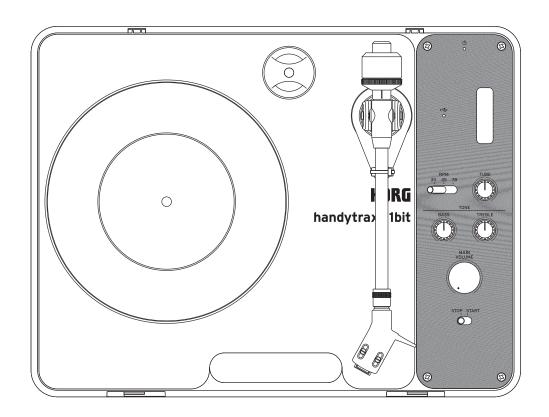
# handytraxx 1bit

PORTABLE RECORD PLAYER

# **Owner's Manual**



KORG

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# Introduction

Thank you for purchasing the Korg **handytraxx 1bit** Portable Record Player.

To take full advantage of this device's functionality and ensure years of trouble-free operation, please read this Owner's Manual carefully before use.

- → Conventions in this manual
- → Main features

# Conventions in this manual

- Specifications and appearance of this product are subject to change without notice.
- The product shapes and display content illustrated in this manual may differ somewhat from the actual product.
- Symbols used in this manual

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Indicates an explanation you should heed to ensure that you can correctly utilize the capabilities or functionality of this unit.

Note Indicates an explanation that requires your attention.

**Tip** Indicates supplementary information that is useful to know.

\* All product names and company names are the trademarks or registered trademarks of their respective owners.

### Main features

#### Easily enjoy playing records without needing a lot of space

- Compact, lightweight. Attach the top cover and easily carry the unit with the handle.
- Can be powered with six type-AA batteries or the AC adapter.
- Includes a built-in phono equalizer and stereo speakers.

#### A full-fledged record player

- Includes a statically balanced universal straight arm with replaceable cartridge.
- Features a sturdy aluminum die-cast platter for stable turntable rotation.
- Offers microcomputer-controlled digital rotation correction that continually monitors the rotation of the turntable and maintains the accurate speed.

#### Uses a JICO cartridge

· At the heart of every turntable is the cartridge, and the cartridge used on this unit is made by JICO (Nippon Precision Jewel Industry Co., Ltd.), a company that has received accolades from music experts. We're sure you'll enjoy the authentic sound that this MM cartridge has to offer.

#### Phono equalizer with Nutube

- Features a Nutube in the phono equalizer preamp, adding rich harmonics to the record playback audio with a vacuum tube effect for a lustrous sound.
- Turn the knob to control the vacuum tube effect and achieve the tone you desire.

#### **Built-in USB audio interface**

- When using KORG AudioGate 4 (https://www.korg.com/products/audio/audiogate4/), you can save the audio from an analog record in either PCM format (max. 192 kHz, 24 bit) or 1-bit format (max. 5.6 MHz) as a high-fidelity digital file to your computer.
- The audio data saved to your computer can be played as-is in its original format on this unit. By using the audio format conversion feature in AudioGate 4 to convert the data to WAV or AAC format, you can export the file to your digital audio player or smartphone and listen to the record's audio while you're on the go.
- You can listen to SP records and old LPs in their original quality without passing the signal through RIAA, by applying the digital phono equalizer built into AudioGate 4.

#### About the Nutube

Nutube is a new vacuum tube developed by KORG INC. and Noritake Itron Corporation, which utilizes technology from vacuum fluorescent displays.

As with conventional vacuum tubes, the Nutube is constructed with an anode, grid and filament, and operates as a complete triode tube. Furthermore, it generates the response and same rich harmonic characteristics of conventional vacuum tubes.



High-frequency noise may be output if a strong impact is applied to this unit. This is due to the **A** structure of the Nutube, and is not a malfunction.

#### About JICO (Nippon Precision Jewel Industry Co., Ltd.)

With a superior level of technical skill that's the pride of Japan, JICO provides analog-related products such as high-quality record needles and cartridges.

