batteries/accumulators must be collected and disposed of separately from household waste.
- Return and collection systems are available to end users. For more detailed information about the disposal of old electrical/electronic equipment and waste batteries/accumulators, please contact your city office, waste disposal service or the shop where you purchased the equipment.

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## Introduction

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Thank you very much for purchasing the TASCAM MATRIX MIXER MX-8A.

Before using this unit, read this Owner's Manual carefully so that you will be able to use it correctly and enjoy working with it for many years. After you have finished reading this manual, please keep it in a safe place for future reference.

You can also download this Owner's Manual from the TEAC Global Site (<http://teac-global.com/>).

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## Features

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- Matrix mixer with eight mic/line input channels and eight line output channels
- Euroblock terminals, which are optimal for permanent installations, used for input/output connectors
- Extensive onboard DSP for audio processing according to application and conditions
- Remote control via Ethernet possible
- USB audio interface supports easy recording and background music playback with a computer
- Support for serial control systems possible with built-in RS-232C connector
- RS-485 connector enables connection of a dedicated external controller
- Compact 1U rackmount size

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## Included items

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This product includes the following items.

Take care when opening the package to avoid damaging the items. Keep the box and packing materials for transportation in the future.

Please contact the store where you purchased this unit if any of these items are missing or have been damaged during transportation.

- Main unit ..... × 1
- Power cord ..... × 1
- Euroblock plug ..... × 16
- Cable band kit ..... × 1
- Rackmount screw kit ..... × 1
- Owner's Manual (this document) including warranty ..... × 1

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## Conventions used in this manual

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In this manual, we use the following conventions:

- When we refer to buttons, connectors and other parts of this unit and other equipment, we use a bold font like this: **POWER** switch.
- As necessary, additional information is provided under TIP, NOTE and CAUTION headings.

### TIP

These are tips about how to use the unit.

### NOTE

These provide additional explanations and describe special cases.

### ATTENTION

Failure to follow these instructions could result in damage to equipment or lost data, for example.

### CAUTION

Failure to follow these instructions could result in injury.

---

## Precautions for placement and use

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- The operating temperature range of this unit is 0–40 °C.
- Do not install this unit in the following types of locations. Doing so could make the sound quality worse or cause malfunction.
  - Places with significant vibrations
  - Next to a window or in another location exposed to direct sunlight
  - Near heaters or other extremely hot places
  - Extremely cold places
  - Very humid or poorly ventilated places
  - Very dusty places
- To enable good heat dissipation, do not place anything on top of the unit.
- Do not place this unit on top of a power amplifier or other device that generates heat.

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## Notes about power supplies

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- Insert the included power cord all the way into the AC IN connector.
- Do not connect a power supply other than one that is AC100V - 240V (50/60Hz).
- Hold the power cord by its plug when connecting or disconnecting it.

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## Beware of condensation

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Condensation could occur if the unit is moved from a cold place to a warm place, it is used immediately after a cold room has been heated or it is otherwise exposed to a sudden temperature change.

To prevent this, or if this occurs, let the unit sit for one or two hours at the new room temperature before using it.

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## Cleaning the unit

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Use a dry soft cloth to wipe the unit clean. Do not wipe with chemical cleaning cloths, thinner, alcohol or other chemical agents. Doing so could damage the surface or cause discoloration.

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## Using the TEAC Global Site

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You can download updates for this unit from the TEAC Global Site:

<http://teac-global.com/>

In the TASCAM Downloads section, select the desired language to open the Downloads website page for that language.

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## Product registration

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Customers in the USA, please visit the following TASCAM website to register your TASCAM product online.

<https://tascam.com/us/>

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## About TASCAM customer support service

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TASCAM products are supported and warrantied only in their country/region of purchase.

To receive support after purchase, on the TASCAM Distributors list page of the TEAC Global Site (<http://teac-global.com/>), search for the local company or representative for the region where you purchased the product and contact that organization.

When making inquiries, the address (URL) of the shop or web shop where it was purchased and the purchase date are required. Moreover, the warranty card and proof of purchase might also be necessary.

# Names of parts

## Front panel



### ① POWER switch and indicators

Press to turn the unit on and off.

### ② USB port

This is a B-type USB port.

Use a USB cable (Type-A to Type-B) to connect the unit to a computer or iOS/Android device. (See "USB audio interface functions" on page 10.)

