

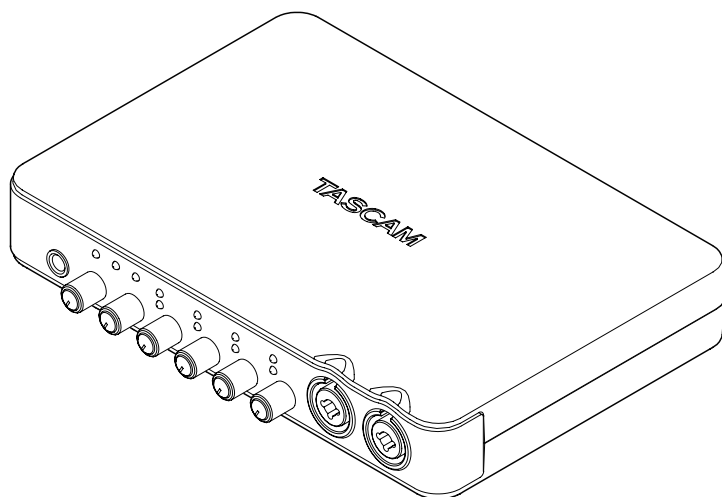
TASCAM

D01140120B

US-600

USB 2.0 Audio/MIDI Interface

OWNER'S MANUAL



Before connecting this unit to a computer, you must install the dedicated driver from the included CD-ROM onto the computer.

IMPORTANT SAFETY PRECAUTIONS



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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.

Declaration of Conformity

Model Number: US-600
Trade Name: TASCAM
Responsible party: TEAC AMERICA, INC.
Address: 7733 Telegraph Road, Montebello, California, 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.

FOR U.S.A.

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 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 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.

This appliance has a serial number located on the bottom panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

IMPORTANT SAFETY INFORMATION

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 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.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 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.
 - 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 draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
 - The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
 - 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.



- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.

Safety Information

■ For European Customers

Disposal of electrical and electronic equipment

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



■ For China

产品有毒有害物质或元素的名称及含量

机种：US-600		有毒有害物质或元素					
	品名	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
1	CHASSIS部份	○	○	○	○	○	○
2	PCB Assy部份	×	○	○	○	○	○
3	线材部份	○	○	○	○	○	○
4	附属品部份	×	○	○	○	○	○
5	SEAL部份	○	○	○	○	○	○
6	包装部份	○	○	○	○	○	○

○：表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

(针对现在代替技术困难的电子部品及合金中的铅)

Table of Contents

IMPORTANT SAFETY PRECAUTIONS ..2	
IMPORTANT SAFETY INFORMATION ..3	
Safety Information4	
Table of Contents.....5	
1 – Introduction6	
Main features.....6	
Product parts.....7	
Manual conventions.....7	
Trademarks.....7	
Cautions on installation8	
Beware of condensation8	
Cleaning the unit8	
2 – Names and Functions of Parts9	
Front panel.....9	
Rear panel.....11	
3 – Installation13	
System requirements13	
Windows.....13	
Mac OS X13	
Installing the driver and control panel	
Installing the driver and control	
panel for Windows.....14	
Installing the driver for Mac OS X..16	
Uninstalling the driver.....17	
Frequently asked installation	
questions and answers (FAQ).....17	
Improving computer performance18	
Cubase LE 5 installation18	
4 – US-600 control panel settings.....19	
Overview.....19	
Control panel menus and settings19	
Audio Performance19	
Sample Clock Source20	
Digital Output Format.....20	
“ch1 and ch2”, “ch3 and ch4” and	
“ch5 and ch6”20	
LINE OUTPUTS and DIGITAL	
OUTPUT20	
5 – Connections.....21	
USB connections.....22	
Audio connections22	
Microphones22	
Guitars.....22	
Sound module/MD/CD etc. (digital	
connection)23	
Connecting keyboards, drum	
machines, sound modules,	
cassette/MD/CD players and other	
analog line level devices23	
Analog record player23	
Monitor speakers23	
Headphones23	
Connecting MIDI devices23	
6 – Application Guide25	
Cubase LE 5.....25	
Windows XP and Windows Media	
Player.....25	
Windows Vista or Windows 7 and	
Windows Media Player.....25	
Mac OS X and iTunes26	
7 – MIDI implementation chart.....27	
8 – Troubleshooting.....28	
9 – Specifications31	
AD/DA audio converter31	
Analog audio inputs31	
Analog audio outputs31	
Digital audio inputs31	
Digital audio outputs31	
Control I/O.....32	
Audio performance.....32	
Computer requirements32	
Windows.....32	
Macintosh32	
General33	
Dimensional drawing.....34	

1 – Introduction

Thank you for your purchase of the TASCAM US-600 USB 2.0 Audio/MIDI Interface.

Before connecting and using the unit, please take time to read this manual thoroughly to ensure you understand how to properly set up and connect the unit, as well as the operation of its many useful and convenient functions. After you have finished reading this manual, please keep it in a safe place for future reference.

You can also download the Owner's Manual from the TASCAM web site (<http://tascam.com/>).

Please also check the above site for the latest manual updates.

If any data is lost from another MIDI device, hard disk, MO disc or other media in the same system where this unit is used, TASCAM will bear no responsibility for its recovery, nor will it provide any compensation for such loss.

Main features

- USB 2.0 audio/MIDI interface
- 24-bit/96 kHz audio interface.
- Coaxial Digital inputs and outputs (can be set to either S/PDIF or AES/EBU)
- Signals can be input from 4 analog and 2 digital channels at the same time
- Four XLR mic inputs (balanced) with high performance microphone preamps
- Four standard input jacks (combo jacks with XLR). Channel 1 allows unbalanced input of high impedance electric guitars and basses that are directly connected; channels 2-4 are balanced inputs
- 1 unbalanced stereo line outputs (RCA jacks) and a headphone output.
- Output level from the unbalanced stereo line output and headphones jacks can be adjusted using a volume knob (same knob controls both simultaneously)
- MIDI IN/OUT.
- Direct Monitor function allows zero-latency monitoring of the input.
- Inputs 1 and 2, and 3 and 4 can be set to be monitored as either a stereo pair or as two mono channels
- Input and overload LED indicators included for each input channel
- MON MIX knob allows the balance between the input signals and the output from the computer to be adjusted for monitoring
- Powered by the included TASCAM PS-P520 AC adaptor
- Dedicated drivers for both Windows (Windows XP, Windows Vista, Windows 7) and Mac (OS 10.5, OS 10.6)
- USB 2.0 High Speed (480 MHz) compatible (does not function with USB 1.1)
- Can supply 48 V phantom power to 4 mic inputs
- Cubase LE 5 software included

A note about computer operation

If you are unsure about how to perform basic computer operations appearing in this manual, please refer to the owner's manual that came with your computer.

To use this unit, you must use the included CD-ROM to install the dedicated driver on your computer. For details about installation, see "Installing the driver and control panel" on page 13 in "3 – Installation".

Product parts

The US-600 package contains the following items.

