Before connecting this unit to a computer, you must download and install dedicated software on the computer.
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1 – Introduction

Features

• Ultra-HDDA (High Definition Discrete Architecture) mic preamps with −125dBu EIN
• 8 Ultra-HDDA mic preamps, 8 XLR/TRS inputs and 2 TRS input jacks
• Three switchable modes: interface, mic preamp, mixer
• Support for high-resolution recording formats up to 24-bit/192kHz
• Supports Windows and Mac
• Connect with computers using USB 3.0 (Windows 10 only)
• Connect with iOS devices including iPad
• Can provide +48V phantom power
• Supports direct guitar input.
• Input level specifications boast a 56dB range and support dynamic mic input
• Tough metal casing can endure even hard use
• Angled design provides excellent usability on a desktop
• Two 70mW+70mW standard TRS headphone output jacks
• Separate controls for line and headphone output volumes
• MIDI input and output enable connection with keyboards and other MIDI devices
• Low latency monitoring through the DSP mixer
• DSP mixer with 4-band EQ and compression on each input channel (usable in interface and mixer modes)
• Patch bay allows outputs to be assigned freely (usable in interface and mixer modes)
• Ten scene memories (can be renamed) for saving DSP mixer settings
• Ten analog TRS output jacks
• S/PDIF COAXIAL digital input and output jacks
• TOSLINK multichannel optical digital input and output connectors (support SMUX2/SMUX4)
• BNC word clock input and output connectors
• Supports USB Audio Class 2.0
• Operation confirmed with major DAW software, including Sonar, ProTools, Cubase, Live, Studio One and GarageBand
• Product compliant with RoHS
• Rack mount adapters and hex key included
• AC adapter included

Conventions used in this manual

In this manual, we use the following conventions:

• Switches, connectors and other physical parts of this unit are written using a bold font like this: PHONES knob.
• Information shown on a computer display is written like this: “OK”.
• 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.

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

Note about computer operation

If you are unsure about anything related to the basic operation of a computer when it is mentioned in an explanation in this manual, please refer to the computer operation manual.
2 – Names and functions of parts

Front panel

1. **STANDBY/ON switch and indicator**
   Press to turn the unit on and to put it into standby. The **STANDBY/ON** indicator lights green when the unit is on.

2. **MODE button and indicators**
   Use to change the operation mode. (See “7 – Operation modes” on page 28.)
   - **MIC PRE**
     This lights when the unit is operating as a microphone preamp.
   - **AUDIO I/F**
     This lights when the unit is operating as an audio interface.
   - **MIXER**
     This lights when the unit is operating as a digital mixer.

3. **Phantom power switches**
   Use these switches to provide +48V phantom power to the IN1–IN4 and IN5–IN8 jacks.
   You can change the Phantom power setting for four channels of inputs at a time. Phantom power is supplied when the switch is set to +48V.
   
   **CAUTION**
   - Do not connect or disconnect mics when the phantom power switch is set to +48V. Doing so could cause a loud noise and might damage this unit and connected equipment.
   - Set the phantom power switch to +48V only when using a condenser microphone that requires phantom power. Setting phantom power to +48V when a dynamic mic or other mic that does not require it is connected could damage this unit and connected equipment.
   - When using condenser mics that require phantom power and dynamic mics together, be sure to use balanced dynamic mics. Unbalanced dynamic mics cannot be used when phantom power is enabled.
   - Supplying phantom power to some ribbon mics will break them. If you are unsure, do not supply phantom power to a ribbon mic.
   - Set the **LINE OUT 1–2** and **PHONES 1/2** knobs to their minimum values before changing a phantom power switch setting. Failure to do so could cause sudden loud noises from monitoring equipment, and this could damage equipment or harm hearing.

4. **MIC/INST IN1–IN2 jacks (balanced/unbalanced)**
   These analog inputs are XLR/TRS combo jacks.
   - **XLR (1: GND, 2: HOT, 3: COLD)**
   - **TRS (Tip: HOT, Ring: COLD, Sleeve: GND)**
   Use the gain knobs to set input gains.

5. **MIC/LINE IN3–IN8 jacks (balanced)**
   These analog inputs are XLR/TRS combo jacks.
   - **XLR (1: GND, 2: HOT, 3: COLD)**
   - **TRS (Tip: HOT, Ring: COLD, Sleeve: GND)**
   Use the gain knobs to set input gains.

6. **Signal/overload indicators**
   These light red when signals are about to distort (−1 dBFS) and the light green when signals are being input (−32 dBFS or higher).

7. **Gain knobs**
   Use these knobs to adjust the gains of IN1–IN8 independently.
   The gains of IN1–IN8 can each be set in a range between −12 dBu and −68 dBu.

8. **LINE OUT 1–2 knob**
   Use to adjust the output level of the **LINE OUT 1–2** jacks on the back of the unit.

9. **PHONES 1/2 knobs**
   Use to adjust the output levels of the **PHONES 1/2** jacks.
   
   **CAUTION**
   Before connecting headphones to a jack, minimize its **PHONES knob**. Failure to do so might cause sudden loud noises, which could harm your hearing or result in other trouble.

10. **USB indicator**
   This lights orange when the USB connection is enabled.

11. **PHONES 1/2 jacks**
   Use these standard stereo jacks to connect stereo headphones. The same signal is output from the **LINE OUT 1/2** jacks.
   Use an adapter to connect headphones with a mini plug.
**Rear panel**

12 **COAXIAL IN jack**
   This digital audio input jack complies with the S/PDIF standard.

13 **USB port**
   Use the included USB cable to connect the unit to a computer or iOS device (supports USB 2.0/3.0).

**CAUTION**
- The included USB cable (USB 2.0 or USB 3.0) that can be used depends on the computer and OS you are using. (See “Computer connections” on page 12.)
- USB 1.1 is not supported.

14 **OPTICAL (S/MUX) IN/OUT connectors**
   These input and output multichannel digital audio in optical format.
   44.1, 48, 88.2, 96, 176.4, and 192kHz sampling frequencies are supported.
   SMUX2 is supported for 88.2/96kHz formats, and SMUX4 is supported for 176.4/192kHz formats.

15 **MIDI OUT connector**
   This 5-pin DIN is a standard MIDI output jack.
   This outputs MIDI signals.

16 **MIDI IN connector**
   This 5-pin DIN is a standard MIDI input jack.
   Use this to input MIDI signals.

17 **WORD IN/OUT connectors**
   These BNC connectors are for the input and output of word clock signals.
   Word clock signals of 44.1, 48, 88.2, 96, 176.4, and 192 kHz can be input and output.

**CAUTION**
If a digital system has multiple word clock masters, serious problems, including damage to equipment, could occur.

18 **75Ω ON/OFF/THRU/WORD OUT switch**
   Use this switch to make the following settings.
   - Whether or not the WORD IN connector has 75Ω termination
   - WORD output THRU/OUT setting (OUT is for WORD only)

19 **LINE IN 9-10 (BALANCED) jacks and LEVEL switch**
   These standard TRS jacks are line inputs. (Tip: HOT, Ring: COLD, Sleeve: GND)
   Use the LEVEL switch to set the nominal level to $-10\text{dBV}$ or $+4\text{dBu}$.

**NOTE**
   The input gain cannot be adjusted for these jacks.

20 **COAXIAL OUT jack**
   This digital audio input jack complies with S/PDIF and AES/EBU standards.
   Set the digital signal format on the “INTERFACE” page of the Settings Panel.

21 **LINE OUT (BALANCED) 1–10 jacks**
   These standard TRS jacks are analog line outputs. The nominal output level is $+4\text{dBu}$.
   (Tip: HOT, Ring: COLD, Sleeve: GND)

22 **AUTO POWER SAVE switch**
   Use this switch to have the unit turn itself off automatically (start standby) when operating in mic preamp mode if no input signal above $-60\text{dBFS}$ is detected for 30 minutes.

**CAUTION**
If you want to turn the unit on again after it has turned itself off (started standby) automatically, press the STANDBY/ON button once, wait at least 8 seconds and then press the STANDBY/ON button again.

23 **Cord holder**
   Hook the cord of the included AC adapter here to prevent accidental disconnection.

24 **DC IN 12V connector**
   Connect the included AC adapter (GPE248-120200-Z) here.
3 – Installation

System requirements

Check the TEAC Global Site (http://teac-global.com/) for the latest information about supported operating systems.

Windows

- **Supported operating systems**
  - Windows 10 32-bit
  - Windows 10 64-bit
  - Windows 8 (including 8.1) 32-bit
  - Windows 8 (including 8.1) 64-bit
  - Windows 7 32-bit SP1 or later
  - Windows 7 64-bit SP1 or later

- **Computer hardware requirements**
  - Windows computer with a USB 2.0 or USB 3.0 port

- **CPU/processor speed**
  - 2 GHz or faster dual core processor (x86)

- **Memory**
  - 2 GB or more

- **Display resolution**
  - 1280×800 or greater

**CAUTION**

- The included USB cable (USB 2.0 or USB 3.0) and the USB specification that can be used depend on the computer and OS you are using. (See “Computer connections” on page 12.)

- Operation of this unit was confirmed using standard computers that meet the above requirements. This does not guarantee operation with all computers that meet the above requirements. Even computers that meet the same system requirements might have processing capabilities that differ according to their settings and other operating conditions

**NOTE**

Since noise could occur depending on the computer system used, we recommend selecting “High performance” in the Power Options Control Panel.

Mac

- **Supported operating systems**
  - OS X Yosemite (10.10.1 or later)
  - OS X Mavericks (10.9.5)
  - OS X Mountain Lion (10.8.5)

- **Computer hardware requirements**
  - Mac with a USB 3.0 or USB 2.0 port

- **CPU/processor speed**
  - 2 GHz or faster dual core processor

- **Memory**
  - 2 GB or more

- **Display resolution**
  - 1280×800 or greater

**CAUTION**

The included USB cable (USB 2.0 or USB 3.0) and the USB specification that can be used depends on the the computer and OS you are using. (See “Computer connections” on page 12.)

iOS devices

- Device made by Apple Inc. running iOS 7 or later

Supported audio drivers

- **Windows**
  - USB Audio Class 2.0, ASIO 2.0, WDM (MME), MIDI

- **Mac**
  - Core Audio, Core MIDI

Installing the dedicated software

To use this unit with a computer, dedicated software must be installed on the computer.