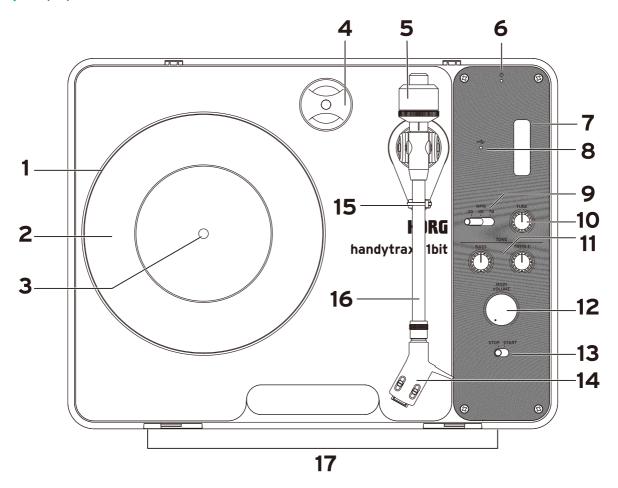
JICO is obsessed with the finest details of their products, and has received praises from record aficionados in 120 countries around the world for over half a century by maximizing the appeal of analog sound. Their products are manufactured through elaborate and precise methods under strict quality management, and embody the artistry that surpasses generations to be carried forward.

#### About the included cartridge

The cartridge installed on the handytraxx 1bit is the JICO J44A 7 IMP SD. For details, refer to the Owner's Manual that's included with the cartridge.

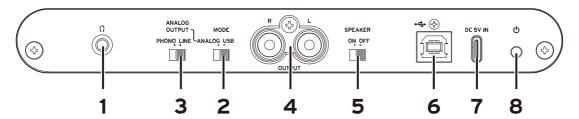
# Part names

# | Top panel



- 1 Platter
- 2 Record mat
- 3 Spindle
- 4 EP adapter
- 5 Counterweight
- 6 Power indicator
- 7 Nutube
- 8 USB indicator
- 9 RPM switch
- 10 TUBE knob
- 11 TONE knobs
- **12** MAIN VOLUME knob
- 13 STOP/START switch
- 14 Headshell
- 15 Tonearm lock
- **16** Tonearm
- 17 Speakers

### | Side panel



1 Headphones jack

(3.5 mm stereo mini-phone jack, unbalanced)

Connect your headphones here.

2 MODE switch

Selects the output source for the audio. When outputting the audio of the record player from the OUTPUT jacks, the speaker or headphones, set this to ANALOG. When outputting the sound of a computer that's connected to the USB port, set this to USB.

3 ANALOG OUTPUT switch

When the MODE switch is set to ANALOG and the OUTPUT jacks are connected to the line input jack of your audio equipment, set this to LINE. Set this to PHONO when connecting to the phono input jacks of your audio amp or the like.

4 OUTPUT jacks

(RCA pin jacks)

Connect your powered monitor speakers, stereo amp or other audio equipment to these jacks.

5 SPEAKER switch

To play audio through the built-in speakers, set this to "ON". If you don't want to play audio through the speakers, set this to "OFF".

6 USB port

(USB type-B)

Use a commercially available USB cable when you want to connect the handytraxx 1bit to your computer to record the sound of the records you play.

7 DC 5V IN power supply port

(USB type-C)

Connect the included AC adapter here.

8 Power button

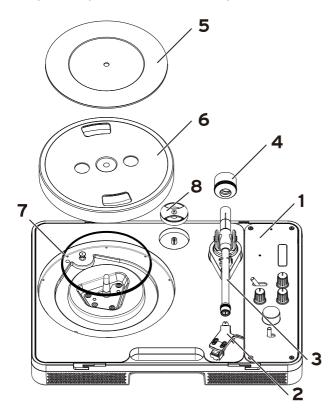
Long-press this button to turn the instrument on or off.

# **Getting ready**

# Assembly

Some assembly is required before you first use the handytraxx 1bit.

The parts required to assemble this product are shown below.



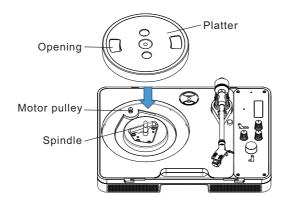
- 1 Main unit
- 2 Head shell (with cartridge attached)
- **3** Tonearm
- 4 Counterweight
- 5 Record mat
- 6 Platter
- 7 Belt
- 8 EP adapter

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Do not connect the AC adapter until assembly is complete.