Take care when opening the package not to damage the items. Keep the package 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
- AC adaptor (TASCAM PS-P520)..... 1
- Power cord for AC adaptor..... 1
- USB Cable 1
- CD-ROM (containing drivers) 1
- DVD-ROM (Cubase LE5)..... 1
- Cubase LE5 Quick Start Guide..... 1
- Warranty card..... 1
- Owner's Manual (this document) 1

CAUTION

Always use the included TASCAM PS-P520 AC adaptor and AC adaptor power cord, which are for use with this unit. Do not use the included AC adaptor or power cord with other equipment. Doing so could cause malfunction, fire or electric shock.

Manual conventions

- Buttons, jacks and other parts on the unit and external devices are indicated like this:
LEVEL.
- When we show messages, for example, that appear on the screen, we show them like this: OK.
- Additional information is introduced in the styles below when needed:

TIP

These are tips about how to use the unit.

NOTE

These provide additional explanations and describe special cases.

CAUTION

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

Trademarks

- TASCAM is a trademark of TEAC Corporation, registered in the U.S. and other countries.
- Microsoft, Windows, Windows Vista, Windows 7, and Windows Media Player are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Apple, Macintosh, Mac, Mac OS X and iTunes are trademarks of Apple Inc.
- Pentium and Intel are trademarks of Intel Corporation in the U.S. and/or other countries.
- AMD Athlon is a trademark of Advanced Micro Devices, Inc.
- Cubase is a registered trademark of Steinberg Media Technologies GmbH. ASIO is a trademark of Steinberg Media Technologies GmbH.
- Other company names, product names and logos in this document are the trademarks or registered trademarks of their respective owners.

1 – Introduction

Cautions on installation

- The unit's nominal operating temperature is between 5° and 35° C (41° – 95° F).
- Do not install in the following types of places. Doing so could degrade the sound quality and/or cause malfunctions.
 - Places with significant vibrations or that are otherwise unstable
 - Near windows or other places exposed to direct sunlight
 - Near heaters or other extremely hot places
 - Extremely cold places
 - Places with bad ventilation or high humidity
 - Very dusty locations
- Make sure that the unit is mounted in a level position for correct operation.
- Do not place any object on the unit for heat dissipation.
- Avoid installing this unit on top of any heat-generating electrical device such as a power amplifier.

Beware of condensation

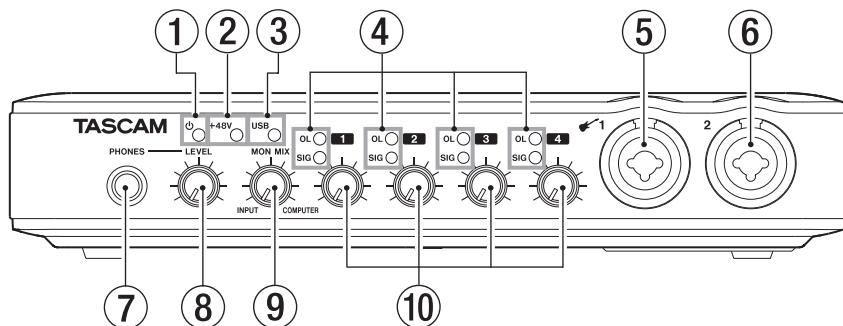
If the unit is moved from a cold to a warm place, or used after a sudden temperature change, there is a danger of condensation; vapor in the air could condense on the internal mechanism, making correct operation impossible. To prevent this, or if this occurs, let the unit sit for one or two hours at the new room temperature before using.

Cleaning the unit

To clean the unit, wipe gently with a soft dry cloth. Do not use any benzene, paint thinner, ethyl alcohol or other chemical agents to clean the unit as they could damage the surface.

2 – Names and Functions of Parts

Front panel



① **⏻ (STANDBY/ON) indicator**

This lights when the power is on.

This unit does not have an on/off switch. Just disconnect the AC adaptor if you want to turn the power off.

② **+48V indicator**

This lights when the **PHANTOM (+48V)** switch is set to ON.

CAUTION

Do not connect or disconnect microphones when this indicator is lit.

③ **USB indicator**

This lights when the USB connection is active.

④ **OL and SIG indicators**

OL (overload) indicators

These light just before the input signal distorts (when it exceeds -2 dBFS).

SIG (signal) indicators

These light when a signal (of -30 dBFS or more) is input through the corresponding channel.

⑤ **MIC/INST IN 1 (balanced/unbalanced) connector**

Use this connector for balanced analog XLR microphone input or as a standard TS input jack. You can connect guitars, basses and other instruments to the TS jack.

- XLR (1: GND, 2: HOT, 3: COLD)
- TS (Tip: HOT, Sleeve: GND)

⑥ **MIC/LINE IN 2 (balanced) connector**
Use this connector for balanced analog XLR microphone input or as a standard TRS balanced analog input jack.

- XLR (1: GND, 2: HOT, 3: COLD)
- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

⑦ **PHONES jack**

Use this standard stereo phones jack to connect stereo headphones. Use a plug adapter when connecting headphones with mini-plugs.

CAUTION

Turn the **LEVEL** knob to the minimum volume before connecting headphones. Failure to do so could cause sudden loud noises and damage hearing, for example.

NOTE

The **LEVEL** knob also adjusts the line output level.

2 – Names and Functions of Parts

⑧ **LEVEL knob**

Use to adjust the input levels of **LINE OUT 1/2** and **PHONES** jacks.

CAUTION

Turn the **LEVEL** knob to the minimum volume before connecting headphones. Failure to do so could cause sudden loud noises and damage hearing, for example.

⑨ **MON MIX knob**

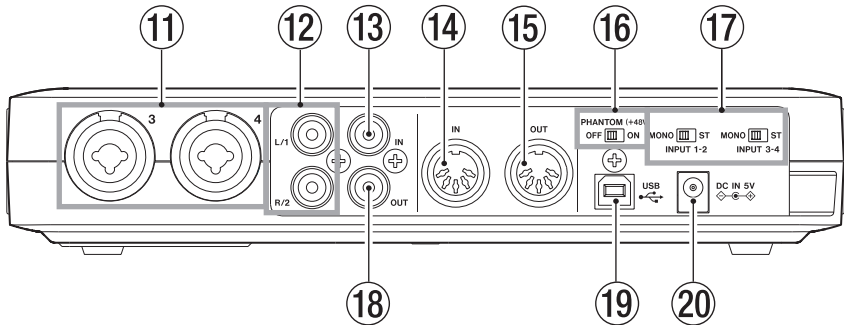
Use this knob to adjust the mix of signals output through the **LINE OUT 1/2** jacks and the **PHONES** jack. Use this knob to adjust the balance between the signals input through the unit's connectors (**MIC IN** and **LINE IN**) and the signal output from the computer by USB. Turn it all the way to the left (**INPUT**) to output and monitor only the signals input through the unit, and turn it all the way to the right (**COMPUTER**) to output and monitor only the signals sent from the computer by USB.

⑩ **Gain knob**

Use these to individually adjust the input levels of **MIC/INST IN 1**, **MIC/LINE IN 2** and **MIC/LINE IN 3/4** connectors. Turn them all the way to the left to minimize the level and all the way to the right to maximize it.

2 – Names and Functions of Parts

Rear panel



11 MIC/LINE IN 3/4 (balanced) connectors

Use these connectors as balanced analog XLR microphone inputs or as standard TRS balanced analog input jacks.