Download the latest software for the operating system you are using from the TEAC Global Site (http://teac-global.com/).

- To use this unit with a Windows computer, install the Windows driver.
  When you install the Windows driver, the Windows Settings Panel application will be installed at the same time.
- To use this unit with a Mac, install the Mac Settings Panel application.
  The standard OS driver will be used.
- When using this unit with an iOS device, the standard OS driver will be used, so there is no need to install dedicated software.

**CAUTION**

Before starting to install software, quit other applications.
Installing the Windows driver

**CAUTION**

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

**Windows driver installation procedures**

1. Download the latest Windows driver for the operating system you are using from the TEAC Global Site (http://teac-global.com/) and save it on the computer to be used with the unit.
2. Open the saved Windows driver (zip file) on, for example, the computer desktop.
3. Double-click the “US-20x20_Installer” file in the folder that appears after uncompression to automatically launch the installation software.

**CAUTION**

If you open a zip file without uncompressing it and double-click the “US-20x20_Installer.exe” file in the folder that opens, installation will not start. Right-click the zip file and select “Extract All”, for example, to uncompress it and then try again.

4. When a “Security Warning” or “User Account Control” screens appear, click the “Yes” button.
5. When the InstallShield Wizard screen appears, click the “Next (N)” button.
6. Read the contents of the License Agreement, and select “Agree (A)” if you agree to the terms. Then, click the “Next (N)” button.
7. Click the “Install (I)” button.
8. Next, click the “Install (I)” button to start installation.
9. The following screen appears when installation has completed. Click the “Finish (F)” button.

The installer will quit and the Windows Settings Panel will launch.

**NOTE**

After installing the driver, the device driver will be installed the first time the unit is connected by USB. At this time, Windows will automatically search Windows Update, and it may take some time to recognize the unit connection. If the unit is still not recognized after some time, open the software installation screen from the message area at the bottom right of the computer display, and click “Skip Obtaining Drivers From Windows Update” to cancel the search.
3 – Installation

Installing the Mac Settings Panel

NOTE
• Install the Mac Settings Panel on the computer before connecting the unit to it with the USB cable.
• During installation of the Mac Settings Panel, a warning message such as “US-20x20.pkg” can’t be opened because it was not downloaded from the Mac App Store” might appear. If a message like this appears, follow the instructions in “Working with Gatekeeper” on page 8 and then proceed with the installation.

Mac Settings Panel installation procedures
1. Download the latest Mac Settings Panel for the operating system you are using from the TEAC Global Site (http://teac-global.com/) and save it on the computer to be used with the unit.
2. Double-click “US-20x20_Installer.dmg”, which is the saved disk image file for the Mac Settings Panel, and double-click “US-20x20.pkg” inside the folder that opens.

NOTE
Depending on the computer’s settings, the downloaded zip file might not have opened automatically. In this case, open the zip file first and then double-click the disk image file.

3. When the installer starts, click the “Continue” button.
4. Next, select the desired language and click the “Continue” button.
5. Click the “Read License” button and check the contents of the Software License Agreement. If you agree to the contents, click “Agree”. Then, click the “Next” button.
6. Next, click the “Install” button to start installation.
7. The following screen appears when installation has completed. Click the “Close” button.

The Mac Settings Panel will launch.

Working with Gatekeeper
When using Mac OS X, depending on the Gatekeeper security function setting, a warning message might appear during installation.
The solution depends on the warning message shown. See the following explanations for details.

When the Gatekeeper setting is “Allow applications downloaded from: the Mac App Store”
The following security warning might be shown: “US-20x20.pkg” can’t be opened because it was not downloaded from the Mac App Store.”

In this case, click the OK button to close the message. Then, control-click (or right-click) the file and click “Open”.
When the “US-20x20.pkg” can’t be opened because it was not downloaded from the Mac App Store. Are you sure you want to open it? security warning message appears, click the “Open” button.

This warning message might also appear when the Gatekeeper setting is something other than “Allow applications downloaded from: the Mac App Store”.
The file still might not open and “US-20x20.pkg” can’t be opened because it was not downloaded from the Mac App Store.” might appear again.

In this case, copy the file from the folder where it is to the desktop or another folder, and then open it. Alternatively, change the Gatekeeper setting to “Allow applications downloaded from: the Mac App Store and identified developers” and try opening it again.

Changing the Gatekeeper setting
The Gatekeeper setting can be changed using the “Allow applications downloaded from:” item on the “General” page of the “Security & Privacy” pane of the System Preferences.
To change this, you must click the lock icon at the bottom left and enter a password to unlock the settings.

This setting will lock again when you quit the System Preferences by typing command-Q or clicking the button, for example, or when you click the “Show All” button to close the open pane.

CAUTION
Changing the Gatekeeper setting could result in security risks.
If you changed the Gatekeeper setting to decrease security (use one of the lower settings), set it back to the original setting after updating the driver and/or firmware.

Uninstalling the dedicated software

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

Windows
Uninstall from the “Programs and Features” Control Panel.
1. From the Start menu, open the Control Panel application, click Programs and then click Programs and Features.

NOTE
• In Windows 10, right-click the Start button and click the Control Panel that appears.
• In Windows 8, to open the Control Panel, right-click the Start screen and click the All apps button (or button that appears at the bottom left of the screen in Windows 8.1).
2. 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”.
3. Double-click “TASCAM US-20x20 version X.XX” (“X.XX” is the driver software version) in the list.
4. Then, follow the instructions that appear on the screen.

Mac
Delete “US-20x20” from the Application folder to complete uninstallation.
4 – Preparation

Attaching the rack mount angles

Before mounting this unit in a rack, you must remove the frame pieces and install the included rack mount angles. Follow these procedures to attach the rack mount angles. (Prepare a Phillips screwdriver in advance.)

1. Use the hex key included with this product to remove the four screws from each side frame as shown in the illustration below.

2. Remove the frames from both ends of the unit.

3. Use the Phillips screwdriver that you prepared to attach the included rack mount angles using the included rack mount angle installation screws.

Reverse these procedures to reinstall the frames that were originally attached to the unit.

Connecting the power

Use the included AC adapter (GPE248-120200-Z) to connect a power supply to the unit as shown below.

CAUTION
Always use the AC adapter (GPE248-120200-Z) that was shipped with the unit. Using a different AC adapter could cause malfunction, overheating, fire or other problems.

NOTE
The AC adapter for the unit includes two types of outlet plugs. Attach the type of plug that matches the power outlet that you are using. (See “Changing the outlet plug” on page 10.)

Changing the outlet plug

Move the latch on the AC adapter in the direction of the arrow.

Pull off the outlet plug.

Replace it with the other outlet plug (A or B).

Move the latch on the AC adapter in the direction of the arrow again.

Attach the outlet plug to the AC adapter.

After changing the outlet plug, confirm that it is not loose or crooked and that everything is normal before plugging it into an outlet.

CAUTION
Do not use the adapter if there is anything abnormal about the plug after changing it. Use when the plug is abnormal could cause fire or electric shock. Contact the retailer where you purchased the unit or a TEAC service center (on the back cover) to request repair.
Examples of connections with other equipment

- **Guitar**
- **Bass Guitar**
- **Drums**
- **Headphones**
- **Computer**
- **Powered speakers or amplifier and speakers**
- **Digital recorder**
- **Sound module**
- **Drum machine**

**Example using a US-20x20**

**CAUTION**

- Before making connections, turn this unit and all equipment to be connected off (standby).
- The phantom power switches set four input channels at a time. Do not set phantom power to +48V when connecting an unbalanced dynamic mic.
- Do not connect or disconnect mics while phantom power is set to +48V. Doing so could cause a loud noise and might damage this unit and connected equipment.
- Set the LINE OUT 1–2 and PHONES 1/2 knobs to their minimum values before changing a phantom power switch setting. Failure to do so could cause sudden loud noises from monitoring equipment, and this could damage equipment or harm hearing.
- Supplying phantom power to some ribbon mics will break them. If you are unsure, do not supply phantom power to a ribbon mic.
Computer connections

Two types of USB cables (USB 2.0 or USB 3.0) are included. Use an included USB cable to connect the unit to a computer USB 2.0 or USB 3.0 port according to the computer and OS that you are using. When the USB connection is working, the USB indicator on the front of the unit lights. Check the TEAC Global Site (http://teac-global.com/) for the latest information about supported operating systems.

### Windows

<table>
<thead>
<tr>
<th>Supported operating systems</th>
<th>USB standard</th>
<th>USB cable connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10 32-bit</td>
<td>✓</td>
<td>✓*</td>
</tr>
<tr>
<td>Windows 10 64-bit</td>
<td>✓</td>
<td>✓*</td>
</tr>
<tr>
<td>Windows 8 (including 8.1) 32-bit</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Windows 8 (including 8.1) 64-bit</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Windows 7 32-bit SP1 or later</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>Windows 7 64-bit SP1 or later</td>
<td>✓</td>
<td>-</td>
</tr>
</tbody>
</table>

* Connect with the included USB 3.0 cable to use the USB 3.0 standard.