#### How to assemble

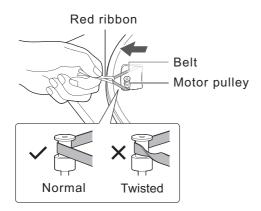
1 Mount the platter onto the spindle of this unit.

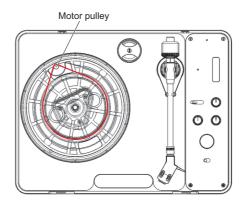


2 Attach the belt to the motor pulley.

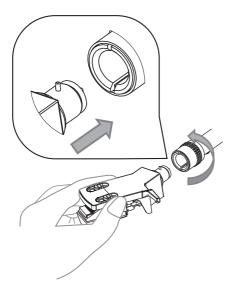
Align the opening on the platter with the motor pulley, and attach the belt to the motor pulley while pulling up the belt with the included red ribbon (see the illustration).

The belt should not be twisted when you attach it to the pulley. Remove the red ribbon.

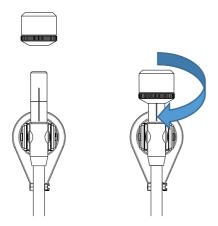




3 Check whether the cartridge is attached, and attach the headshell onto the tip of the tonearm.



4 Attach the counterweight onto the tonearm.

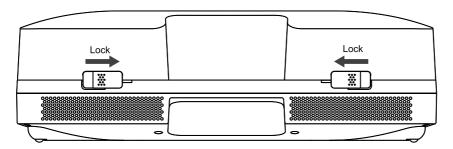


5 Place the record mat onto the platter.

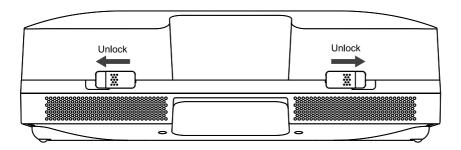


### | Using the dust cover

Insert the tabs on the rear side of the dust cover into the grooves on the rear side of the top panel and then put the dust cover down. Slide the front buckles on the dust cover to lock them in place.



To remove the dust cover, slide the buckles to unlock them, and tip the front cover back to open it. Remove the tabs from the grooves to take off the cover.



### | Setting up the unit

- Place the handytraxx 1bit on a flat surface.
- To prevent the unit from picking up vibrations or sound pressure waves, do not place it next to speakers or similar equipment.
- Placing the handytraxx 1bit next to a radio may cause it to pick up wireless electrostatic interference.
- Placing this unit near a wireless device or the like may result in radio wave interference. When this unit is placed near a device that emits strong radio waves (such as a cellphone), this may cause noise.

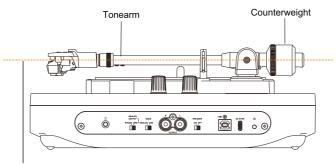
#### Moving/carrying the handytraxx 1bit

Use caution regarding the following points when moving the handytraxx 1bit to a different place or carrying it around.

- When moving this unit to a different place, such as in the same room, attach the platter stopper (the black rubber cap) to the spindle and keep the unit as level as possible when carrying it.
- Before carrying the unit, detach the platter, counterweight and head shell (with cartridge) and pack them separately.

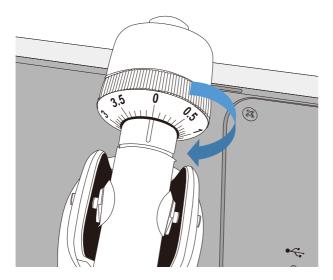
### | Adjusting the needle pressure

1 Turn the counterweight to adjust the tonearm so that it is horizontally level.



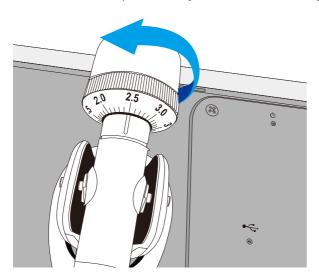
Adjust the tonearm to rest horizontally.