- XLR (1: GND, 2: HOT, 3: COLD)
- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

12 LINE OUT 1/2 (unbalanced) jacks

These RCA pin jacks are unbalanced analog line outputs.

These jacks can output signals sent from the computer via USB, signals from the built-in monitoring mixer or a combination of both. Use the US-600 software control panel on the computer to set which signals are output. Connect these jacks to recorders, speakers with built-in amplification and external effect devices, for example.

NOTE

- The **LINE OUT 1/2** jacks can output the analog signals input through the unit.
- The **LEVEL** knob, which also controls the headphone output, can be used to adjust the output level of the **LINE OUT 1/2** jacks.

13 DIGITAL IN (coaxial) jack

This coaxial digital input is compliant with IEC 60958-3 (S/PDIF) standards.

NOTE

When using this unit's digital input, the connected device must become the clock master. For details, see "Sound module/MD/CD etc. (digital connection)" on page 23.

14 MIDI IN connector

This 5-PIN DIN is a standard MIDI input connector for inputting MIDI signals.

15 MIDI OUT connector

This 5-PIN DIN is a standard MIDI output connector for outputting MIDI signals.

16 PHANTOM (+48V) switch

Use this to turn +48V phantom power on for mic input connectors 1-4.

CAUTION

- Always set the **PHANTOM (+48V)** switch to **OFF** before turning the unit's power on or off (connecting or disconnecting the AC adaptor).
- Always turn the **LEVEL** knob to the minimum volume before changing the switch between **ON** and **OFF**. Depending on the connected microphone, loud noises might be produced and damage could be caused to equipment and people's hearing.

2 – Names and Functions of Parts

- Do not connect or disconnect a mic with an input when this switch is **ON**.
- Turn this switch **ON** only when connecting a condenser microphone that requires phantom power.
- Do not supply phantom power to an unbalanced dynamic microphone.
- Some ribbon mics can be damaged by phantom power. If unsure, do not supply phantom power to a ribbon mic.
- Do not use phantom power when line level equipment is connected to an XLR connector.

⑰ **ST/MONO INPUT 1-2 switch**

ST/MONO INPUT 3-4 switch

When monitoring two inputs (**MIC/INST IN 1** and **MIC/LINE IN 2** or **MIC/LINE IN 3** and **MIC/ LINE IN 4**), use these switches to set it to mono or stereo.

When a switch is set to **MONO**, the two inputs in its pair are mixed, and the mix is sent to both **LINE OUT 1** and **2** jacks.

When a switch is set to **ST**, the signal input from the **MIC/INST IN 1** (or **MIC/ LINE IN 3**) connector is output through the **LINE OUT 1** jack, and the signal input from the **MIC/LINE IN 2** (or **MIC/ LINE IN 4**) connector is output through the **LINE OUT 2** jack.

When only using the **MIC/INST IN 1** (or **MIC/LINE IN 3**) connector input, set this switch to **MONO** to monitor the signal through both the **LINE OUT 1** and **LINE OUT 2** jacks.

⑱ **DIGITAL OUT (coaxial) jack**

This coaxial digital output jack is compliant with both consumer IEC 60958 (S/PDIF) and professional IEC 60958 (AES/EBU) standards.

This outputs the signal input into the unit by USB from the computer.

Use the US-600 software control panel on the computer to set which signals are output.

Connect this jack to a recorder or external effect device, for example.

⑲ **USB port**

Use the included USB cable to connect to a computer with a USB 2.0 compatible port.

NOTE

- This is not compatible with USB 1.1 (12 MHz) and cannot be used to connect by USB 1.1.
- This is not compatible with computer Suspend (Sleep) mode. For this reason, the unit might not operate properly after a connected computer is brought out of Suspend (Sleep). In this case, disconnect the USB cable once and then reconnect it.

⑳ **DC IN 5V jack**

Connect the included TASCAM PS-P520 AC adaptor, which meets the specifications of this unit, here.

System requirements

See the TASCAM website (<http://tascam.com/>) for updated information about OS compatibility.

Windows

Supported operating systems:

Windows XP 32-bit SP3 or later
Windows XP 64-bit SP2 or later
Windows Vista 32-bit SP2 or later
Windows Vista 64-bit SP2 or later
Windows 7 32-bit
Windows 7 64-bit

Supported computer systems:

Windows compatible computer with a USB 2.0 port

CPU/clock speed:

Pentium 4 1.0 GHz or faster
AMD Athlon 1.0 GHz or faster
(or equivalent processor)

Memory:

1 GB or more

NOTE

Although this product has been checked for use with typical computers that meet the above operating requirements, we cannot guarantee that it will operate with all computers that meet these requirements. Please be aware that even in the same conditions, computer processing capabilities can vary depending on differences in design and specifications.

Mac OS X

Supported operating systems:

Mac OS X 10.5.8 or later
Mac OS X 10.6.3 or later

Supported computer systems:

Apple Macintosh equipped with a USB port

CPU/Clock:

Any Mac with an Intel processor, or PPC G4 1 GHz or faster

Memory:

1 GB or more

Installing the driver and control panel

In order to use this unit, you must install the driver on to your computer. As described below, this is an easy process using the CD-ROM included with the unit.

Drivers are updated from time to time. You can download the most recent version of the driver from the TASCAM website (<http://tascam.com/>).

Disconnect the unit from the computer before starting driver installation.

CAUTION

- Handle the enclosed CD-ROM with care. If the disc becomes scratched or dirty, a computer might not be able to read it, making installation of the software impossible. If the included disc becomes unreadable, it can be replaced for a fee.
- Never attempt to play the enclosed CD-ROM in an ordinary audio CD player, as the resulting noise could damage the speakers or harm your hearing.

3 – Installation

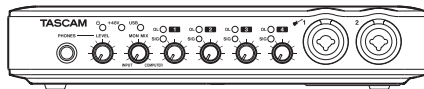
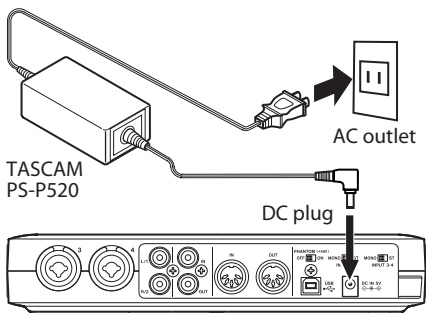
Installing the driver and control panel for Windows

NOTE

- During driver installation, a warning that “this software ... has not passed Windows Logo testing” will appear.
This message appears when installing a driver that has not received Windows Logo testing.
This message appears because the drivers for TASCAM products have not undergone Windows Logo testing. We have, however, confirmed their proper operation.
If this message appears, click Continue anyway or Install to proceed with the installation.
- During installation, you must connect the unit in step 8. You should complete the installation step in less than one minute. Installation may fail if you take too much time.

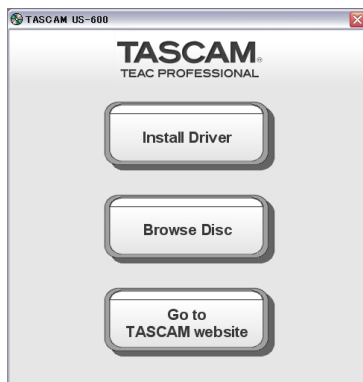
Installation on a Windows computer

- 1 Confirm that the unit and the PC are not connected by a USB cable.
- 2 Connect the included TASCAM PS-P520 AC adaptor, which meets the requirements of this unit, to the DC IN 5V jack, and confirm that the ⏻ (standby/on) indicator on the front panel is lit.