### Mac

<table>
<thead>
<tr>
<th>Supported operating systems</th>
<th>USB standard</th>
<th>USB cable connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS X Yosemite (10.10.1 or later)</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>OS X Mavericks (10.9.5)</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td>OS X Mountain Lion (10.8.5)</td>
<td>✓</td>
<td>-</td>
</tr>
</tbody>
</table>

CAUTION

* Before making connections, turn this unit and all equipment to be connected off (standby).
* The phantom power switches set four input channels at a time. Do not set phantom power to +48V when connecting a mic that does not require phantom power.
* Set the LINE OUT 1–2 and PHONES 1/2 knobs to their minimum values before changing a phantom power switch setting. Failure to do so could cause sudden loud noises from monitoring equipment, and this could damage equipment or harm hearing.
* Do not connect or disconnect mics when the phantom power switch is set to +48V. Doing so could cause a loud noise and might damage this unit and connected equipment.
* Set the phantom power switch to +48V only when using a condenser microphone that requires phantom power. Setting phantom power to +48V when a dynamic mic or other mic that does not require it is connected could damage this unit and connected equipment.
* When using condenser mics that require phantom power and dynamic mics together, be sure to use balanced dynamic mics. Unbalanced dynamic mics cannot be used when phantom power is enabled.
* Supplying phantom power to some ribbon mics will break them. If you are unsure, do not supply phantom power to a ribbon mic.

Audio connections

Analog audio signals input into this device from mics, guitars, keyboards and other audio equipment can be converted into digital signals and transmitted to the computer via USB. In addition, by connecting speakers (through an amplifier if not powered) or headphones to this unit, you can monitor audio signals that are input to this unit and output from the computer.

CAUTION

* Before connecting audio equipment, set the unit’s 1–8 gain, LINE OUT 1–2 and PHONES 1/2 knobs to their lowest values. Failure to do so could cause sudden loud noises from monitoring equipment, and this could damage the equipment or harm hearing.

Microphones

- **Dynamic mics**
  
  Connect to the IN1–IN8 jacks on the front of the unit.

- **Condenser mics**
  
  When using a condenser microphone that requires phantom power, connect it to an IN1–IN8 jack and then set the phantom power switch to +48V.

CAUTION

* Set the LINE OUT 1–2 and PHONES 1/2 knobs to their minimum values before changing a phantom power switch setting.

CAUTION

If you connect this unit to a computer via a USB hub, for example, audio signal dropouts, clicking noises and other interference could occur due to the influence of other USB devices connected to that hub. For this reason, we strongly recommend connecting this unit to a separate USB port. Connecting USB keyboards and mice, however, to the same bus should not be a problem.
Guitar
When connecting a guitar or bass guitar directly to this unit, use the IN1 or IN2 jack on the front of the unit.

Electronic devices and other audio equipment
Connect electronic instruments and other audio equipment to the IN3–IN8 jacks on the front of the unit and the IN9–IN10 jacks on the back of the unit. Set the LEVEL switch for the IN9–IN10 jacks to −10dBV when connecting unbalanced equipment and to +4dBu when connecting balanced equipment.

Analog record players
The output of an analog record player cannot be connected directly to this unit. To connect an analog record player to this unit, a phono amp and equalizer (or an audio amplifier that has phono input jacks) must be connected between them.

Monitor speakers
Connect monitor speakers (powered speakers or an amplifier and speaker system) to the LINE OUT 1–2 jacks on the back of the unit.
Use the LINE OUT 1–2 knob on the front of the unit to adjust the speaker volume.

Headphones
Connect headphones to the PHONES 1 and PHONES 2 jacks (standard stereo) on the front of the unit.

CAUTION
Before connecting headphones, minimize the volumes with the PHONES 1 and PHONES 2 knobs. Failure to do so might cause sudden loud noises, which could harm your hearing or result in other trouble.

MIDI connections
Connect sound modules, keyboards, synthesizers, drum machines and other MIDI devices to the unit in the following manner.

- If you want to monitor sound from a MIDI device, connect its outputs to the IN1–IN8 jacks on the front of the unit or the IN9–IN10 jacks on the back of the unit. You could also use an external mixer for monitoring.
- You can also use the MIDI IN and MIDI OUT connectors on the back of the unit to send and receive MIDI timecode (MTC). By doing this, you can use an application that supports MTC to synchronize a multitrack recorder (MTR) and MIDI devices.

CAUTION
When using Windows Media Player, if the “Sound and Audio Devices Properties” Control Panel “MIDI music playback (default device)” is set to “Microsoft GS Wavetable SW Synth”, you will not be able to hear MIDI performances through this unit’s LINE OUT 1–10, PHONES 1, PHONES 2, COAXIAL OUT and OPTICAL (S/MUX) OUT connectors.

Connecting with iOS devices
You can use a Lightning to USB Camera Adapter to connect the unit to an iOS device and use it as an interface with that device.

* You will need to prepare an Apple genuine Lightning to USB Camera Adapter (sold separately).

NOTE
- When connected, this unit will not provide power to the iOS device.
- iOS does not support 176.4/192kHz sampling frequencies.
6 – Using the Settings Panel

You can use the Settings Panel to change and save settings for the various functions of the unit.

Opening the Settings Panel

Open the Settings Panel installed on the computer to view it on the computer display.
You can open the Settings Panel in the following ways.

**NOTE**
The Settings Panel cannot be used with an iPad or other iOS device.

**Windows OS**

- Select the Settings Panel from “All Programs” or “All apps”

**Windows 10**
Right-click the Start button ➔ All Programs ➔ select “US-20x20 Settings Panel” under TASCAM and open the Settings Panel.

**Windows 8**
In Windows 8, right-click the Start screen and click the “All apps” button (in Windows 8.1, the button that appears at the bottom left of the Start screen) to open the Apps screen. On this screen, click the “US-20x20 Settings Panel” item under “TASCAM” and open the Settings Panel.

**Windows 7**
1. Click the Start button and select “Control Panel” to open the Control Panel.
2. If the Control Panel is showing categories, set the “View by:” item to “Large icons (L)” or “Small icons (S)”.
3. Select “US-20x20 Settings Panel” and open the Settings Panel.

**Mac OS X**

- Using the Finder, open the Applications folder and double-click “US-20x20 Settings Panel” to open the Settings Panel.
- In the Audio Devices window of the Audio MIDI Setup application, right-click (control-click) “US-20x20” (or click the settings icon when the unit name is selected) and click “Configure device…” to open the Settings Panel.

Settings Panel overview

The Settings Panel has three tabbed pages.
Click a tab at the top of the Settings Panel to open that page.

- **MIXER**: Make built-in mixer and effect settings.
- **INTERFACE**: Shows the current status of the driver and information about connections. Make various settings.
- **OUTPUT SETTING**: Make output settings.

**CAUTION**
When you open the Settings Panel, the setting values on each page (“MIXER”, “INTERFACE”, and “OUTPUT SETTING”) will be the same as when last closed, but they have not been saved in a scene memory. To save settings in a scene memory, use the Scene Memory menu. (See “Using the Scene Memory menu” on page 25.)

**NOTE**
In Windows 8.1, the application is not automatically added to the Start screen.

- Open the Settings Panel from the Control Panel.

**Windows 10**
1. Right-click the Start button and select “Control Panel” to open the Control Panel.
2. If the Control Panel is showing categories, set the “View by:” item to “Large icons (L)” or “Small icons (S)”.
3. Select “US-20x20 Settings Panel” and open the Settings Panel.

**Windows 8**
1. In Windows 8, right-click the Start screen and click the “All apps” button (or button that appears at the bottom left of the screen in Windows 8.1), and click “Control Panel” to open it.
2. If the Control Panel is showing categories, set the “View by:” item to “Large icons (L)” or “Small icons (S)”.
3. Select “US-20x20 Settings Panel” and open the Settings Panel.

**NOTE**
In Windows 8, you can also open the Control Panel by, for example, clicking the Control Panel item in the menu that appears if you right-click the bottom left corner of the desktop.
“MIXER” page channels 1–2

1. **EQUALIZER**
   This unit has a 4-band equalizer (with HIGH, HIGH MID, LOW MID and LOW bands).
   
   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. (See “EQUALIZER (4-band parametric EQ) display area overview” on page 18.)

   Click the Select (5) button of a channel to make equalizer settings for it.

   Equalizer settings are shown here for the channel selected using its Select (5) button.

**NOTE**
When the unit is in MIC PRE mode, you cannot make settings on the “MIXER” page even if you click the “MIXER” tab. (See “Using the unit as a microphone preamp” on page 28.)
6 – Using the Settings Panel

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

For example, by reducing the levels of sounds that are high level, lower level sounds become relatively louder, creating a more even volume level throughout and a more sustained sound. (See “COMPRESSOR display area overview” on page 19.)

Click the Select (5) button of a channel to make compressor settings for it.
Compressor settings are shown here for the channel selected using its Select (5) button.

NOTE
• If the input is a stereo signal (stereo-linked channel or master), compression will start and be applied to both channels when either the left or right input channel exceeds the threshold level.
• When the compressor is off, the compressor curve will appear but the meters will not be active.

3 Mode
This shows the operation mode of the unit set using the MODE button on its front panel.

4 REVERB
This effect adds reverberations to the original sound. Multiple sounds are delayed at various times with damping over time that is as natural as possible to produce reverberations like those of a hall, live-music club or studio, for example. (See “REVERB display area overview” on page 19.)

5 Select buttons
Click this button for a channel to show the equalizer and compressor settings for that channel.
Settings cannot be shown for more than one channel at a time.

Off (default): Select button unlit
ON: Select button lit

Activate one of these buttons to show the equalizer and compressor settings for that channel in the EQUALIZER (1) and COMPRESSOR (2) display areas.
To select a different channel, click that channel’s button. The previously selected channel button will become unlit, and the newly selected channel button will light.

6 PHASE buttons
Use these to change the phases of the signals on each channel.
If the phase becomes reversed due to the wiring of microphones or other causes, click these buttons to reverse the phases of those channels.

PHASE button unlit (default) Normal
PHASE button lit Reversed

7 EQ buttons
Use these to turn the equalizer on/off for each channel.
Click an EQ button to activate the equalizer for that channel.
The EQ button will light and the EQUALIZER (1) display area will show the active equalizer settings.

NOTE
The equalizer cannot be turned on if the sampling frequency is 176.4/192kHz.