2 Spin the gauge ring on the counterweight and then align it to 0.



3 Turn the counterweight counterclockwise and set it to a needle pressure that's suitable for the cartridge.

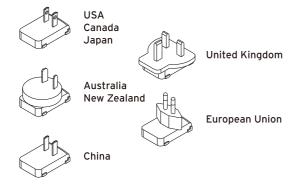
Set this to 1.5-3.0 if you're using the included cartridge.



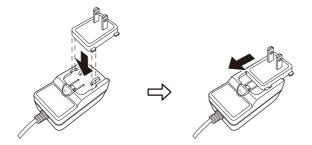
### | Assembling the AC adapter

#### Attaching the AC adapter plug

Attach the appropriate exchangeable plug to the AC adapter according to the type of outlet you will be using.



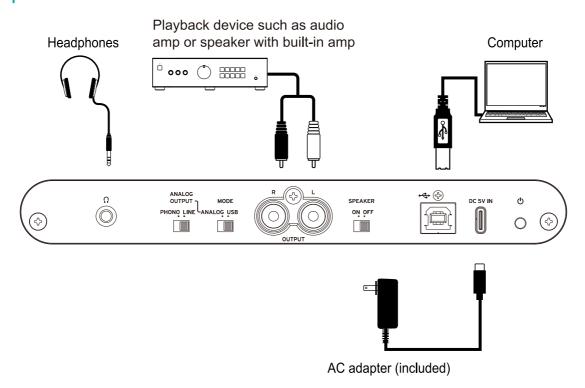
- 1 Insert the exchangeable plug, aligning it with the groove of the contact points on the AC adapter.
- 2 Slide the exchangeable plug until you hear a click, ensuring it is securely attached.



#### Removing the exchangeable plug from the AC adapter

- 1 While pressing the lock button on the AC adapter, slide the exchangeable plug.
- 2 Once it reaches the point where it can no longer slide, the exchangeable plug can be removed.

### Connections



#### Connecting the AC adapter

Connect the included power adapter to the DC 5V IN connector (USB type-C), and then connect the plug of the power adapter to an AC outlet.



Make sure to use the included AC adapter. Using a different AC adapter may cause a malfunction or other issues.



Make sure that your AC outlet is the correct voltage for this unit.

#### Connecting the audio cables

To listen with headphones, connect them to the headphones jack. The audio output from the headphones jack is the same as the sound that comes out of the speakers. (This is the output signal that passes through the MAIN VOLUME, phono equalizer and tone circuits.)

Use the OUTPUT jacks if you wish to connect to an audio amp, a speaker with built-in amp or the like.

Set the ANALOG OUTPUT switch to "LINE" when connecting the OUTPUT jacks of the handytraxx 1bit to the line input jacks of your audio equipment. (This is the output signal that passes through the MAIN VOLUME, phono equalizer and tone circuits.)

Set the ANALOG OUTPUT switch to "PHONO" when connecting to the phono input jacks of your audio amp or the like.

#### Connecting to a computer

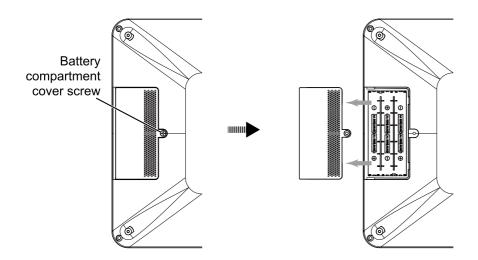
Use a commercially available USB cable when you want to connect and record to your computer. You can use an audio recording application to record the sound of a record as audio data.

To use the built-in 1-bit, 5.6 MHz-compatible USB audio interface, set the MODE switch to USB.

### | Inserting the batteries

Remove the screw from the bottom of the battery compartment, open the cover and insert the batteries while making sure they are facing the right direction.

If you are using this unit on battery power and the power indicator blinks, this means that the batteries need to be replaced.



\* Batteries are not included, and must be purchased separately.



Turn off the power before replacing the batteries.



Remove the batteries from the unit immediately if they are depleted. Leaving depleted batteries in the unit might cause a product failure, such as due to battery leakage. The batteries should also be removed if you won't be using the unit for a long time.



Do not mix new and partially used batteries, or batteries of different types.