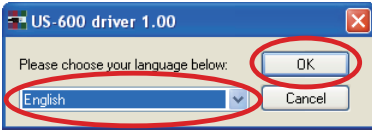
CAUTION

- Always use the included TASCAM PS-P520 AC adaptor and AC adaptor power cord, which are for use with this unit. Use of a different AC adaptor or power cord could cause malfunction, fire or electric shock.
 - This unit is powered by the dedicated TASCAM PS-P520 AC adaptor. It cannot be powered by USB.
- 3 Insert the included driver installation CD-ROM into the PC where you will install it.
 - 4 Click the Install Driver button when the screen below appears. (If this screen does not appear automatically, find and open the Autorun2.exe program in the Autorun folder on the driver CD-ROM.)

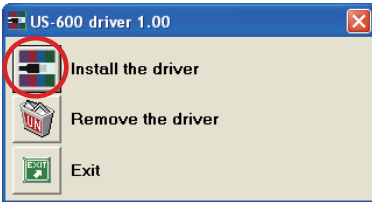


3 – Installation

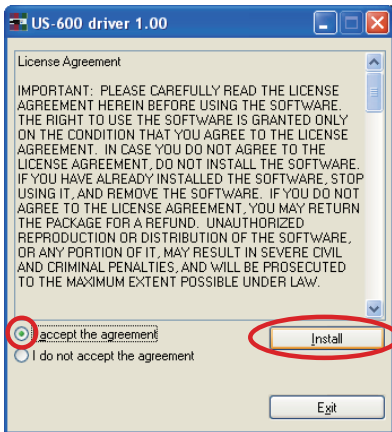
- 5 When the language selection screen (below) appears, select the language you prefer and then click the OK button.



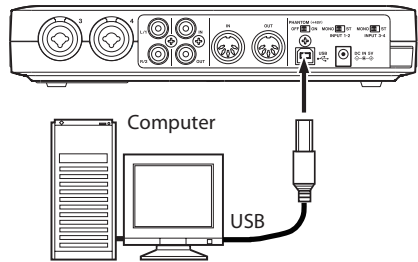
- 6 Click the Install the driver button when the screen below appears.



- 7 Read the contents of the License Agreement, and select I accept the agreement if you agree to the terms. Next, click the Install button to start installation.



- 8 When the screen below appears, use the supplied USB cable to connect the unit to the PC.

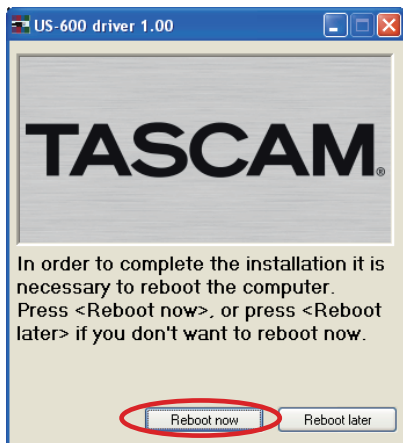


- 9 Installation of the driver proceeds.



3 – Installation

10 When the screen below appears, the installation is complete. Click the **Reboot now** button to restart the PC to use the driver.



11 After the PC has restarted, open the TASCAM US-600 (Start > Control Panel) or US-600 Control Panel (Start > All Programs > TASCAM). If the **Driver Version, Device and other data appear correctly, the installation has succeeded.**



Installing the driver for Mac OS X

- 1 Confirm that the US-600 is not connected to the computer.
- 2 Double-click the TASCAM_US-600_Driver_1.00.dmg on the included CD-ROM. The TASCAM_US-600_1.00.mpkg" is created on the desktop.
- 3 Double-click the TASCAM_US-600_1.00.mpkg on the desktop to launch the installer.
- 4 Follow the instructions on the screen to conduct the installation.
- 5 Restart the computer.
- 6 Plug the included AC adaptor (TASCAM PS-P520) into the DC IN 5V and confirm that the ⏻ (standby/on) indicator on the front panel has lit.
- 7 Use the supplied USB cable to connect the unit to the computer.

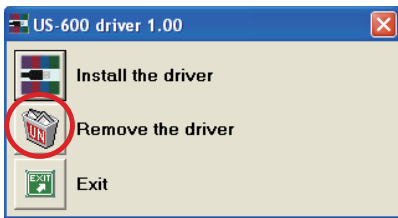
Uninstalling the driver

■ Windows

There are two ways to uninstall the driver as shown below.

Using the Installation CD-ROM:

- 1 Follow steps 1 to 4 under “Installing the driver and control panel for Windows” (See page 14.)
- 2 At step 5 of the procedure, click Remove the driver.



- 3 Follow the instructions on the screen for the remaining procedure.

Using Windows “Add or Remove Programs”

- 1 Open the Control Panel from the Start menu.
- 2 Double click on Add or Remove programs.
- 3 Select US-600 driver from the list and click Change or Remove Programs.
- 4 Follow the instructions on the screen for the remaining procedure.

■ Mac OS X

- 1 Insert the CD-ROM into the computer and double click TASCAM US-600 remover icon.



TASCAM US-600 remover

- 2 Follow the instructions on the screen for the remaining procedure.

Frequently asked installation questions and answers (FAQ)

Windows driver installation

- Q: When I connect the unit to a computer, the Windows Hardware Wizard appears and I cannot install the driver. Am I making a mistake during the installation procedures?
- A: Close the Windows “Hardware Wizard” and disconnect the unit. You must install the driver before connecting this unit. Insert the CD-ROM included with the product. The menu for installing the driver appears automatically.
- Select Install Driver, and follow the instructions shown on the screen. If you have downloaded the driver from the TASCAM website (<http://tascam.com/>), expand the ZIP archive, launch the setup.exe file, and follow the instructions on the screen.

- Q: I loaded the installation CD-ROM into a Windows computer, but the driver installation menu does not appear. How can I access this menu?

- A: The automatic playback settings for the disc drive might be disabled.

Open the supplied driver CD-ROM using Windows Explorer, and double-click the Autorun2.exe file to manually open the installation menu.

Follow the procedures in “Installing the driver and control panel for Windows” on page 14 to install the driver.

3 – Installation

Improving computer performance

In this manual, we will offer only the following basic tip to improve performance when using this unit.

Do not run other applications.

Processing digital audio places a considerable load on your computer. You probably use the computer for applications other than audio, but we recommend that you avoid running them when using audio programs. This means that if you are running other applications (especially ones that are graphics-intensive or that use Internet tools) at the same time as an audio application, processing may not be able to keep up the audio data.

Cubase LE 5 installation

See the included Cubase LE 5 Quick Start Guide for details.

4 – US-600 control panel settings

Overview

The Control Panel lets you make various settings for the US-600's functionality.

On Windows, the US-600 Control Panel shortcut can be found in the Windows Start menu > Control Panel or the Start menu > All Programs > TASCAM.

On Mac OS X, the US-600 Control Panel is located in the Applications folder. Other useful audio and MIDI settings for Mac OS X can be found in Applications/Utilities/Audio MIDI Setup.