8 COMP buttons
Use these to turn the compressor on/off for each channel.
Click a COMP button to activate the compressor for that channel. The COMP button will light and the COMPRESSOR (2) display area will show the active compressor settings.

NOTE
The compressor cannot be turned on if the sampling frequency is 176.4/192kHz.

9 Effects AUX selection buttons
Set whether the signal sent to the AUX bus is pre-fader or post-fader. The selected button lights.

<table>
<thead>
<tr>
<th>PRE button unlit (default)</th>
<th>The signal is not sent to the AUX bus.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE button lit</td>
<td>The signal is sent to the AUX bus before adjustment by the channel fader. The AUX level will not be affected by the channel fader.</td>
</tr>
<tr>
<td>POST button lit</td>
<td>The signal is sent to the AUX bus after adjustment by the channel fader. The AUX level will be affected by the channel fader.</td>
</tr>
</tbody>
</table>

10 AUX 1–4 knobs and indicators
Use to adjust the levels of the signals sent to the AUX bus (AUX levels).

Range: inf to 6 dB (default: inf)

Use the mouse to click and drag an AUX knob up or down to adjust that AUX level.
While dragging the mouse, the value being adjusted is shown below and to the right of the AUX knob.
The indicator lights blue at levels of 0 dB or less and yellow at levels from 0 dB to 6 dB.

11 SOLO buttons
The SOLO buttons change according to the current mode.
When the unit is in AUDIO I/F mode, if a channel is soloed (SOLO button turned on), channels that have not been soloed will automatically be muted (in place solo monitoring).
When the unit is in MIXER mode, channels that are soloed (SOLO buttons turned on) will be sent to the SOLO bus and channels that have not been soloed will automatically be muted (PFL solo monitoring).
The MUTE buttons of muted channels will light. (Default: off) Multiple channels can also be soloed at the same time when the unit is in AUDIO I/F or MIXER mode.

NOTE
• When the unit is in AUDIO I/F mode and all the SOLO buttons are off, clicking a SOLO button will solo that channel and automatically mute the other channels, lighting their MUTE buttons.
• When the unit is in AUDIO I/F mode if every SOLO button is turned off, channels that had been automatically muted will become unmuted. Channels that had been individually muted before any channel was soloed will remain muted.
• The MASTER L/R channel MUTE button will not turn on automatically when the unit enters solo mode.
12. **MUTE buttons**
Click a MUTE button to mute that channel. These buttons light for channels that are muted. (Default: off)

**NOTE**
In addition to turning the MUTE button on and off, channels will be automatically muted and unmuted when SOLO buttons are used.

13. **Pan sliders**
Use to adjust the stereo positions of the signals input to each channel.
Use the mouse to click and drag a pan slider left or right to adjust the stereo position.
While dragging the mouse, the adjusted position is shown above the channel level fader (15).
The value is L20 when set all the way to the left, R20 when set all the way to the right and C when centered.
Setting range: L20–L1, C (default value), R1–R20 (41 steps total)
The pan slider appears blue when centered (C) and yellow at all other positions.

**NOTE**
- When the pan slider is centered (C), signals are reduced by 3 dB and sent to the left and right buses.
- Double-click the pan slider to return it to the center (C) position.
- When the pan slider is at the left end (L20), the signal is sent only to the left bus of the stereo bus. It is not sent to the right bus.
- When the pan slider is at the right end (R20), the signal is sent only to the right bus of the stereo bus. It is not sent to the left bus.

14. **Channel faders**
Use these to adjust the levels of the signals sent from each channel to the stereo bus.
Range: −infinity to 6 dB (default: −infinity)
Use the mouse to click and drag a channel fader up or down to adjust its level.
The gain value of the channel fader is shown in the fader level display area (16).

**NOTE**
Double-click the fader to set it to 0 dB.

15. **Channel level meters**
These meters show the signal levels of each channel.
The channel level meters appear green at levels of −12 dB or less, yellow at levels from −12 dB to −6 dB and red at levels above −6 dB.
Each level meter has an overload indicator at its top.

**NOTE**
The channel meters show the levels before being adjusted by the faders. Level meters are not affected by fader adjustments or even their channels being muted.

16. **Fader level display areas**
These show the levels of the channel faders above them as decibel values.

17. **LINK buttons**
Click a LINK button to unite odd and even channels as a single stereo channel. When linked, this button lights for those channels. (Default: unlit)
When a pair is stereo linked, the buttons and knobs of the channels are combined. The channel level meters are also shown as a stereo pair.
See “LINK button overview” on page 20 for details.

18. **Channel notes**
You can input up to six alphanumeric characters.
- **Character input**
  Click one of these areas. The cursor will blink when ready for input.
  When the unit is ready, use a computer keyboard to input characters.
  When done inputting, press the computer Enter key to confirm.
- When done inputting characters, you must press the computer Enter key to confirm. If you do not press the Enter key, the input characters will continue to be shown but will not be saved when you switch to a different page from the “MIXER” page.

19. **REVERB button**
Click the REVERB button to apply reverb. (Default: on)
When the reverb is on, the REVERB button lights.

**NOTE**
The reverb cannot be turned on if the sampling frequency is 176.4/192kHz.

20. **RETURN knob and indicator**
Use to adjust the return level, which is the signal from the reverb effect returned to the stereo bus.
Range: inf to 6 dB (default: inf)
Use the mouse to click and drag the Return knob up or down to adjust the level.
While dragging the mouse, the value being adjusted is shown to the bottom right of the RETURN knob.
The indicator lights blue at levels of 0 dB or less and yellow at levels from 0 dB to 6 dB.

21. **AUX MASTER 1/REVERB knob and indicator**
Use this to adjust the send master level of the signal sent to the AUX 1 bus and reverb effect.
Range: inf to 6 dB (default: 0 dB)
Use the mouse to click and drag the 1/REVERB knob up or down to adjust the send level.
While dragging the mouse, the value being adjusted is shown below and to the right of the 1/REVERB knob.
The indicator lights blue at levels of 0 dB or less and yellow at levels from 0 dB to 6 dB.
6 – Using the Settings Panel

AUX MASTER 2–4 knobs and indicators
Use these to adjust the send master levels of the signals sent to the AUX 2–4 buses.
- Range: inf to 6 dB (default: 0 dB)
- Use the mouse to click and drag the 2–4 knobs up or down to adjust the send levels.
- While dragging the mouse, the value being adjusted is shown below and to the right of the 2–4 knobs.
- The indicator lights blue at levels of 0 dB or less and yellow at levels from 0 dB to 6 dB.

STEREO MASTER fader
Use to adjust the level of the output signal.
- Use the mouse to click and drag the master fader up or down to adjust the master level.
- The value being being adjusted is shown in the master fader level display area (g).

STEREO MASTER level meters
The master levels are shown by this stereo level meter.
- The STEREO MASTER level meters appear green at levels of -12 dB or less, yellow at levels from -12 dB to -6 dB and red at levels above -6 dB.
- Each level meter has an overload indicator at its top.

NOTE
The master level meters show the levels after being adjusted by the fader (post fader). The level meters are affected by fader adjustments and channels being muted.

STEREO MASTER fader level display area
This shows the level of the master fader as a numerical decibel value.

EQUALIZER (4-band parametric EQ) display area overview
Use this 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.

The equalizer has a high-shelf HIGH band, a low-shelf LOW band and peaking (bell-shaped) HIGH MID and LOW MID bands.

1. EQ graph
The frequency response at the current settings is shown as a graph.
- The graph is shown even when the equalizer is off.

2. GAIN (HIGH/HIGH MID/LOW MID/LOW) knobs
Set the amount the levels are increased or decreased for the HIGH, HIGH MID, LOW MID and LOW bands.
- Range: ±12 dB (default: 0 dB)

3. FREQ (HIGH/HIGH MID/LOW MID/LOW) knobs
Set the cutoff frequencies of the HIGH, HIGH MID, LOW MID and LOW bands.
- Ranges
  - HIGH: 1.7 kHz – 18.0 kHz (default: 5 kHz)
  - HIGH MID: 32 Hz – 18.0 kHz (default: 1.2 kHz)
  - LOW MID: 32 Hz – 18.0 kHz (default: 300 Hz)
  - LOW: 32 Hz – 1.6 kHz (default: 80 Hz)

4. Q (HIGH MID/LOW MID) knobs
Set the acutenesses of the peaks of the HIGH MID and LOW MID bands.
- The higher the value the more acute it becomes, making it affect a narrower frequency band. The lower the value, the less acute it becomes, making it affect a broader frequency band.
- Ranges
  - HIGH MID: 0.25 – 16.00 (default: 1.00)
  - LOW MID: 0.25 – 16.00 (default: 1.00)

5. LCF button
Click the LCF button to enable a low cut filter that cuts noise and other sounds at low frequencies. The LCF button lights when enabled. (Default: off)
COMPRESSOR display area overview

When the input volume exceeds the THRESHOLD level, the input volume is compressed, reducing output volume variation. For example, by reducing the levels of sounds that are high level, lower level sounds become relatively louder, creating a more even volume level throughout and a more sustained sound.

1. Compressor status display
   Three meters show the level of the signal input to the compressor (INPUT), the level of the signal output from the compressor (OUTPUT) and the gain reduction caused by the compressor (GR).

2. THRESHOLD knob
   Sets the threshold level that will cause the compressor to start.
   Range: −32 dB – 0 dB (default: 0 dB)

3. RATIO knob
   Sets the compression ratio for the input volume.
   Turning it right raises the compression ratio, increasing the amount of compression.
   Range: 1.0:1 – inf:1 (default: 1.0:1)

4. GAIN knob
   Sets the gain of the output signal.
   When the volume is compressed, the output level becomes lower than the input level. Use the GAIN knob to increase the output level so that it is close to the input level.
   Range: 0 dB – 20 dB (default: 0 dB)

5. ATTACK knob
   Sets the amount of time until the compression reaches the compression RATIO setting after the input volume exceeds the threshold.
   Range: 2 ms – 200 ms (default: 2 ms)

6. RELEASE knob
   Sets the amount of time until the compression stops and the sound returns to its uncompressed level after the input sound goes below the threshold.
   Range: 10 ms – 1000 ms (default: 10 ms)

NOTE
- If the input is a stereo signal (stereo-linked channel or master), compression will start and be applied to both channels when either the left or right input channel exceeds the threshold level.
- When the compressor is off, the compressor curve will appear but the meters will not be active.