This unit can be used as a 2-channel audio interface with 44.1/48kHz and 16/24-bit resolution.

### ATTENTION

The unit should be connected directly with the computer instead of via a USB hub.

### NOTE

You will need a Lightning to USB Camera Adapter and the USB cable included with this unit to connect an iOS device.

### ③ STATUS indicator

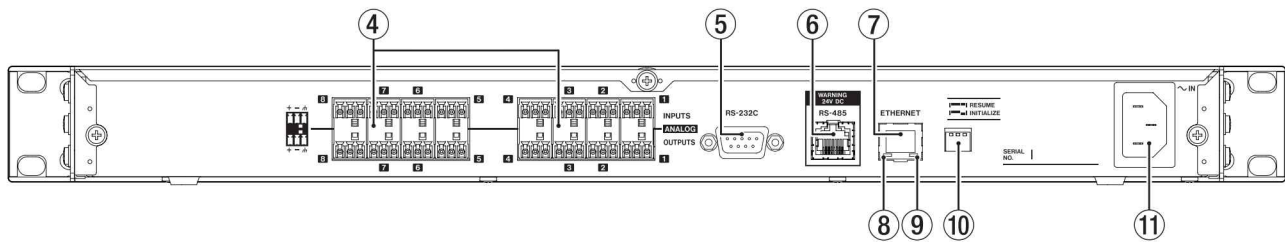
The blue **STATUS** indicator shows the status of the unit by lighting, blinking and turning off.

See "Explanation of STATUS indicator status (lit/blinking/unlit)" on page 7.

## Explanation of STATUS indicator status (lit/blinking/unlit)

	STATUS indicator	Note
Starting up	Blinking mode 1	Slow blinking (at 0.5-second intervals)
Ordinary operation	Lit	
Error	Blinking mode 3	Fast blinking (at 0.1-second intervals)
Responding to application	Blinking mode 1	Slow blinking (at 0.5-second intervals)
Initializing	Blinking mode 2	Repeatedly blinks three times quickly, followed by one time slowly (3 times at 0.1-second intervals and 1 time at a 0.5-second interval)
Initializing complete	Lit	
Initializing error	Blinking mode 3	Fast blinking (at 0.1-second intervals)
Updating unit firmware	Blinking mode 2	Repeatedly blinks three times quickly, followed by one time slowly (3 times at 0.1-second intervals and 1 time at a 0.5-second interval)
Updating unit firmware complete	Lit	

## Rear panel



### ④ ANALOG input/output connectors

These are balanced Euroblock analog input/output connectors. (HOT, COLD, GND from the left)

### ⑤ RS-232C connector

This is a 9-pin D-sub RS-232C control input/output connector.

Pin No.	Signal
1	
2	RD
3	TD
4	
5	GND
6	
7	
8	
9	

### NOTE

You can download the TASCAM Mixer protocol for MX-8A from the TEAC Global Site (<http://teac-global.com/>).

### ⑥ RS-485 connector

Use this to connect an external controller.

Use a cable that is category 5e or higher for connection.

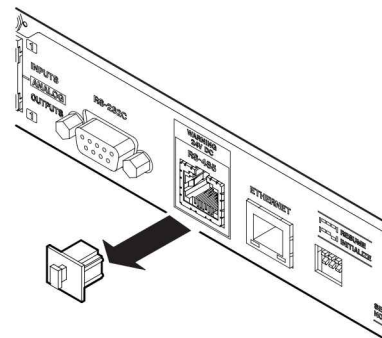
Pin No.	Signal
1	B
2	A
3	
4	DC24V
5	GND
6	
7	
8	GND
9	

### ATTENTION

- The RS-485 connector is not an Ethernet (LAN) connector. Never connect a cable that is connected to a network to this unit. Connecting such a cable mistakenly could cause this unit or another device connected to the cable to malfunction.
- Always turn the unit power off before connecting or disconnecting a cable. Connecting and disconnecting while the power is on could cause malfunction.

### NOTE

A cover is attached to the RS-485 connector to prevent accidental insertion of an Ethernet LAN cable. Remove this cover before use.



### ⑦ Ethernet connector

This is an Ethernet port. Use this to connect to a network and control the unit externally.

### NOTE

You can download the TASCAM Mixer protocol for MX-8A from the TEAC Global Site (<http://teac-global.com/>).

### ⑧ Link status/activity indicator

Green indicates that a link is established between the devices. Blinking indicates that signals are being transmitted between the devices.