The Control Panel is divided into the following two sections.

Status section

This shows the current status of the driver and the connected hardware.

You cannot edit the settings from this section.

Setting section

You can edit the various settings of the driver.

Control panel menus and settings

Audio Performance

The US-600 driver temporarily stores input and output audio sample in buffers. The size of these buffers can be adjusted. A smaller buffer size will reduce the delay when monitoring the audio signal, but will require your computer to perform the processing faster. If the processing does not occur in time (e.g., if other system operations are occurring), you may hear clicks, pops, or dropouts in the audio signal. A larger buffer size provides more safety against such problems caused by other system activities, but will produce greater delay when monitoring the audio signal. You should select the buffer size that works best for your system.

On the Windows version of the US-600 Control Panel, the Audio Performance setting permits you to adjust the buffer size that will be used by all audio applications. The lowest latency setting is the minimum buffer size, and the highest latency setting is the maximum buffer size.

On Mac OS X, the buffer size is determined by each audio application. Consequently, there is no Audio Performance setting on the Mac OS X version of the US-600 Control Panel. Some applications select the buffer size automatically while others permit the user to select the buffer size. Please consult your audio application's documentation for details.

4 – US-600 control panel settings

Sample Clock Source

The clock source can be set to Automatic or Internal.

When using digital input, set this to Automatic.

- Automatic (default): If a clock signal is input through the **DIGITAL IN** jack, it is used. If no signal is input through the **DIGITAL IN** jack, this unit's internal clock is used.
- Internal: This unit's internal clock is always used.

Digital Output Format

Set the digital output format to S/PDIF or AES/EBU.

“ch1 and ch2”, “ch3 and ch4” and “ch5 and ch6”

This unit sends 6 channels of signals to the computer by USB.

Use these settings to select which of this unit's inputs signals are sent to each computer input pair.

Select analog inputs 1-2, analog inputs 3-4 or digital inputs.

LINE OUTPUTS and DIGITAL OUTPUTS

The computer inputs 4 channels of signals to this unit by USB.

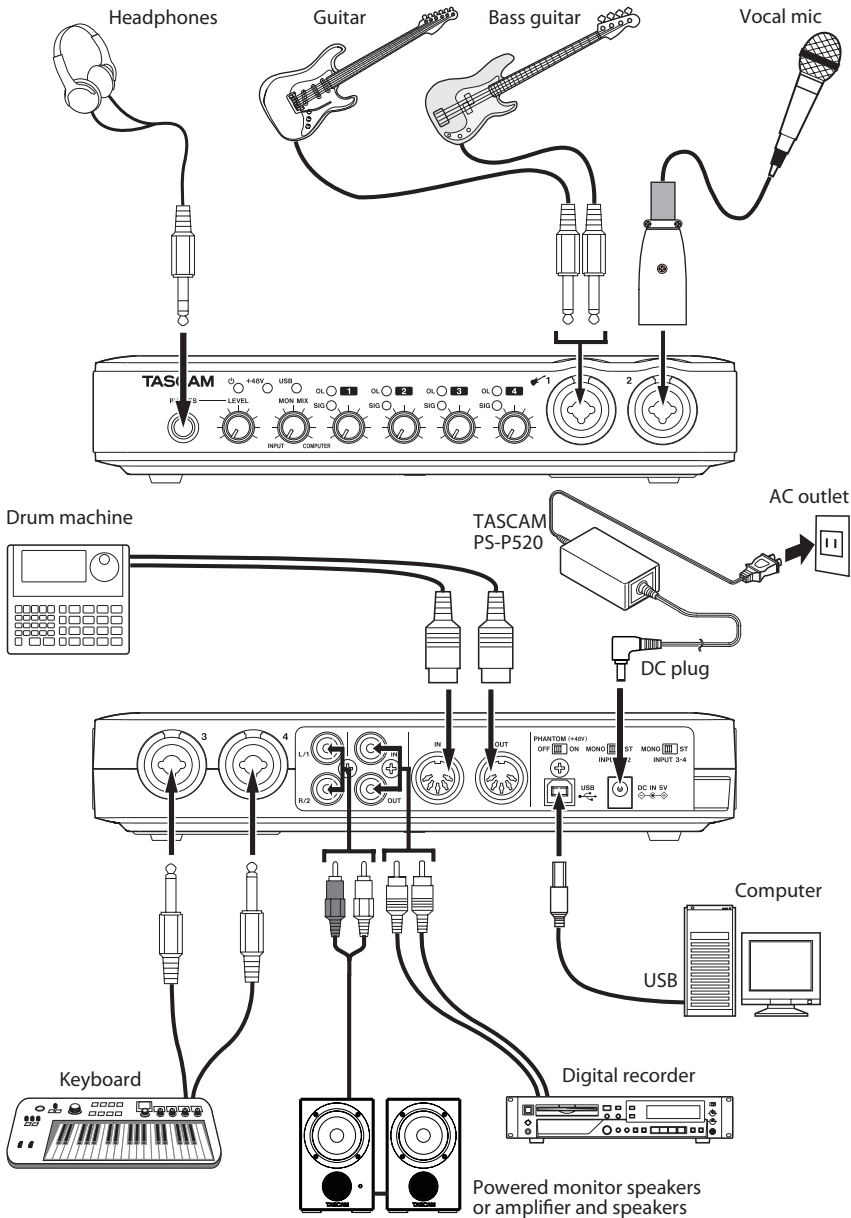
Use these settings to select the signals to be output from this unit's **LINE OUT** and **DIGITAL OUT** jacks.

Set them to ch1 and ch2 or ch3 and ch4.

NOTE

If you want to output Windows Media Player or iTunes, for example, through this unit's **DIGITAL OUT**, set the DIGITAL OUTPUTS to ch1 and ch2 in the Control Panel.

5 – Connections



Example of using US-600 connections

5 – Connections

USB connections

Use the included USB cable to connect the US-600 to your computer as shown in the illustration.

NOTE

Some USB devices access the USB bus frequently. To avoid dropouts and clicks in the audio signal, we strongly recommend that you do not connect any USB devices other than keyboards and mice to the USB bus used by this unit.

Audio connections

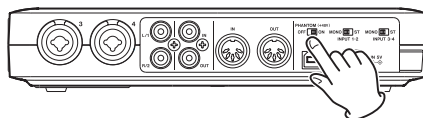
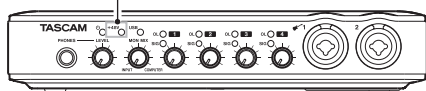
Connect the output signal of your mic, guitar, keyboard, or other audio device to the US-600, where it will be converted into digital audio and sent via USB to your computer. Connect the output of the US-600 to your speakers (via an amp) or headphones, so you will be able to monitor the audio signals coming into the US-600 or being produced by your computer.

The balance between the input signal from the mic and guitar and the output signal from the computer should be adjusted by the **MON MIX** knob.

Microphones

Connect microphones to the **MIC/INST IN 1** and **MIC/LINE IN 2** XLR connectors on the front panel and the **MIC/LINE IN 3** and **4** XLR connectors on the rear panel. When using a condenser microphone that requires phantom power, set the **PHANTOM (+48V)** switch on the rear panel to **ON**. When the **PHANTOM (+48V)** switch is set to **ON**, the **+48V** indicator on the front panel lights.