REVERB display area overview

This effect adds reverberations to the original sound. Multiple sounds are delayed at various times with damping over time that is as natural as possible to produce reverberations like those of a hall, live-music club or studio, for example.

1. Reverb status display
   This shows the setting status of the PRE DELAY and REVERB TIME knobs.

2. Reverb type switch
   Use to select the type of reverb.
   Depending on the type, the density and level of the reverb sound changes.
   Options: HALL (default), ROOM, LIVE, STUDIO, PLATE

3. PRE DELAY knob
   Set the amount of delay until the first reverberations.
   The larger the value, the larger the reverberations make the room sound.
   Range: 0 ms – 250 ms (default: 90 ms)

4. REVERB TIME knob
   Set the amount of time that the reverberations continue.
   The larger the value, the longer they continue.
   Range: 0.1 s – 10 s (default: 2.7 s)

5. DIFFUSION knob
   Sets the breadth of the reverberations.
   Range: 0 – 100 (default: 20)
LINK button overview

When a LINK button on the “MIXER” page is turned on/off, the settings differ according to whether the stereo link is enabled or disabled.

The details of the settings are as follows.

When a LINK button is turned on

<table>
<thead>
<tr>
<th>Button/knob</th>
<th>Setting status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select buttons</td>
<td>On if a Select button was on (lit) for either channel.</td>
</tr>
<tr>
<td></td>
<td>Off if the Select buttons were off (unlit) for both channels.</td>
</tr>
<tr>
<td>PHASE buttons</td>
<td>Settings are not combined. Both channels retain their previous settings.</td>
</tr>
<tr>
<td>EQ buttons</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>COMP buttons</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>Effect AUX selection buttons</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>AUX knobs (1–4)</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>SOLO buttons</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>MUTE buttons</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>Pan sliders</td>
<td>Settings are not combined. Odd and even channels can each be set independently.</td>
</tr>
<tr>
<td>Channel faders</td>
<td>The setting of the odd channel is used for both.</td>
</tr>
<tr>
<td>Channel level meters</td>
<td>The channel level meters are shown as a stereo pair.</td>
</tr>
<tr>
<td>Fader level display areas</td>
<td>The setting of the odd channel is shown.</td>
</tr>
</tbody>
</table>

NOTE

When a LINK button is turned on (lit), the select button name changes to a name used when the stereo link is active.

Examples

When the “M/INST 1” and “M/INST 2” buttons are linked, the name of the button changes to “M/INST 1-2”.

When a LINK button is turned off

<table>
<thead>
<tr>
<th>Button/knob</th>
<th>Setting status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select buttons</td>
<td>If the Select button was on (lit) for either channel, the odd channel will be turned on and the even channel will be turned off.</td>
</tr>
<tr>
<td></td>
<td>If the Select buttons were off (unlit) for both channels, they will both stay off.</td>
</tr>
<tr>
<td>PHASE buttons</td>
<td>Settings do not change. Both channels retain their previous settings.</td>
</tr>
<tr>
<td>EQ buttons</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>COMP buttons</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>Effect AUX selection buttons</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>AUX knobs (1–4)</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>SOLO buttons</td>
<td>If a SOLO button was on (lit) when stereo-linked, this button will be on for both channels.</td>
</tr>
<tr>
<td></td>
<td>If the SOLO buttons were off (unlit) for both channels, they will both stay off.</td>
</tr>
<tr>
<td>MUTE buttons</td>
<td>If a MUTE button was on (lit) when stereo-linked, this button will be on for both channels.</td>
</tr>
<tr>
<td></td>
<td>If the MUTE buttons were off (unlit) for both channels, they will both stay off.</td>
</tr>
<tr>
<td>Pan sliders</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>Channel faders</td>
<td>Both channels use the settings they shared when stereo-linked.</td>
</tr>
<tr>
<td>Channel level meters</td>
<td>The channel level meters are shown independently again.</td>
</tr>
<tr>
<td>Fader level display areas</td>
<td>These setting values of each channel are shown.</td>
</tr>
</tbody>
</table>
INTERFACE page

Windows

Status display area  Setting area

Windows “INTERFACE” page in AUDIO I/F mode

Mac “INTERFACE” page in AUDIO I/F mode

The “INTERFACE” page is divided into two areas. One shows the status of the unit and the other shows settings.

An image of the rear panel of the unit is shown at the bottom of the page so you can check the layout of connectors, for example. (No setting changes or other operations are possible using this image.)

Status display area

This shows the current status of the unit.

<table>
<thead>
<tr>
<th>Item displayed</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Version</td>
<td>Version of the software being used</td>
</tr>
<tr>
<td>Firmware Version</td>
<td>Version of the firmware used by the unit</td>
</tr>
<tr>
<td>Device</td>
<td>Unit model</td>
</tr>
<tr>
<td>Clock Source</td>
<td>Name of the currently selected clock source</td>
</tr>
<tr>
<td>Sample Rate</td>
<td>Current sampling frequency</td>
</tr>
<tr>
<td>Digital Input Status</td>
<td>Current status of digital input</td>
</tr>
</tbody>
</table>

Depending on the status of the digital input, the following will appear for the Digital Input Status item.

<table>
<thead>
<tr>
<th>Item displayed</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock</td>
<td>A valid digital signal is being input.</td>
</tr>
<tr>
<td>Unlock</td>
<td>No valid digital signal is being detected.</td>
</tr>
</tbody>
</table>

NOTE

- “No Device” is shown for the “Firmware Version” and “Device” items when the unit and the computer are not connected.
- “No ASIO Driver” is show for the “Sample Rate” item if no ASIO driver has been installed.

Setting area

Sample Clock Source

Use this to set the sampling clock source.

Options:

- **COAXIAL**
  The clock signal input through the COAXIAL IN connector is used.

- **OPTICAL(TASCAM Auto Mode)**
  The clock signal input through the OPTICAL IN connector is used.

- **OPTICAL(44.1kHz/48kHz/88.2kHz/96kHz)**
  The clock signal input through the OPTICAL IN connector is used.

- **OPTICAL(176.4kHz/192kHz)**
  The clock signal input through the OPTICAL IN connector is used.

- **WORD**
  The clock signal input through the WORD IN connector is used.

- **INTERNAL**
  The unit’s built-in clock is always used.

NOTE

- When set to COAXIAL, OPTICAL or WORD, if no signal is input through the corresponding connector or synchroni-
zation becomes impossible, “Unlock” will appear for the Digital Input Status item and the unit’s MODE indicator will blink.

- When connecting multiple digital devices to the US-20x20, synchronize them to a system word clock and input word clock supplied by the master clock device to the US-20x20.

2 Internal Sample Rate
Set the sampling frequency of the unit’s internal clock.
Options: 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz

NOTE
When the unit is in AUDIO I/F mode, you cannot set the Internal Sample Rate.

3 Coaxial Digital Output Format
Use this to set the digital output format.
Options: S/PDIF, AES/EBU

4 Digital Input (176.k/192kHz)
Use this to set the digital input destination. (Only when 176.4/192 kHz)
Options: COAXIAL, OPTICAL 1/2

5 Buffer Size (Windows only)
The Windows driver for the unit stores the audio signals transferred to and from the computer temporarily in a buffer. This buffer size can be adjusted.
Smaller buffer sizes result in less audio signal delay (latency), but require high-speed processing by the computer.
If the processing cannot keep up, for example, due to other system operations, clicking and popping noises might occur and the audio signal might even drop out.
Increasing the buffer size will stabilize operation and suppress negative effects on audio signals, but the delay in audio signals sent to the computer will increase.
You can use the slider on the panel to adjust the buffer size, according to the use conditions.
Use the slider to select fixed values that increase from left to right.
Options: 64 Samples, 128 Samples, 256 Samples, 512 Samples, 1024 Samples, 2048 Samples

NOTE
When the unit is in MIC PRE or MIXER mode, you cannot set the Buffer Size.

OUTPUT SETTING page

On the “OUTPUT SETTING” page, set the signal lines output from the unit’s output jacks.

NOTE
When the unit is in MIC PRE mode, you cannot change settings in the output signal selection area of the “OUTPUT SETTING” page. (See “Using the unit as a microphone preamp” on page 28.)

1 Mode
This shows the operation mode of the unit set using the MODE button on its front panel.

2 Output signal selection area
Click the output signal selection area to open a pull-down menu from which you can select the signal you want to output from the options. The options shown depend on the operation mode.
Options:
- MASTER L/MASTER R
- Output the L/R signals from the Stereo BUS
- AUX 1–AUX 4
- Output the signals from an AUX BUS (1–4)
- COMPUTER 1–COMPUTER 20
- When the operation mode is AUDIO I/F, signals are output from Computer BUS (1–20)
- SOLO L/SOLO R:
- When the operation mode is MIXER, signals are output from SOLO BUS (L/R).
6 – Using the Settings Panel

**NOTE**
The same signals are output from the PHONES 1 and PHONES 2 jacks as the output signals selected in the output signal selection area for LINE OUT 1 and LINE OUT 2.

**Status display area**
This shows the connections between the signals selected in the output signal selection area (②) and the output connectors.

**Using the Settings Panel View menu**
Use the View menu in the menu bar to reset the Settings Panel and reverb settings to their original values, as well as to minimize the Settings Panel.

- **Initialize**
  Select this to reset all settings in the Settings Panel. See “Initializing the Settings Panel” on page 23 for details.

- **Initialize Reverb**
  Select this to reset the settings in REVERB area on the “MIXER” page. See “Resetting the reverb settings” on page 24 for details.

- **Minimize**
  This minimizes the Settings Panel software to the Windows Taskbar or Mac Dock.