The unit operates on AC power when the AC adapter is connected, even if batteries have been installed.

# Operation

- $\to \underline{\text{Playing a record}}$
- $\rightarrow \underline{\text{Adjusting the tone}}$

### Playing a record

1 Turn the power on.

Hold down the power button to turn on the power. The power indicator lights up. To turn off the power, hold down the power button.

2 Place your record onto the turntable. The spindle should be inserted through the hole on your record

When playing an EP record (such as a single or a donut-shaped record with a larger hole in the middle), attach the included EP adapter to the spindle and then place the record onto the turntable

- 3 Use the RPM switch to set the playback speed.
  The RPM switch sets how fast the turntable rotates, so set this switch according to the type of record you're playing.
- 4 Turn the speakers on/off.

If you want to hear sound from the built-in speaker, turn the SPEAKER switch on the side panel to ON.

If you don't want to output sound from the built-in speaker, turn the switch to OFF and listen to the sound either through the headphones jack or the OUTPUT jacks.

5 Unlock the arm lock on the armrest. Release the tonearm from the lock.

- 6 Slide the STOP/START switch to START, which rotates the turntable.
- 7 While holding the tonearm using the finger lift on the headshell, place the needle onto the record. The record plays.
- 8 Use the MAIN VOLUME knob to adjust the volume.

  Turn this knob clockwise to raise the volume. The MAIN VOLUME knob works for the output of the speakers, headphones jack and OUTPUT jacks.

*Note*: When outputting the playback sound from a device that's connected to the OUTPUT jacks, set the ANALOG OUTPUT switch to match the device to which you're connecting.

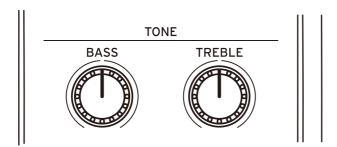
#### Auto power-off function

The handytraxx 1bit automatically turns off if the switches are not operated for 20 minutes and the turntable is stopped.

# Adjusting the tone

### | Adjusting the TONE knobs

Turn the BASS and TREBLE knobs to adjust the tone as you like.

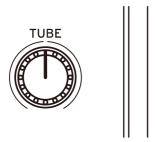


**BASS knob:** Turn this clockwise to increase the low-end frequencies, and counterclockwise to decrease them.

**TREBLE knob:** Turn this clockwise to increase the high-end frequencies, and counterclockwise to decrease them.

# | Adjusting the TUBE effect

Use the TUBE knob to adjust the added harmonic effect of the vacuum tube (Nutube).



**TUBE knob:** Adjusts the depth of the vacuum tube (Nutube) effect. Turn this clockwise to increase the effect, and counterclockwise to decrease it.

# Connecting to a computer

Use a commercially available USB cable when you want to connect this unit to your computer for recording the sound of records you play.

When using KORG AudioGate 4, you can save the audio from an analog record in either PCM format (max. 192 kHz, 24 bit) or 1-bit format (max. 5.6 MHz) as a high-fidelity digital file to your computer.

#### Before you connect this device

In order to use the handytraxx 1bit on Windows (ASIO), you'll need to make driver settings. It is important that you do not connect the handytraxx 1bit to your computer before you have installed the driver.

Carefully read the section entitled "Download and Install," and download and install the Setup program before you connect the handytraxx 1bit to your computer.

*Note*: The 1-bit, 5.6 MHz-compatible USB audio interface that's built into this unit is recognized on the computer as "DS-DAC-10R".

The explanations hereafter are for connecting to the DS-DAC-10R, even for installing the driver required to connect this unit and so forth.

- → Download and Install
- → Recording the playback sound of a record

### **Download and Install**

### | Windows users

Use the KORG AudioGate and USB Audio Device Setup program to install the ASIO driver and Audio-Gate.

*Note*: Do not connect the handytraxx 1bit to your computer before you've finished installing the driver. If you've already connected it, disconnect it; then reconnect it after you've finished installing the driver.