+48V (PHANTOM) indicator



CAUTION

- Connecting a dynamic microphone with an unbalanced connection to the unit when the **PHANTOM (+48V)** switch is **ON** could damage this unit and make it unusable.
- Do not connect or disconnect a mic with an input when this switch is **ON**. Loud noises might be produced and damage could be caused to equipment.
- Always turn the **LEVEL** knob on the front panel to the minimum volume before changing the **PHANTOM (+48V)** switch between **ON** and **OFF**. Depending on the connected microphone, loud noises might be produced and damage could be caused to equipment and harm could occur to people's hearing.
- Always set the **PHANTOM (+48V)** switch to **OFF** before turning the unit's power on or off (connecting or disconnecting the AC adaptor).
- Do not use phantom power when line level equipment is connected to an XLR connector. It might damage equipment.

Guitars

Connect a guitar or bass guitar to the **MIC/INST IN 1** standard TS jack on the front panel.

Sound module/MD/CD etc. (digital connection)

Connect the digital inputs and outputs of these types of devices to the unit's **DIGITAL IN** and **OUT** jacks on the rear panel.

NOTE

- This unit's **DIGITAL IN** and **OUT** jacks are RCA pin jacks.
- This unit can output either S/PDIF or AES/EBU digital signals. Set the type of output using the control panel.

CAUTION

To use the **DIGITAL IN** jack, you must set the Sample Clock Source to automatic in the software control panel. This makes the connected device into the clock master

If Sample Clock Source is set to internal no signal will be input through the **DIGITAL IN** jack, and the DIGITAL OUT signal will be looped back inside the US-600 to the digital input. In this case, depending on the settings of the computer software that you are using, the digital out signal could become looped, causing noise. We describe an example of this situation and measures to prevent it below

Example

In the DAW application, suppose that the input of a track is assigned to the US-600 DIGITAL IN and its output is assigned to the US-600 DIGITAL OUT. In this case, the following noise loop is created if the input of that track is monitored: track output to US-600 digital output to US-600 digital input to track input to track output, and so on.

Countermeasure

To prevent this type of loop, turn input monitoring off in the DAW software or assign the input of that track to anything besides the US-600 digital input.

Connecting keyboards, drum machines, sound modules, cassette/MD/CD players and other analog line level devices

Connect analog signal outputs from these types of devices to the **MIC/LINE IN 2** standard TRS jack on the front panel and the **MIC/LINE IN 3** and **4** standard TRS jacks on the rear panel.

Analog record player

The output of an analog record player cannot be connected directly to the US-600. You must connect a phono amp between your analog record player and the US-600. (Alternatively, you can connect it via an audio amp that has **PHONO** inputs.)

Monitor speakers

Connect monitor speakers (powered monitor speakers or an amplifier and speakers) to the **LINE OUT 1/2** jacks on the rear panel.

Headphones

Connect headphones to the standard stereo **PHONES** jack on the front panel.

Connecting MIDI devices

Connect your sound module, keyboard/synthesizer, drum machine, or other MIDI device to the US-600 as shown below.

If you want to monitor the sound of a sound module, keyboard/synthesizer or drum machine, connect the output of that device to this unit's **LINE IN**. Alternatively, to monitor using an external mixer, connect the outputs of that device and the **LINE OUT** jacks of this unit to the external mixer inputs.

You can use the **MIDI IN/MIDI OUT** connectors on the rear panel to transmit and receive MTC (MIDI Time Code). This allows the MTC-compatible DAW (Digital

5 – Connections

Audio Workstation) computer application to synchronize with your MIDI equipment.

NOTE

When using Windows Media Player, if the MIDI music playback output destination (default device) is set to Microsoft GS Wavetable SW Synth in the Sounds and Audio Devices part of the Control Panel, you cannot listen to MIDI performances through this unit's **LINE OUT 1/2**, **PHONES** output and **DIGITAL** output.

6 – Application Guide

In this chapter, we explain how to set some audio applications for use with this unit.

Cubase LE 5

For details see the included Cubase LE 5 Quick Start Guide.

Windows XP and Windows Media Player

- 1 **Close all applications and then open the Control Panel from the Start menu.**
- 2 **Open** Sounds and Audio Devices.

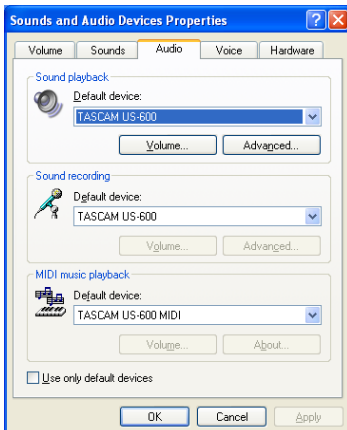
NOTE

If you do not see the above item, click Sounds, Speech, and Audio Devices and it should appear.



Sounds and Audio Devices

- 3 **Click the Audio tab, and set the Default device: for Sound playback to TASCAM US-600.**



- 4 **Click** OK.

- 5 **Start Windows Media Player, select an audio file and begin playback.**

NOTE

- If you change this setting while Windows Media Player is running, the software will not recognize that the device has been changed. In this case, restart Windows Media Player.
- If you still cannot hear sound after making the setting and completing the procedures above, restart the computer.
- After making this setting, sound will be output through this unit, but no sound will be output by the computer's speakers or headphone jacks.

Windows Vista or Windows 7 and Windows Media Player

- 1 **Close all applications and then open the Control Panel from the Start menu.**
- 2 **Open** Sound.

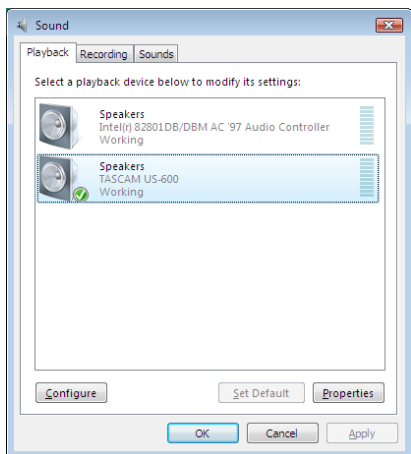
NOTE

If the above item does not appear, click Hardware and Sound and it should appear.



- 3 **Click the Playback tab, click** Speakers TASCAM US-600 **and click the** Set Default button. **This moves the green check mark to** Speakers TASCAM US-600.

6 – Application Guide



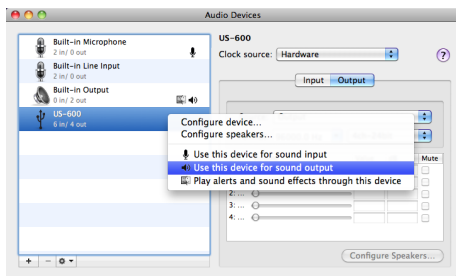
- 4 Click **OK**.
- 5 Start **Windows Media Player**, select an audio file and begin playback.

NOTE

- If you change this setting while Windows Media Player is running, the software will not recognize that the device has been changed. In this case, restart Windows Media Player.
- If you still cannot hear sound after making the setting and completing the procedures above, restart the computer.
- After making this setting, sound will be output through this unit, but no sound will be output by the computer's speakers or headphone jacks.