- **Close**
  Close the Settings Panel and quit/exit the software.

**Initializing the Settings Panel**
You can reset all settings in the Settings Panel.

**NOTE**
The items on the “INTERFACE” page cannot be initialized.

**CAUTION**
*After resetting, you cannot restore the previous settings.*

1. In the menu bar, open the View menu (Windows/Mac), and click “Initialize”.
   The following confirmation message will appear.

   **Windows version**
   2. Click the “OK” button in the message window to reset the Settings Panel settings to their default values.
   The items reset are as follows.
   - **“MIXER” page items**
     - EQUALIZER area settings: all initialized
     - COMPRESSOR area settings: all initialized
     - REVERB area settings: all initialized
     - PHASE buttons (all channels): off
     - EQ buttons (all channels): off
     - COMP buttons (all channels): off
     - Effect AUX selection buttons: off
     - AUX 1–4 knobs (all channels): inf
     - SOLO buttons (all channels): off
     - MUTE buttons (all channels): off
     - Pan sliders (all channels): center (C)
     - Channel faders (all channels): −infinity
     - LINK buttons (all channel pairs): off
     - REVERB buttons: on
     - RETURN knob: inf
     - AUX MASTER 1/REVERB knob: 0
     - AUX MASTER 2–4 knobs: 0
     - STEREO MASTER fader: −infinity

   The following “OUTPUT SETTING” page items when the unit is in AUDIO I/O mode
   - LINE OUT 1: COMPUTER 1
   - LINE OUT 2: COMPUTER 2
   - LINE OUT 3: COMPUTER 3
   - LINE OUT 4: COMPUTER 4
   - LINE OUT 5: COMPUTER 5
   - LINE OUT 6: COMPUTER 6
   - LINE OUT 7: COMPUTER 7
   - LINE OUT 8: COMPUTER 8
   - LINE OUT 9: COMPUTER 9
   - LINE OUT 10: COMPUTER 10
   - COAX L: COMPUTER 11
   - COAX R: COMPUTER 12
   - OPT 1: COMPUTER 13
   - OPT 2: COMPUTER 14
   - OPT 3: COMPUTER 15
   - OPT 4: COMPUTER 16
6 – Using the Settings Panel

- OPT 5: COMPUTER 17
- OPT 6: COMPUTER 18
- OPT 7: COMPUTER 19
- OPT 8: COMPUTER 20

The following “OUTPUT SETTING” page items when the unit is in MIXER mode
- LINE OUT 1: MASTER L
- LINE OUT 2: MASTER R
- LINE OUT 3: AUX 1
- LINE OUT 4: AUX 2
- LINE OUT 5: AUX 3
- LINE OUT 6: AUX 4
- LINE OUT 7: AUX 1
- LINE OUT 8: AUX 2
- LINE OUT 9: AUX 3
- LINE OUT 10: AUX 4
- COAX L: MASTER L
- COAX R: MASTER R
- OPT 1: AUX 1
- OPT 2: AUX 2
- OPT 3: AUX 3
- OPT 4: AUX 4
- OPT 5: AUX 1
- OPT 6: AUX 2
- OPT 7: AUX 3
- OPT 8: AUX 4

**NOTE**
- Click the “Cancel” button to return to the Settings Panel without resetting.
- If you turn the unit on without launching the Settings Panel, the default values for the “OUTPUT SETTING” page will be used for the input and output settings.
- There is no iOS device Settings Panel, so the unit will operate using the default values.

---

**Resetting the reverb settings**

You can reset the settings in the REVERB area on the “MIXER” page.

**CAUTION**

*After resetting, you cannot restore the previous settings.*

1. In the menu bar, open the View menu (Windows/Mac), and click “Initialize Reverb”.
   
The following confirmation message will appear.

   ![US-2x20_SettingsPanel](image)

   Windows version

2. Click the “OK” button in the message window to reset the reverb settings to their default values.

   The items reset are as follows.

<table>
<thead>
<tr>
<th>Reverb type</th>
<th>Reverb knobs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRE DELAY</td>
</tr>
<tr>
<td>HALL</td>
<td>90 ms</td>
</tr>
<tr>
<td>ROOM</td>
<td>25 ms</td>
</tr>
<tr>
<td>LIVE</td>
<td>6 ms</td>
</tr>
<tr>
<td>STUDIO</td>
<td>60 ms</td>
</tr>
<tr>
<td>PLATE</td>
<td>42 ms</td>
</tr>
</tbody>
</table>

The reverb type will also be set to HALL (default value).

**NOTE**

*Click the “Cancel” button to return to the Settings Panel without resetting.*
Using the SceneMemory menu

Use the “SceneMemory” menu to save the current Settings Panel settings in a scene memory or to initialize those settings.

**SceneMemory1–10 items**

Use to save the current Settings Panel settings as a scene memory. Ten scene memories have been prepared in advance.

**Initialize Memory item**

Use to reset all scene memories to their default values. See “Resetting all scene memories” on page 27 for details.

**Save into the unit item**

You can transfer the current Settings Panel settings to the unit.

By transferring the settings saved in the Settings Panel to the unit, you can use them to operate the unit in standalone mode when it is not connected to a computer by USB. See “Saving Settings Panel settings to the unit” on page 27 for details.

**NOTE**

The Buffer Size item on the “INTERFACE” page is not saved.

Windows version

Mac version

Saving Settings Panel settings

You can save the current Settings Panel settings as a scene memory.

**CAUTION**

Only one set of Settings Panel settings can be saved in each scene memory. For this reason, saving settings will erase the previously saved settings.

1. Open the “SceneMemory” menu from the menu bar, and click the name of the scene memory where you want the settings to be saved to open a submenu.
2. Click “Save” in the submenu to save the current Settings Panel settings to the selected scene memory.

Windows version

Mac version

**NOTE**

Select button settings on the “MIXER” page are not saved.
Loading Settings Panel settings

You can change the current Settings Panel settings by loading settings stored in a scene memory.

**CAUTION**

After loading a scene memory, you cannot restore the previous settings. You can save the current settings in a different scene memory beforehand if you like.

1. Open the “SceneMemory” menu from the menu bar, and click the name of the scene memory to be loaded to open a submenu.
2. Click “Load” in the submenu to change the Settings Panel settings to the settings in the selected scene memory.

Changing scene memory names

You can change the names of scene memories.

1. Open the “SceneMemory” menu from the menu bar, and click the scene memory name that you want to change to open a submenu.
2. Select “Rename” in the submenu.
3. A window where you can change the scene memory name will open.
4. Input a new name for the scene memory, and click the “OK” button to confirm the change.
6 – Using the Settings Panel

**Resetting all scene memories**
You can reset the 10 scene memories to the default values.

**CAUTION**
*After resetting, you cannot restore the previous settings.*

1. In the menu bar, open the “SceneMemory” menu, and click “Initialize Memory”.

**Saving Settings Panel settings to the unit**
You can save the current Settings Panel settings to the unit.

1. In the menu bar, open the “SceneMemory” menu, and click “Save into the unit”.

**NOTE**
The Buffer Size item on the “INTERFACE” page is not saved.
7 – Operation modes

Press the MODE button on the front of the unit to change the operation mode used. The MODE indicator lights for the currently active operating mode.

This unit has the following three operating modes.

- **MIC PRE**
  The unit operates as a microphone preamp.

- **AUDIO I/F**
  The unit operates as an audio interface.

- **MIXER**
  The unit operates as a digital mixer.

### Using the unit as a microphone preamp

When the MIC PRE MODE indicator on the front of the unit is lit, you can use the unit as a microphone preamp.

**NOTE**

- The default sampling frequency in mic preamp mode is 44.1 kHz.

- When the unit is in mic preamp mode, you cannot make settings on the "MIXER" page. If you click the "MIXER" tab, the following message will appear.

Changing the sampling frequency in mic preamp mode

Use the following settings to change the sampling frequency (44.1 kHz by default) in mic preamp mode.

**Windows**

- Control Panel ➔ Sound window ➔ Speakers TASCAM US-20x20 ➔ Properties (p) ➔ US-20x20 Properties Advanced tab ➔ Default Format

**Mac**

- Applications folder ➔ Utilities folder ➔ Audio MIDI Setup ➔ Audio Devices window ➔ US-20x20 ➔ Format

**NOTE**

In mic preamp mode, the sampling frequency can also be changed from DAW software.
### Input and output channels in mic preamp mode

In mic preamp mode, the routings between input and output channels are fixed as shown below. The input channels that can be output from the OPTICAL OUT jacks depends on the set sampling frequency.

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.1/48 kHz</td>
<td>88.2/96 kHz</td>
</tr>
<tr>
<td>MIC/INST IN1</td>
<td>MIC/INST IN1</td>
</tr>
<tr>
<td>MIC/INST IN2</td>
<td>MIC/INST IN2</td>
</tr>
<tr>
<td>MIC/LINE IN3</td>
<td>MIC/LINE IN3</td>
</tr>
<tr>
<td>MIC/LINE IN4</td>
<td>MIC/LINE IN4</td>
</tr>
<tr>
<td>MIC/LINE IN5</td>
<td>MIC/LINE IN5</td>
</tr>
<tr>
<td>MIC/LINE IN6</td>
<td>MIC/LINE IN6</td>
</tr>
<tr>
<td>MIC/LINE IN7</td>
<td>MIC/LINE IN7</td>
</tr>
<tr>
<td>MIC/LINE IN8</td>
<td>MIC/LINE IN8</td>
</tr>
<tr>
<td>MIC/INST IN1-2 + MIC/LINE IN3-8</td>
<td>MIC/INST IN1-2 + MIC/LINE IN3-4</td>
</tr>
<tr>
<td>MIC/INST IN1-2</td>
<td>MIC/INST IN1-2</td>
</tr>
<tr>
<td>MIC/INST IN1-2</td>
<td>MIC/INST IN1-2</td>
</tr>
</tbody>
</table>

You can use the gain knobs of the channels to adjust each of their output levels.