### ⑨ 100Mbps link status indicator

Orange indicates that a 100Mbps Ethernet link has been established.

### ⑩ Operation mode switches

Use these switches to change the operation mode of the unit. See "Using the operation mode switches" on page 11.

### ⑪ AC IN connector

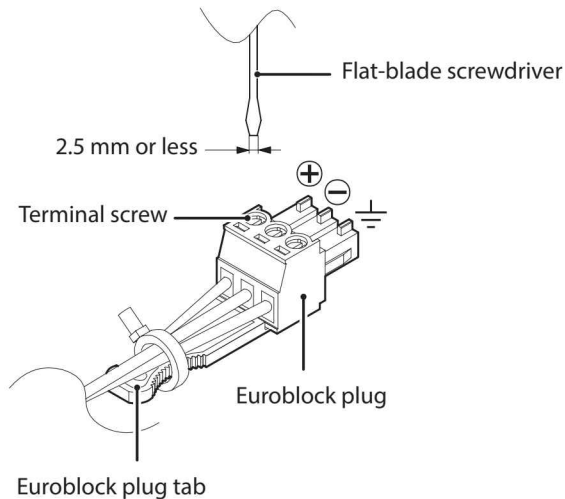
Plug the included power cord in here.



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## Connecting Euroblock plugs

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1. Loosen the Euroblock plug terminal screws.

### NOTE

Use a flat-blade screwdriver with a width of 2.5mm or less.

2. Insert wires.

### NOTE

AWG16–AWG28 wires are compatible with the included Euroblock plugs. Using wires within the compatible range, trim about 7 mm of the protective sheaths from their ends.

3. Tighten the Euroblock plug terminal screws.

### NOTE

Confirm that the wires cannot be pulled out.

4. Use an included wire band to attach the wires to the Euroblock plug tab.

---

## DSP overview

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### Input channels

#### Input polarity setting

Set according to the polarity of the input channel signal.

#### Compressor

When the input volume exceeds the THRESHOLD level, the input volume is compressed, reducing output volume variation.

#### Input equalizer

This unit has 4-band equalizers for the input channels.

Use the equalizer to increase or decrease the levels of specific frequency ranges. This can be used, for example, to enhance the sound of individual instruments, to adjust the balance of a wide frequency range and to cut specific unwanted frequencies.

#### Automatic level control function

When the input sound level is too low or too high, the input level will be increased or decreased automatically to an appropriate level.

#### Input channel fader

Adjust the level sent to the matrix and USB buses.

#### Input mute

Mute the input channel signal.

---

### Mixer

#### Matrix mixer

This unit has simple matrix mixer functions.

#### Ducking function

When a mic signal is input, the ducking function can automatically lower the volume of background music or other sound input through the line input channels.

#### Ambient noise compensator (ANC) function

The ANC function can measure ambient noise and automatically adjust the volume to make the main sound source easier to hear.

#### Routing setting

Audio can be routed to multiple output channels through the matrix mixer, the ducking function and the ANC function.

---

### Output channels

#### Output equalizer

This unit has 10-band equalizers for the output channels.

Use the equalizer to increase or decrease the levels of specific frequency ranges. This can be used, for example, to enhance the sound of individual instruments, to adjust the balance of a wide frequency range and to cut specific unwanted frequencies.

#### Delay function

Use to adjust the delay of output channel signals.

#### Output channel fader

Use to adjust the level sent to the output jack.

#### Output mute

Mute the output channel signal.

#### Output limiter function

This prevents distortion caused by sudden excessive output signal levels.

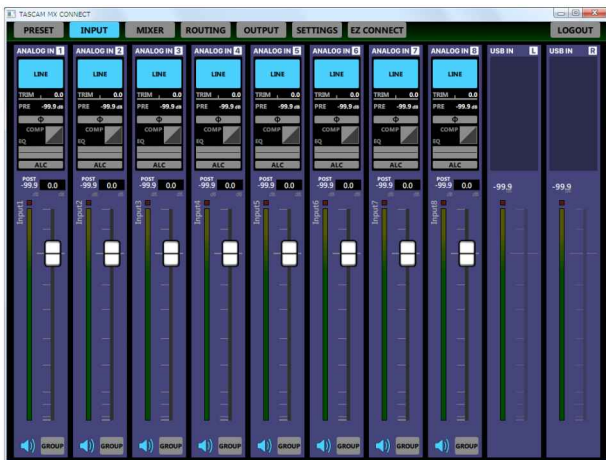
#### Output polarity setting

Set according to the polarity of the output channel signal.