Mac OS X and iTunes

- 1 **Open the Utilities folder, which is inside the Applications folder, and double-click Audio MIDI Setup to launch it.**
- 2 **Control-click the US-600. Check use this device for sound input and use this device for sound output. This moves microphone icon and speaker icon to US-600.**



- 3 **Launch iTunes, select an audio file and start playback.**

7 – MIDI implementation chart

Function		Transmitted	Received	Remarks
Basic Channel	At power ON	X	X	Through
	Changed	X	X	
Mode	At power ON	X	X	Through
	Messages	X	X	
	Altered	*****		
Note Number	Range	X	X	Through

Velocity	Note ON	X	X	Through
	Note OFF	X	X	
After Touch	Polyphonic	X	X	Through
	Channel	X	X	
Pitch Bender		X	X	Through
Control Change		X	X	Through
Program Change		X	X	Through
	Range #	*****		
System Exclusive		X	X	Through
System Common	Song Pos	X	X	Through
	Song Sel	X	X	
	Tune	X	X	
System Real Time	Clock	X	X	Through
	Commands	X	X	
Other	Local on/off	X	X	Through
	All note off	X	X	
	Active sensing	X	X	
	Reset	X	X	
Notes				

Mode 1: Omni on, Poly
Mode 3: Omni off, Poly

Mode 2: Omni on, Mono
Mode 4: Omni off, Mono

O: Yes
X: No

8 – Troubleshooting

Please read this chapter if you are unable to use the unit properly even after setting it up following the procedures in this manual.

If you are still unable to resolve your problems please contact TASCAM customer support with the following information about the operating environment and details about the trouble.

Operating environment

- Computer manufacturer
- Model
- CPU
- Installed memory
- OS
- Applications used
- Antivirus software use
- Wireless LAN use

Please see the back of this manual for contact information.

■ Installation fails. Installation completes, but the computer does not recognize the unit.

If some trouble is causing installation to fail, or installation completes but the computer does not recognize the unit, check the following.

- 1) USB indicator lit
Is the USB indicator on the front panel of the unit lit? If the USB indicator is not lit, confirm that the USB cable is properly connected.

NOTE

Always use the included USB cable.

- 2) Change the USB port
Since the unit might not function properly with some USB ports, try connecting to a different built-in USB port on the computer, and reinstall the driver (when using Windows).

NOTE

- Try again after disconnecting other USB devices. (Keyboards and mice can be left connected.)
 - Do not use a USB hub. Always connect the unit directly to a built-in USB port on the computer.
- 3) Stop other software running in the background
Since antivirus software and other software that runs in the background can interfere with installation, stop other software before beginning installation. See “3 – Installation” on page 13 of this manual for how to install and uninstall the driver.

■ There is no sound even when audio is playing back.

The audio output must be set on the computer.

Please confirm the following while the unit is connected to the computer.

Note that after making the following settings, sound will be output through the unit, but no sound will be output by the computer's speakers or headphone jacks.

Windows XP

- 1 **Shut down all applications, and open the Control Panel from the Start Menu.**
- 2 **Open** Sounds and Audio Devices.

NOTE

If the above item does not appear, click Sounds, Speech, and Audio Devices and it should appear.

- 3 **Click the Audio tab, and set the Default device: for Sound playback and Sound recording to TASCAM US-600.**

8 – Troubleshooting

Windows Vista and Windows 7

- 1 **Shut down all applications, and open the Control Panel from the Start menu.**
- 2 **Open Sound.**

NOTE

If the above item does not appear, click Hardware and Sound and it should appear.

- 3 **Click the Playback tab, right-click Speakers US-600 and click the Set Default button.**

Mac OS X

- 1 **Shut down all applications and open System Preferences from the Apple menu.**
- 2 **Open Sound.**
- 3 **From the Output tab, select US-600 output.**

After completing the settings, restart the computer and check the playback sound.

Depending on the application you are using, other device settings might also be necessary in addition to those above.

In particular, since DAW (Digital Audio Workstation) software operates using audio engines that are different from OS settings, confirm the DAW driver settings first after installing the driver for this unit. Check the manuals for the software that you are using for details about how to make these settings.

For the bundled Cubase LE 5 software, see the manual on the included Cubase LE 5 DVD-ROM.

■ The sound breaks up or there is noise.

The processing load on the computer can cause sound to break up and noise to occur.

Some ways to reduce the load on a computer are introduced below.

- 1) If a wireless LAN, antivirus software or other software are running in the background, they regularly use the computer's CPU, and this burden can

cause sound to break up and noise to occur.

Stop wireless LAN transmission, antivirus software and other software running in the background when using this unit.

- 2) Try increasing the buffer size (latency) setting in the audio application that you are using and/or in the control panel for this unit.

NOTE

Consult the maker of your audio application for methods to reduce its burden on your computer.

- 3) Change the settings of your computer so that they are optimal for audio processing.

Windows XP

- 1 **Right-click My Computer and select Properties.**
- 2 **Click the Advanced tab.**
- 3 **Click Settings in the Performance section.**
- 4 **On the Performance Option screen, select the Adjust for Best Performance option.**

Windows Vista

a) Turn Aero off.

- 1 **Right-click the desktop and select Personalize.**
- 2 **Choose Window Color and Appearance and then click Open classic appearance properties for more options.**
- 3 **Select Windows Vista Basic or any option other than Windows Aero.**

b) Performance settings

- 1 **Right-click Computer and select Properties.**
- 2 **Click Advanced system settings.**
- 3 **Click the Advanced tab.**
- 4 **Click Settings in the Performance section.**
- 5 **On the Performance Option screen, select the Adjust for Best Performance option.**

8 – Troubleshooting

Windows 7

a) Turn Aero off.

- 1 **Right-click the desktop and select** Personalize.
- 2 **Select any theme from among** Basic and High Contrast Themes.

b) Performance settings

- 1 **Right-click** Computer **and select** Properties.
- 2 **Click** Advanced System Settings.
- 3 **Click the** Advanced **tab.**
- 4 **Click** Settings **in the** Performance **section.**
- 5 **On the** Visual Effects **tab in the** Performance Options **window, select** Adjust for best performance.

Mac OS X

- 1 **Open** System Preferences **from the** Apple menu **and select** Energy Saver.
- 2 **Click the** Sleep **tab.**
- 3 **Set** Put the computer to sleep when it is inactive for: **to** Never.
- 4 **Set** Put the display(s) to sleep when the computer is inactive for: **to** Never.
- 5 **Click the** Options **tab. If a** Processor performance **setting is available, set it to** Highest.

NOTE

Depending on the Mac OS version and model these settings might not be available.

■ Questions related to Cubase LE 5

Since Cubase LE 5 is a product provided by Steinberg Media Technologies GmbH, it is not supported by TASCAM.

Please use the Cubase LE 5 Help menu for information about how to use this software.