**NOTE**

*When shipped new from the factory, the LINE OUT 1–2 knobs are set at their minimum values, so no signals will be output from the LINE OUT 1–2 jacks.*

*When using mic preamp mode, set the LINE OUT 1–2 knobs to their maximum values.*

### Using the unit in audio interface mode

When the AUDIO I/F MODE indicator on the front of the unit is lit, you can use the unit as an audio interface.

**NOTE**

*The default sampling frequency in audio interface mode is 44.1 kHz.*

### Changing the sampling frequency in audio interface mode

Set it in the DAW software you are using.

### Using the unit in digital mixer mode

When the MIXER MODE indicator on the front of the unit is lit, you can use the unit as a digital mixer.

**NOTE**

*The default sampling frequency in digital mixer mode is 44.1 kHz.*

### The sampling frequency can be changed in digital mixer mode.

You can change the sampling frequency (44.1 kHz by default) in digital mixer mode in the following manner.

- **Windows**
  - Control Panel ➔ Sound window ➔ Speakers TASCAM US-20x20 ➔ Properties (p) ➔ US-20x20 Properties Advanced tab ➔ Default Format

- **Mac**
  - Applications folder ➔ Utilities folder ➔ Audio MIDI Setup ➔ Audio Devices window ➔ US-20x20 ➔ Format

**NOTE**

*In digital mixer mode, the sampling frequency can also be changed from DAW software.*
In this chapter, we explain how to set some audio applications for use with this unit.

**DAW software**

The ways that settings are made differ among DAWs. When using a DAW, consult its operation manual.

**Windows Media Player**

**Windows 10**
1. Quit all applications, right-click the Start button menu and open the Control Panel.
2. Open “Sound”.
   - **NOTE**
     * If you do not see this item, click Hardware and Sound.

3. On the Playback page, right-click “Speakers TASCAM US-20x20”, and click “Set as Default Device” in the pop-up menu that appears.
   - When you do this, the green check mark (✓) appears next to “Speakers TASCAM US-20x20”.

   - **NOTE**
     * To use this unit as the recording device, open the “Recording” page and use “Set as Default Device” for “Line In TASCAM US-20x20”.

4. After completing the setting, click the OK button.
5. Start Windows Media Player, select an audio file and start playback.
   - **NOTE**
     * If you change the 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 settings and completing the procedures above, restart the computer.
     * If you make this setting, sound will be output through this unit, but no sound will be output from the computer’s speakers or headphone jack.

**Windows 8**
1. Quit all applications and right-click the Start screen and then click the All apps button to open the Apps screen.
   - **NOTE**
     * In Windows 8.1, click the 📈 icon that appears at the bottom left of the start screen to open the Apps screen.

2. Click Control Panel.
3. Click “Hardware and Sound”, and then open the “Sound” window.
4. On the Playback page, right-click “Speakers TASCAM US-20x20”, and click “Set as Default Device” in the pop-up menu that appears.
   - When you do this, the green check mark (✓) appears next to “Speakers TASCAM US-20x20”.

5. After completing the setting, click the OK button.
   - **NOTE**
     * If you change the 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 settings and completing the procedures above, restart the computer.
     * If you make this setting, sound will be output through this unit, but no sound will be output from the computer’s speakers or headphone jack.
Windows 7

1. Quit all applications and open the Control Panel from the Start button menu.
2. Open “Sound”.

NOTE
If you do not see this item, click Hardware and Sound.

3. On the Playback page, right-click “Speakers TASCAM US-20x20”, and click “Set as Default Device” in the pop-up menu that appears.

When you do this, the green check mark (✓) appears next to “Speakers TASCAM US-20x20”.

NOTE
To use this unit as the recording device, open the “Recording” page and use “Set as Default Device” for “Line In TASCAM US-20x20”.

4. After completing the setting, click the OK button.
5. Start Windows Media Player, select an audio file and begin playback.

NOTE
• If you change the 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 settings and completing the procedures above, restart the computer.
• If you make this setting, sound will be output through this unit, but no sound will be output by the computer’s speakers or headphone jack.

Mac OS X and iTunes

1. Open the Utilities folder in the Applications folder, and double-click “Audio MIDI Setup”. Then open the “Audio Devices” window.
2. Click “US-20x20” to select it and right-click or control-click it. Then, click “Use this device for sound output” in the pop-up menu.

The speaker mark appears next to “US-20x20”.

NOTE
To use this device as the recording device, select “Use this device for sound input” for the “US-20x20”.

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

NOTE
• On a Mac, when setting the sampling rate to 176.4/192kHz, in “Audio MIDI” Setup set the input and output formats to “12ch-24bit Integer” before changing the DAW sampling frequency.
• Do not change the sampling frequency when YouTube, iTunes or another application is playing back.

iOS

When using this unit with an iOS device, no special settings are necessary. You can use the unit immediately after connecting it to the device by USB.

NOTE
Connecting headphones or other equipment to the headphone jack of the iOS device will interrupt USB communication with the unit.
## MIDI Implementation Chart

<table>
<thead>
<tr>
<th>Function</th>
<th>Transmit</th>
<th>Recognize</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic channels</td>
<td>When power on</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Settable</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Mode</td>
<td>When power on</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Messages</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Altered</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Note number</td>
<td>Range</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Velocity</td>
<td>Note on</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Note off</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Aftertouch</td>
<td>Polyphonic</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Channel</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Pitch bend</td>
<td>×</td>
<td>×</td>
<td>Thru</td>
</tr>
<tr>
<td>Control change</td>
<td>×</td>
<td>×</td>
<td>Thru</td>
</tr>
<tr>
<td>Program change</td>
<td>×</td>
<td>×</td>
<td>Thru</td>
</tr>
<tr>
<td>System exclusive</td>
<td>×</td>
<td>×</td>
<td>Thru</td>
</tr>
<tr>
<td>System common</td>
<td>Position</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Song select</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Tune</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>System real-time</td>
<td>Clock</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Command</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Other</td>
<td>Local on/off</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>All notes off</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Active sense</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>Reset</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

**Notes**

- **Mode 1**: OMNI ON, POLY
- **Mode 2**: OMNI ON, MONO
- **Mode 3**: OMNI OFF, POLY
- **Mode 4**: OMNI OFF, MONO

- **O**: YES
- **×**: NO
10 – 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 (see the end of this manual) with the following information about the operating environment and details about the trouble.

**Operating environment**
- Computer manufacturer
- Model
- CPU
- Memory (RAM)
- Operating system
- Applications used
- Antivirus software
- Wireless LAN use

See the end of this document for contact information.

**The dedicated software cannot be installed**
1. Check the operating system
   The operating system you are using might not be supported by the software that you are trying to install.
   Check the operating systems supported by the software that you are trying to install.
2. Stop software that is running in the background
   Antivirus software and other software running in the background can interfere with installation. Quit software running in the background and try installing again.

**The unit is connected, but the computer does not recognize it.**
1. Install the dedicated software
   - If you have not done so, install the dedicated software. (See “Installing the dedicated software” on page 6.)
2. Change the USB port
   - This unit will not work with USB 1.1. Use a USB 3.0 or USB 2.0 port.
   - Do not use a USB hub. Always connect the unit directly to a USB port on the computer.
   - If the above steps do not resolve the problem, connect the unit to a different USB port on the computer.

**There is no sound even when playing back on the computer.**

The audio output must be set on the computer.
Please confirm the following while the unit is connected to the computer. Moreover, if you make the following settings, sound will be output through this unit, but no sound will be output by the computer's speakers or headphone jack.

**Windows 10/Windows 8/Windows 7**
See the “Windows Media Player” section in “8 – Application Guide” on page 30 of this manual, and make settings for the default playback device according to the OS.

**Mac OS X**
1. Quit all applications and open “System Preferences...” from the Apple menu.
2. Open “Sound”.
3. On the Output tab, select “US-20x20”.

After completing the setting, restart the computer and check the sound of playback. Depending on the application that you are using, you might need to make additional device settings. In particular, DAW applications operate using audio engines with settings that are different from the OS settings, so confirm the DAW settings first after installing the driver and Settings Panel software for this unit.
Please see the manuals for the applications that you are using for detailed setting procedures.
Sound breaks up or there is noise.

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

Here are some methods to reduce the load on the computer.

1. A wireless LAN and software running in the background, including antivirus software, regularly put processing loads on the computer, which can cause sound to break up and other noise. Stop wireless LAN transmission, antivirus software and other software running in the background when using this unit.

2. Set the buffer size (latency) in the audio application that you are using or in this unit’s Settings Panel to a larger value (Windows only).

**NOTE**
Consult the maker of the audio application that you are using for methods to reduce its load on your computer.

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

**Windows 10**
1. Click the Start button and click “Explorer”.
2. Right-click “PC” and select “Properties”.
3. Click “Advanced system settings”.
4. Click “Settings” in the “Performance” section of the “Advanced” tab of the “System Properties” window.
5. In the “Visual Effects” tab of the “Performance Options” window, select “Adjust for best performance”.

**Windows 8**
1. In Windows 8, right-click the ordinary start screen (Metro user interface screen) and then click “All apps”.
2. Right-click “Computer” and select “Properties”.
3. Click “Advanced system settings”.
4. Click “Settings” in the “Performance” section of the “Advanced” tab of the “System Properties” window.
5. In the “Visual Effects” tab of the “Performance Options” window, select “Adjust for best performance”.

**Windows 7**

a) Turn Aero off.
1. Right-click the desktop and select “Personalize”.
2. Select a “Basic” or “High Contrast” theme.

b) Performance settings
1. Right-click “Computer” and select “Properties”.
2. Click “Advanced system settings”.
3. Click “Settings” in the “Performance” section of the “Advanced” tab of the “System Properties” window.
4. In the “Visual Effects” tab of 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. Set “Computer sleep” to “Never”.
3. Set “Display sleep” to “Never”.