## Application overview

Using the TASCAM MX CONNECT remote control application, you can operate the unit from a distance.

For details about the application, please see its Owner's Manual. You can download the application Owner's Manual from the TEAC Global Site (<http://teac-global.com/>).



INPUT screen

## Connecting with Ethernet

Connect a LAN cable to the **ETHERNET** connector on this unit.

### Requirements for LAN cables used for connections with the connectors on this unit

Use STP cables that are at least category 5e. Both crossover and straight cables can be used.

## USB audio interface functions

To use this unit as a USB audio interface with a Windows computer, dedicated software must be installed on the computer. Download the latest software from the TEAC Global Site (<http://teac-global.com/>).

Installing the dedicated software will install a driver.

### ATTENTION

- Before starting to install software, quit other applications.
- With a Mac, iOS or Android, the standard OS driver will be used, so there is no need to install any software.

## Installing the Windows dedicated software

Follow the procedures below to install the Windows dedicated software.

### ATTENTION

- Complete installation of the Windows dedicated software on the computer before connecting the unit to it with the USB cable.
- If you connected the unit to the computer using the USB cable before installing the Windows dedicated software and the "Found New Hardware Wizard" launched, close the Wizard and disconnect the USB cable.

## Windows dedicated software installation procedures

1. Download the latest Windows dedicated software from the TEAC Global Site (<http://teac-global.com/>) and save it on the computer to be used with the unit.
2. Uncompress the saved software (zip file) on the computer desktop or another location.
3. Double-click the "TASCAM\_MX-8A\_Installer\_x.xx.exe" file in the folder that appears after uncompression to launch the installation software.

### ATTENTION

If you open a zip file without decompressing it and double-click the "TASCAM\_MX-8A\_Installer\_x.xx.exe" file in the folder that opens, installation will not start. Right-click the zip file and select "Extract All", for example, to decompress it and then try again.

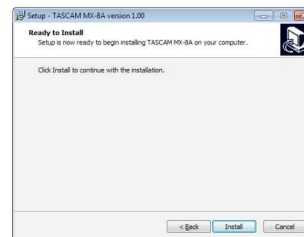
4. When a Security Warning or User Account Control screen appears, click the Yes button.



5. Read the contents of the User License Agreement, and select "I accept the agreement" if you agree to the terms. Then, click the **Next >** button.



6. Next, click the **Install** button.

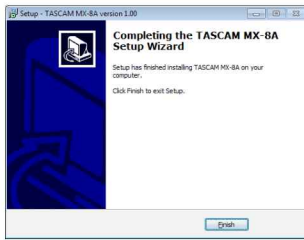


7. Next, click the **Install** button to start installation. (Windows 7 only)



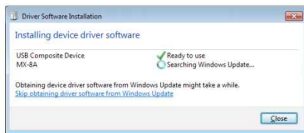
- The following screen appears when installation has completed. The following screen appears when installation has completed.

Click the *Finish* button.



### NOTE

The first time you connect the unit by USB to the computer after installing the software, installation of the device driver will be executed. Some time might be necessary before the unit is recognized because Windows Update will be automatically searched at this time. If the unit is still not recognized after a while, open the software installation screen from the notification area at the bottom right of the computer display, and click “*Skip obtaining driver software from Windows Update*” to stop the search.



## Uninstalling the Windows dedicated software


Uninstalling from the Programs and Features Control Panel

### NOTE

Normally, there is no need to uninstall the dedicated software. Follow these procedures if a problem occurs or you no longer intend to use the unit with the computer.



- From the *Start* menu, open the *Control Panel* and launch *Programs and Features*.

### NOTE

- In Windows 10, right-click the Start button and click Control Panel when it appears.
  - In Windows 8.1, click the button  that appears at the bottom left of the Start screen to open the Apps screen, and click *Control Panel*.
- If *View by:* is set to *Category*, click Uninstall a *program* under the *Program* item.  
If *View by:* is set to *Large icons* or *Small icons*, click *Programs and Features*.
  - Select “*TASCAM MX-8A version x.xx*” from the list, and double click it.
  - Then, follow the instructions that appear on the screen.