#### Installing the ASIO driver/AudioGate

- 1 Access the following AudioGate 4 download page: http://www.korg.com/products/audio/audiogate4/download.php
- 2 Choose "AudioGate and USB Audio Device Setup," and press the Windows version of download button to download the setup program.
- 3 Decompress the downloaded .zip file. In the "KORG AudioGate and USB Audio Device Setup" folder, run Setup. The KORG AudioGate and USB Audio Device Setup panel appears.
- **4** Click "Install DS-DAC-10R Driver" to install the ASIO driver. → <u>ASIO driver installation procedure</u>
- If you want to install AudioGate, click "Install AudioGate" in the KORG AudioGate and USB AudioDevice Setup panel. Carefully read "Activating AudioGate" which appears during installation, and then complete the installation.
- 6 Click "Finish" to exit the setup program.

*Note*: If you're recording with an application other than AudioGate, you'll need to use the "DS-DAC-10R Setting Tool" to set the input level. Click "Install the DS-DAC-10R Setting Tool" to install it.

#### ASIO driver installation procedure

*Note*: Do not connect the handytraxx 1bit to your computer before you've finished installing the driver. If you've already connected it, disconnect it; then reconnect it after you've finished installing the driver.

*Note:* The installation screens shown on your computer may differ somewhat depending on your Windows version and system, but the procedure is the same. The explanation that follows will show typical screens in Windows 11.

If, during installation, a message appeared to confirm whether or not to continue the installation, click [Install].

1 In the KORG AudioGate and USB Audio Device Setup panel that you downloaded, click "Install DS-DAC-10R Driver" to start the installer.

2 In the language selection menu, choose English; click [OK].



3 The dialog box will appear; click [Next >].



- 4 If a security warning appears, click [Install].
- **5** Preparations for installation are now complete. Click [Finish] to exit the installer.



#### KORG 2ch 1bit Audio Driver Control Panel settings

In the Windows start menu Control Panel, view all control panel items, and click "KORG 2ch 1bit Audio Driver" DS-DAC Audio I/O Driver Control Panel to open it; the following control panel appears:



#### **Buffer Size**

Selects the buffer size. Moving the slider toward the left decreases the buffer size, and moving it toward the right increases the size.

 Increasing the buffer size increases the time difference (latency) between the direct sound and the monitored sound, but allows you to record safely without noise occurring.
 Normally, set this to maximum if you're recording a record.

#### Sampling Rate

Specifies the sampling rate. Choose from 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz. If you're using the handytraxx 1bit with WDM (WASAPI/Direct Sound), make the setting here.

### | Mac OS users

Use the KORG AudioGate and USB Audio Device Setup program to install AudioGate.

*Note*: If you're using the handytraxx 1bit, it is not necessary to install the driver.

#### Installing the AudioGate

- 1 Access the following AudioGate 4 download page: http://www.korg.com/products/audio/audiogate4/download.php
- 2 Choose "AudioGate and USB Audio Device Setup Download," and press the Mac version of download button to download the setup program.
- 3 Open the .dmg file. In the "KORG AudioGate and USB Audio Device Setup" folder, run Setup. The KORG AudioGate and USB Audio Device Setup panel appears.
- 4 Click "Install AudioGate" in the KORG AudioGate and USB Audio Device Setup panel.

  Carefully read "Activating AudioGate" which appears during installation, and then complete the installation.
- 5 Click "Finish" to exit the setup program.

*Note*: If you're recording with an application other than AudioGate, you'll need to use the "DS-DAC-10R Setting Tool" to set the input level. Click "Install the DS-DAC-10R Setting Tool" to install it.

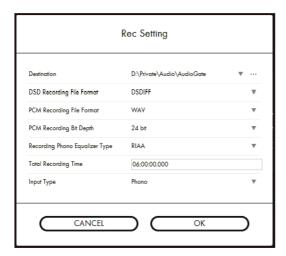
*Note*: The Mac version of the control panel does not allow you to directly change the Sample Rate. You can make these changes via AudioGate or from the Audio MIDI settings of your Mac.

# Recording the playback sound of a record

Use the AudioGate software that you installed on your computer to record the sound of a record that's playing.

### | Making a DSD recording (with AudioGate)

- 1 Connect the USB port on the handytraxx 1bit to your computer with a USB cable.
- 2 Set the MODE switch on the handytraxx 1bit to USB.
- 3 Launch AudioGate.
- 4 Configure the settings for native DSD playback. Set "Input Device Name" to "KORG 2ch 1bit Audio Device". Note that the recorded file is in stereo, and the sampling frequency is as shown at the top the AudioGate display.
- 5 In AudioGate, click the Rec Setting button to access the recording file settings.