**NOTE**
Depending on the Mac OS X version and Mac computer model, this setting might not be available.

4. Change the USB port
Since the unit might not properly function with some USB ports, try connecting it to a different USB port.

**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 USB port on the computer (built-in)
I am using SONAR and the performance with my TASCAM US-20x20 interface is not very good. How do I fix this?
First, make sure that your audio interface is set to ASIO mode:
• Press P to open the Preferences window
• Click “Playback and Recording” from the left column
• Set the Driver Mode to ASIO

If you still have problems, change the Buffer Size in the US-20x20 Settings panel:
• Open the US-20x20 Settings panel
• Click the Interface tab
• Change the Buffer Size to a higher setting

I see that the US-20x20 recommends that I change the Windows Power Management settings. How do I do this?
Windows allows the processor to throttle to half speed when the computer is idle. However, this can affect the performance of DAW recording software. TASCAM recommends that this function be disabled, especially when using a multi-channel interface such as the US-20x20.
To Change the Power Management settings in Windows:
• Open the Control Panel.
  • In Windows 10, right-click the Start button and click the Control Panel that appears.
  • In Windows 8 (including 8.1) this is under “Settings” in the right pane of the desktop
  • In Windows 7 and earlier this is in your Start menu
• Open the Power Options control panel by double-clicking it
• Click “Show Additional Plans”
• Click on “High Performance” in the Power Options
11 – Specifications

Ratings

- Sampling frequencies
  44.1, 48, 88.2, 96, 176.4, 192 kHz
- Quantization bit depth
  16/24-bit

Input/output ratings

Analog inputs

- Mic inputs (balanced, IN1–IN8)
  Connector: XLR-3-31 equivalent (1: GND, 2: HOT, 3: COLD)
  Input impedance: 2.4 kΩ
  Nominal input level (gain knob at MAX): −68 dBu (0.0003 Vrms)
  Nominal input level (gain knob at MIN): −12 dBu (0.195 Vrms)
  Maximum input level: +8 dBu (1.947 Vrms)
  Gain range: 56 dB

- Instrument inputs (unbalanced, IN1–IN2)
  Connector: 6.3mm (1/4") standard TS jacks (Tip: HOT, Sleeve: GND)
  Input impedance: 1 MΩ or more
  Nominal input level (gain knob at MAX): −68 dBV (0.0004 Vrms)
  Nominal input level (gain knob at MIN): −12 dBV (0.251 Vrms)
  Maximum input level: +8 dBV (2.512 Vrms)
  Gain range: 56 dB

- Line inputs (balanced, IN3–IN8)
  Connector: 6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
  Input impedance: 10 kΩ
  Nominal input level (gain knob at MAX): −52 dBu (0.0019 Vrms)
  Nominal input level (gain knob at MIN): +4 dBu (1.228 Vrms)
  Maximum input level: +24 dBu (12.282 Vrms)
  Gain range: 56 dB

- Line inputs (unbalanced, LINE IN 9–10)
  When LEVEL switch set to −10dBV
  Connector: 6.3mm (1/4") standard TS jacks (Tip: HOT, Sleeve: GND)
  Input impedance: 10 kΩ
  Nominal input level: −10 dBV (0.3162 Vrms)
  Maximum input level: +10 dBV (3.162 Vrms)

Line inputs (balanced, LINE IN 9–10)
  When LEVEL switch set to +4dBu
  Connector: 6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
  Input impedance: 10 kΩ
  Nominal input level: +4 dBu (1.228 Vrms)
  Maximum input level: +24 dBu (12.282 Vrms)

Analog outputs

- Line outputs (balanced, LINE OUT 1–10)
  Connector: 6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
  Output impedance: 100 Ω
  Nominal output level: +4 dBu (1.228 Vrms)
  Maximum output level: +24 dBu (12.277 Vrms)

- Headphone outputs (PHONES 1/2)
  Connector: 6.3mm (1/4") standard stereo jacks
  Maximum output: 70mW + 70mW (THD+N 0.1% or less, into 32 Ω load)
  Frequency response (input → PHONES 1/2 output)
    - At 44.1 kHz and 48 kHz
    - 20 Hz – 20 kHz: ±1.0 dB (JEITA)
    - At 176.4 kHz and 192 kHz
    - 20 Hz – 80 kHz: ±5.0 dB (JEITA)

Digital audio input/output ratings

- COAXIAL IN
  Connector: RCA pin jacks
  Signal format: IEC60958-3 (S/PDIF)
  Input impedance: 75 Ω
  Input level: 0.5 Vp−p/75 Ω

- COAXIAL OUT
  Connector: RCA pin jacks
  Signal formats: IEC 60958-3 (S/PDIF)/IEC 60958-4 (AES/EBU)
    - Changeable on the Settings Panel INTERFACE page
  Output impedance: 75 Ω
  Output level: 0.5 Vp−p/75 Ω

- OPTICAL (S/MUX) IN/OUT
  Connector: OPTICAL (JEITA RC-5720C)
  Signal format: Multi-channel optical (supports S/MUX when 88.2/96/176.4/192kHz)
Control input/output ratings

- **USB**
  - Connector: USB 3.0 B type
  - Transfer rate: USB 3.0 Super Speed (5 Gbps)

- **MIDI IN connector**
  - Connector: 5-pin DIN
  - Format: standard MIDI

- **MIDI OUT connector**
  - Connector: 5-pin DIN
  - Format: standard MIDI

- **WORD IN connector**
  - Connector: BNC
  - Input voltage: 2.0 Vp-p – 5.0 Vp-p
  - Input impedance: 75 Ω ±10%
  - Permitted frequency deviation during external synchronization: ±100 ppm
  - Terminal on/off switch

- **WORD OUT connector**
  - Connector: BNC
  - Input voltage: 2.0 Vp-p (into 75 Ω)
  - Output impedance: 75 Ω ±10%
  - Sampling frequencies: 44.1, 48, 88.2, 96, 176.4 and 192 kHz
  - OUT/THRU switch

Audio performance

- **Mic amp EIN (equivalent input noise)**
  -125 dBu or lower

- **Frequency response**
  - Input → LINE OUT (BALANCED)
    - At 44.1/48 kHz and 20 Hz – 20 kHz: ±0.5 dB (JEITA)
    - At 176.4/192 kHz and 20 Hz – 80 kHz: ±5 dB (JEITA)

- **S/N ratio**
  - 104 dB or higher (MIC/LINE IN → LINE OUT, gain knob at MIN, JEITA)

- **Distortion**
  - 0.005% or less (MIC/LINE IN → LINE OUT, 1kHz sine wave, at nominal input level and maximum output level)

- **Crosstalk**
  - 100 dB or more (MIC/LINE IN → LINE OUT, 1 kHz)

Computer system requirements

Check the TEAC Global Site (http://teac-global.com/) for the latest information about supported operating systems.

### Windows

- **Supported operating systems**
  - Windows 10 (32-bit)
  - Windows 10 (64-bit)
  - Windows 8 (including 8.1) 32-bit
  - Windows 8 (including 8.1) 64-bit
  - Windows 7 32-bit SP1 or later
  - Windows 7 64-bit SP1 or later

- **Computer hardware requirements**
  - Windows computer with a USB 3.0 or USB 2.0 port

- **CPU/processor speed**
  - 2 GHz or faster dual core processor (x86)

- **Memory**
  - 2 GB or more

- **Display resolution**
  - 1280×800 or greater

**CAUTION**

- The included USB cable (USB 2.0 or USB 3.0) and the USB specification that can be used depends on the the computer and OS you are using. Connect with the included USB 3.0 cable to use the USB 3.0 standard.

<table>
<thead>
<tr>
<th>Supported operating systems</th>
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<th>USB cable connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10 32-bit</td>
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</tr>
<tr>
<td>Windows 10 64-bit</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Windows 8 (including 8.1) 32-bit</td>
<td>✓</td>
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</tr>
</tbody>
</table>

- Operation of this unit was confirmed using standard computers that meet the above requirements. This does not guarantee operation with all computers that meet the above requirements. Even computers that meet the same system requirements might have processing capabilities that differ according to their settings and other operating conditions.
Mac OS X

- **Supported operating systems**
  - OS X Yosemite (10.10.1 or later)
  - OS X Mavericks (10.9.5)
  - OS X Mountain Lion (10.8.5)

- **Computer hardware requirements**
  - Mac with a USB 3.0 or USB 2.0 port

- **CPU/processor speed**
  - 2 GHz or faster dual core processor

- **Memory**
  - 2 GB or more

- **Display resolution**
  - 1280×800 or greater

**CAUTION**

The included USB cable (USB 2.0 or USB 3.0) and the USB specification that can be used depends on the the computer and OS you are using.

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</table>

**iOS devices**

Device made by Apple Inc. running iOS 7 or later

**Supported audio drivers**

- **Windows**
  - USB Audio Class 2.0, ASIO 2.0, WDM (MME), MIDI

- **Mac**
  - Core Audio, Core MIDI

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**General**

- **Power**
  - DC12V AC adapter (GPE248-120200-Z)

- **Power consumption**
  - 20W

- **Dimensions**
  - With standard frame attached
    - 445 × 59 × 222 mm (W × H × D)
  - With rack mount adapters attached
    - 482.6 × 44 × 222.4 mm (W × H × D)

- **Weight**
  - 2.7kg

- **Operating temperature range**
  - 5–35 °C (32–104 °F)
11 – Specifications

Dimensional drawings

- With standard frame attached (as shipped from the factory)

- With rack mount adapters attached

• Illustrations in this reference manual might differ in part from the actual product.
• The external appearance might be changed without notification to improve the product.
11 – Specifications

Block diagrams

Mic preamp mode
Audio interface mode
11 – Specifications

Digital mixer mode

DIGITAL MIXER MODE
11 – Specifications

Level diagrams

- MIC IN 1-8
- INST IN 1-2
- LINE IN 1-8
- LINE IN 9-10
- LINE OUT 1-2
- LINE OUT 3-8
- PHONE OUT

US-20x20
LEVEL DIAGRAM