9 – Specifications

AD/DA audio converter

Sampling frequency

44.1/48/88.2/96 kHz

Quantization bit rate

24-bit

Analog audio inputs

Microphone inputs (MIC IN 1-4)

Balanced

Connectors: XLR-3-31 (1: GND, 2: HOT, 3: COLD)

Input impedance: 2.2 k Ω

Nominal input level: -14 dBu (0.15 Vrms)

Minimum input level: -57 dBu (0.001 Vrms)

Maximum input level: +2 dBu (0.98 Vrms)

Line inputs (LINE IN 2-4)

Balanced

Connectors:

6.3-mm (1/4") TRS phone jacks (Tip: HOT, Ring: COLD, Sleeve: GND)

Input impedance: 15 k Ω

Nominal input level: +4 dBu (1.23 Vrms)

Minimum input level: -39 dBu (0.008 Vrms)

Maximum input level: +20 dBu (7.75 Vrms)

Instrument input (INST IN 1)

Unbalanced

Connectors: 6.3-mm (1/4") TS phone jacks (Tip: HOT, Sleeve: GND)

Input impedance: 1 M Ω

Nominal input level: -13 dBV (0.22 Vrms)

Minimum input level: -56 dBV (0.001 Vrms)

Maximum input level: +3 dBV (1.41 Vrms)

Analog audio outputs

Line outputs (LINE OUT 1-2)

Unbalanced

Connectors: RCA pin jacks

Output impedance: 200 Ω

Nominal output level: -10 dBV (0.316 Vrms)

Maximum output level: +6 dBV (2 Vrms)

Headphones outputs (PHONES)

Connectors:

6.3-mm (1/4") stereo phone jack

Maximum output: 49 mW + 49 mW (1 kHz, 0.1%, 32 Ω)

Digital audio inputs

COAXIAL (DIGITAL IN)

Connector: RCA pin jack

Format: IEC 60958-3 (S/PDIF)

Digital audio outputs

COAXIAL (DIGITAL OUT)

Connector: RCA pin jack

Format: IEC 60958-3 (S/PDIF) or professional IEC 60958 (AES/EBU) set using the software control panel

9 – Specifications

Control I/O

MIDI input (MIDI IN)

Connector: 5-PIN DIN

Format: standard MIDI format

MIDI output (MIDI OUT)

Connector: 5-PIN DIN

Format: standard MIDI format

USB (USB)

Connector: 4-pin USB type B

Format: USB 2.0 HIGH SPEED (480 MHz)

Audio performance

Frequency response

20 Hz-20 kHz +0.5/-1.0 dB (44.1/48 kHz, JEITA)

20 Hz-40 kHz +0.5/-1.5 dB (88.2/96 kHz, JEITA)

Signal-to-noise ratio

98 dB or higher (LINE IN to LINE OUT with Gain knobs at minimum, 44.1 kHz, JEITA)

Total harmonic distortion

0.0045% or less (LINE IN to LINE OUT with Gain knobs at minimum, JEITA)

Computer requirements

See the TASCAM website (<http://tascam.com/>) for updated information about OS compatibility.

Windows

Supported Operating system

Windows XP 32 bit SP3 or later

Windows XP 64 bit SP2 or later

Windows Vista 32 bit SP2 or later

Windows Vista 64 bit SP2 or later

Windows 7 32 bit

Windows 7 64 bit

Supported computer system

Windows compatible computer with a USB 2.0 port

CPU/clock:

Pentium 4, 1 GHz or faster

AMD Athlon, 1 GHz or faster
(or equivalent processor)

Memory:

1 GB or more

Supported protocol:

ASIO 2, WDM (MME)

Macintosh

Supported operating system:

Mac OS X 10.5.8 or later

Mac OS X 10.6.3 or later

Supported computer system:

Apple Macintosh series equipped with a USB port as standard equipment

CPU/clock:

Intel processor, or PPC G4 1 GHz or faster

Memory:

1 GB or more

Supported protocol:

CoreAudio, CoreMIDI

General

Power

TASCAM PS-P520 AC adaptor (included)

AC input: 100-240 V, 1.0 A

DC output: +5 V, 2.0 A

Power consumption

5 W

External dimensions (W x H x D)

221.5 x 41 x 151 mm/8.72 x 1.61 x 5.95 in.
(without projections)

221.5 x 44 x 164.3 mm/8.72 x 1.73 x 6.47 in.
(with projections)

Weight

580 g/20.46 oz

Operating temperature range

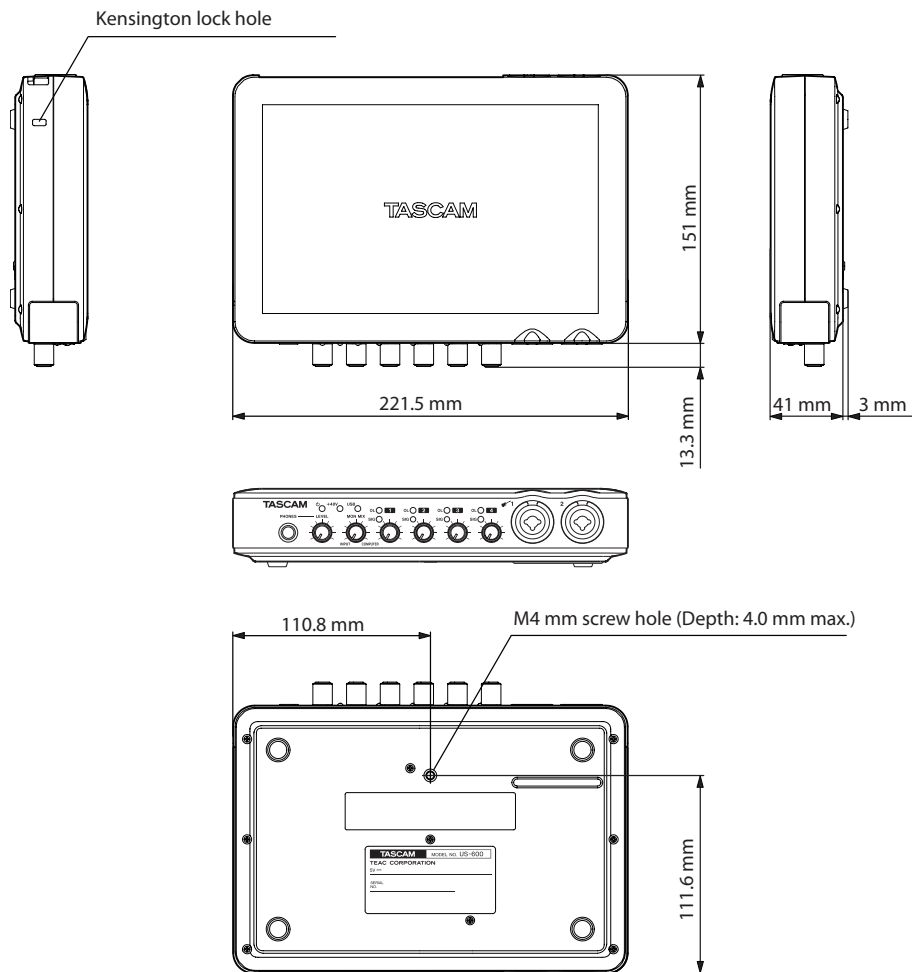
5-35° C/41-95°F

Bundled software

Cubase LE 5 (for Windows or Mac OS X)

9 – Specifications

Dimensional drawing



- Illustrations in this manual may differ in part from the actual product.
- Specifications and the external appearance may be changed without notification to improve the product.

TASCAM

US-600

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