6 Click "Input Type," and select "Line" or "Phono."

When "Line" is selected, the audio is recorded using the built-in phono amp as when playing back through the handytraxx 1bit's built-in speaker. In this case, the built-in phono equalizer (RIAA) is applied, and the sound can also be adjusted using the Nutube and TONE knobs.

When "Phono" is selected, the built-in phono amp is not applied to the sound that's recorded, so you must apply the phono equalizer in AudioGate.

7 Sets the phono equalizer type for recording.

If you selected "Line" in step 6, the phono equalizer is already applied, so set this to "Off". If you selected "Phono" in step 6, you can apply the phono equalizer either during recording or during playback.

We recommend applying the phono equalizer during playback in the following cases.

- If you don't know which type of phono equalizer was used when the analog record was cut (letting you compare the phono equalizers during playback)
- When you want to reduce the processing load on the computer during recording

Tip: Typical EP/LP records use the RIAA equalization curve.

*Tip:* For SP records, if you don't feel that the AudioGate's SP equalization curve is suitable, use the built-in RIAA phono equalizer and adjust the tone to obtain the appropriate tonal character.

- 8 Click "DSD Recording File Format" and select "DSDIFF," "DSF," or "WSD."
- 9 Click the OK button to close the recording settings.
- 10 Click AudioGate's input monitor settings button (Input Monitor).

11 Play a record on the handytraxx 1bit, and drag to adjust the input level slider so that the clip indicator on the AudioGate level meter does not light.

*Tip:* As there may be significant changes in the record playback volume, it's best to set the volume at around -6 dB below the average playback volume.

Note: The MAIN VOLUME knob setting has no effect on the volume used for recording.

- **12** To start recording, click AudioGate's record button [●].
- **13** Click the stop button [■] to stop recording.

Note: For details, refer to the AudioGate4 owner's manual.

# **Appendices**

- $\rightarrow$  Replacing the cartridge and needle
- $\to \underline{\text{Troubleshooting}}$

# Replacing the cartridge and needle

### | Care and maintenance of the cartridge needle tip

Use a commercially available cleaning brush or similar tool to remove any dust or dirt from the tip of the needle.

When using a brush, move the brush from the base of the needle to the tip as you clean.

### | Cartridge and needle replacement

- If the tip of the cartridge needle becomes worn out, this may make the sound quality worse, and may also damage the record.
- Please contact Korg customer service if you need to replace the cartridge or needle.

# **Troubleshooting**

#### Power does not turn on

- Is the AC adapter plugged into the AC outlet? Connect the AC adapter to the AC outlet.
- If you're using batteries to power this unit, the batteries may be low. The power indicator blinks when the batteries run low. If this happens, replace the batteries.

#### The platter is not rotating

- The belt may not be connected to the platter. Make sure to correctly attach the belt to the platter.
- Is the belt attached to the motor pulley? Make sure that the belt is correctly attached to the motor pulley.
- The belt may be broken. Replace the belt with a new one.

#### No sound, volume is too low or distorts, or is too loud

- Either the function settings on your amp or other connected equipment or the input selection may be wrong. Check that the settings for the connected devices are appropriate.
- The MAIN VOLUME might have been set to minimum.
- If there is no sound from the speaker, the speaker switch may have been set to "OFF".
- The needle may not be installed correctly on the cartridge. Check the cartridge and adjust the needle.
- Check the MODE switch setting (ANALOG/USB). If the MODE switch is set to ANALOG, check the ANALOG OUTPUT switch setting as well.
- The ANALOG OUTPUT switch may be set to the wrong position. Make sure that the correct setting is used to match the amp input.
  - If you don't hear any sound or if the volume is too low, this may be because this product is set to "PHONO" while connected to the AUX/LINE input of your amp.
  - If the volume is too high or sounds distorted, this may be because this product is set to "LINE" while connected to the PHONO input of your external device.
- Dust may be adhering to the cartridge needle. If so, use a commercially available brush to clean off the needle.
- The needle may be damaged. Check the needle and replace if necessary.