## Using the operation mode switches

Use these switches to change the operation mode of the unit. Set these switches when the power is off to set the operation mode of the unit when it is turned on again with the **POWER** switch.

	Operation mode switches
Ordinary mode	 RESUME
Factory settings mode	 INITIALIZE

### ATTENTION

- Set this to RESUME unless otherwise necessary. Do not set the switches to any setting other than those shown in this table. Doing so could cause this unit or a connected device to malfunction.
- Do not change the settings of the operation mode switches when the unit power is on.

## Factory settings mode

When various settings have been changed using the dedicated application, use this mode to restore them to their factory default values.

- Turn the unit off.
- Set the operation mode switches.

	Operation mode switches
Factory settings mode	 INITIALIZE

- Turn the unit on.  
The **STATUS** indicator blinks while the settings are being reset to their defaults.  
See “Explanation of STATUS indicator status (lit/blinking/unlit)” on page 7.
- The **STATUS** indicator will stop blinking and stay lit when resetting completes.
- Turn the unit off.

### ATTENTION

Do not turn the power off while the settings are being reset.

This completes restoring default settings.

Set the operation mode switches back to ordinary mode (**RESUME**) before using the unit.

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## Specifications

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### General

#### FORMAT

44.1 k/48 kHz, 16 bit/24 bit

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### Input/output ratings

#### USB port

Connector: 4-pin USB B-type

Transfer rate: USB 2.0 High Speed (480 Mbps)

#### ANALOG IN connectors

Connector: Euroblock (balanced) 3.81 mm pitch

Minimum input level: -77.5 dBu

Maximum input level: +26 dBu (MIC)

Maximum input level: +24 dBu (LINE)

Input impedance: 2.2 k $\Omega$  or higher

#### ANALOG OUT connectors

Connector: Euroblock (balanced) 3.81 mm pitch

Nominal output level:

+4 dBu (when Ref.Level set to other than -9 dBFS)

+6 dBu (when Ref.Level set to -9 dBFS)

Maximum output level (switchable):

+15 dBu (Ref.Level: -9 dBFS)

+18 dBu (Ref.Level: -14 dBFS)

+20 dBu (Ref.Level: -16 dBFS)

+22 dBu (Ref.Level: -18 dBFS)

+24 dBu (Ref.Level: -20 dBFS)

Output impedance: 200  $\Omega$  or lower

#### RS-232C connector

D-sub 9-pin (female, inch-standard)

#### RS-485 connector

Connector: RJ-45

Cables: category 5e or faster STP cables

#### Ethernet connector

Connector: RJ-45

Transmission protocol: TCP/IP

Ethernet standard: 100BASE-TX

Cables: category 5e or faster STP cables

- 0 dBu=0.775 Vrms

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## Audio performance

### Mic amp EIN (equivalent input noise)

-126 dBu or less (MIC IN  $\rightarrow$  LINE OUT, Input impedance: 150  $\Omega$ , 22 kHz LPF, A-weighted, JEITA)

### Frequency response

$\pm 0.5$  dB: 20 Hz – 20 kHz

(+24 dBu input, MIC IN  $\rightarrow$  LINE OUT, GAIN MIN, JEITA)

### Distortion (THD+N)

0.005 % or less

(+24 dBu input, 1 kHz, MIC IN  $\rightarrow$  LINE OUT, GAIN MIN, JEITA)

### S/N ratio

106 dB or higher

(+24 dBu input, 44.1 k/48 kHz sampling frequency, MIC IN  $\rightarrow$  LINE OUT, GAIN MIN, JEITA)

### Crosstalk

106 dB or higher

(+24 dBu input, 1 kHz, MIC IN  $\rightarrow$  LINE OUT, GAIN MIN, JEITA)

### Dynamic range

106 dB or higher

(MIC IN  $\rightarrow$  LINE OUT, GAIN MIN, JEITA)

Note: JEITA indicates compliance with JEITA CP-2150

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## Other

### Power

AC100-240 V, 50/60 Hz

### Power consumption

21 W

### Dimensions

483  $\times$  45  $\times$  304.1 mm (W  $\times$  H  $\times$  D, including protrusions)

### Weight

3.0 kg

### Operating temperature range

0°C–40°C

- See the back of this manual for dimensional drawings and level and block diagrams.
- Illustrations in this manual might differ in part from the actual product.
- Specifications and external appearance might be changed without notification to improve the product.