#### Needle skips when playing

- The record may be warped. Check the condition of the record.
- The record may be scratched. Check the condition of the record.
- The unit may be resting on an unstable surface. Check that you have set up this unit in an appropriate place.
- Set the needle to the correct pressure.
- Dust may be adhering to the cartridge needle. If so, use a commercially available brush to clean off the needle.
- The needle may be damaged. Check the needle and replace if necessary.

#### Feedback is heard

- The unit may be picking up excessive vibrations from the floor, walls or nearby speakers. Try
  reducing the vibrations, or place this unit on a surface that does not pick up as many vibrations.
- The unit may be resting on an unstable surface. Check that you have set up this unit in an appropriate place.
- If the BASS, TREBLE and MAIN VOLUME knobs are all set to maximum, this unit may vibrate and generate feedback. To avoid this, adjust the knobs to more appropriate levels.
- Some records may play back loudly, which can generate feedback. If this happens, turn down the volume until the feedback is no longer heard.

#### Playback noise heard when playing a record

- Dust may be adhering to the cartridge needle. If so, use a commercially available brush to clean off the needle.
- The record may be scratched. Check the condition of the record.

#### The record plays back too fast or slow

• The RPM setting on this product may be incorrect. Use the RPM switch to select the correct RPM setting for the type of record you're playing.

# The playback speed slows down, or the turntable does not rotate at a constant speed

• The belt may be stretched out. Replace the belt with a new one.

#### Sound from the speaker is distorted

• The sound may distort if the output from the speaker is too loud. Turn the BASS, TREBLE and MAIN VOLUME knobs to adjust the volume.

# **Specifications**

#### **Drive system**

Belt-driven (with digital rotation correction)

#### **Drive motor**

DC servo motor

#### **RPM**

33-1/3, 45 or 78 revolutions per minute

#### **Platter**

Aluminum die-cast

#### Wow/flutter

< 0.15% (WTD) at 3 kHz

#### S/N (signal-to-noise) ratio

> 60 dB, DIN-B (when TUBE knob is set to minimum)

#### Cartridge model

MM stereo cartridge

Needle pressure: 1.5-3.0g

\* See the website below for information on the cartridge. https://www.jico-stylus.com/2024/12/handytraxx/

#### Effective length of tonearm

190 mm

#### **Output level**

PHONO: 420-750 mV at 1 kHz (with TUBE knob set to minimum)

LINE: +14.75 dBu (4.24 Vrms), THD 1% or less

Headphones: 70mW (1.5 Vrms) @ 32  $\Omega$ , THD 1% or less

Speakers: 2.5 W @ 4  $\Omega$  x 2, THD 1% or less

#### **PHONO preamp**

Gain: 38 dB (standard value) Equalizer characteristics: RIAA

#### Tone controls

BASS knob: 130 Hz, ±8 dB TREBLE knob: 5.5 kHz, ±8 dB

#### **TUBE** control

GAIN: 0-6 dB

#### **USB** audio

DSD: 2.8224MHz / 5.6448MHz, 1bit

PCM: 44.1kHz / 48kHz / 88.2kHz / 96kHz / 176.4kHz / 192kHz, 16bit / 24bit

#### Power supply

AC adapter, six AA batteries (alkaline or nickel-metal hydride)

#### **Battery life**

Approx. 11 hours (when speakers are ON, MAIN VOLUME knob is set to center position and when using alkaline batteries)

\* Battery life varies depending on the volume at which records are played and the speaker volume.

#### **Power Consumption**

2.35 W (no-load power consumption: 0.1 W at 230 V)

**Dimensions** (W x D x H)

370 x 286 x 118 mm/14.57" x 11.26" x 4.65" (including extensions and dust cover)

#### Weight

2.8 kg/6.17 lb (including dust cover, not including batteries)

#### Included items

Quick Start Guide, AC adapter (USB Type-C cable attached), AC adapter exchangeable plug (5 types), dust cover, platter, belt, record mat, EP adapter, headshell, cartridge (pre-installed on headshell), counterweight, platter securing cap

\* Specifications and appearance are subject to change without notice for improvement.