R24

Recorder:Interface:Controller:Sampler

AUDIO INTERFACE MANUAL

ZOOM

Contents

Audio interface and control surface

This section explains how to connect the unit with a computer and how to set up and use the audio interface and control surface functions of the R24 with a DAW and other software.

Functions of the audio interface and control surface

[INPUT 1-8] jacks
Guitars and other musical instruments, built-in stereo mic

[PHONES] jack
Playback device like headphones or an audio system

[OUTPUT] jacks
Stereo system, speakers with built-in amplifiers, etc.

R24

Windows/Mac

DAW software

Cubase LE, etc.

USB Cable

Audio driver
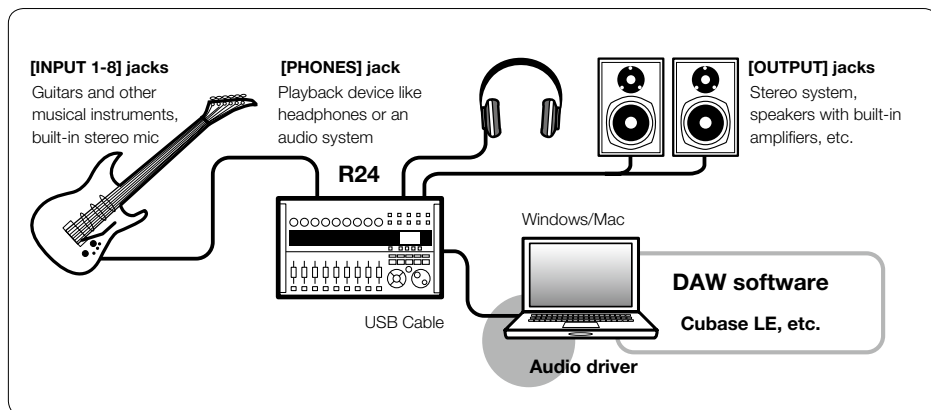
■ Audio interface

The R24 has numerous inputs and outputs and it can be used as a Hi-Speed USB (USB 2.0) audio interface with 8 inputs and 2 outputs at quality up to 24-bit/96 kHz. Effects can be used when the sampling rate is 44.1 kHz, and the unit can be powered by a computer's USB bus.
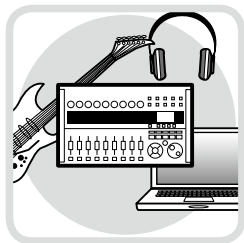
■ Control surface functions

On-board control surface functions can be used to control DAW software on a computer via USB. Transport operations, including playback, recording and stopping, and physical control of the DAW faders are possible. Furthermore, various other DAW software functions can be mapped to the F1~F5 keys (assignable functions depend on the DAW used).

2
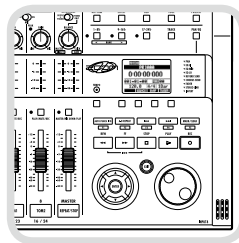
■ Supports input from a variety of sources, including guitars, mics and line level instruments

The 8 onboard jacks accept XLR and standard phone plugs and include one high-impedance input and two inputs with phantom power (24V or 48V).
Many sources are supported from high-impedance guitars and basses to dynamic and condenser microphones and line-level devices like synthesizers. In addition, built-in high- performance condenser microphones are convenient for recording acoustic guitars and vocals.

■ Versatile effect functions

Built-in insert effects can be applied to specific channel paths, and two-types of send/return effects work via the mixer send/return. These effects can be applied when recording, of course, but they can also be applied to only the monitor output. For example, when recording vocals, you can apply reverb only to the monitor signal to make singing easier.

■ Comprehensive built-in mixer

Using the R24's mixer, you can make a mix for monitoring. When simultaneously recording guitar and vocals, for example, you can adjust volume balance, panning and reverb levels.
Moreover, you can also adjust the balance between the built-in mixer and the sound sent from a computer.

■ Multifunction tuner

In addition to standard chromatic tuning, the on-board multifunction tuner also supports 7-string guitar, 5-string bass and various drop tunings.

R24 Audio Interface system requirements

R24 Audio Interface system requirements

Windows
Windows® 7 (32-bit, 64-bit) or later
32-bit: Intel® Pentium® 4 1.8 GHz or faster
64-bit: Intel® Pentium® Dual Core 2.7 GHz or faster
32-bit: RAM 1 GB or faster
64-bit: RAM 2 GB or faster

Intel Mac
OS X 10.9 or later
Intel® Core Duo 1.83 GHz or faster
RAM 1 GB or faster

Both
USB 2.0 compatible port

- USB hubs are not supported.
- Intel® chipsets recommended.

Note about descriptions and images
This manual was prepared based on use with Windows systems. Special functions related to Mac OS X are indicated separately.

The screen images are of the Windows version.

Cubase LE installation guide

Please refer to the Cubase LE Startup Guide for detailed instructions for installing the R16/R24 audio driver and Cubase LE.

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In order to improve the product, specifications might be changed without advance notice.

Connecting and disconnecting in audio interface mode

This is an overview of connecting and disconnecting the R24 to a computer with a USB cable. For details, see the included "Cubase LE Startup Guide".

Connecting the R24 to a computer for the first time

1 Install the Cubase LE DAW software on the computer.

2 Install the audio driver on the computer.

Installation and setup details

☞ Reference: "Cubase LE Startup Guide"

4 Connect the R24 to a computer.

R24 setup and connection

5 Setup the DAW software.

Device setup

☞ Reference: "Cubase LE Startup Guide"

Control surface setup   P.7

Mackie Control

R24 setup and connection
Follow these procedures when connecting again.

1 ^{USB} Press **USB**.

2 Select AUDIO I/F.

```
        USB
AUDIO I/F        ▶
READER           ▶
STORAGE          ▶
```
Change menu ▲ ▼
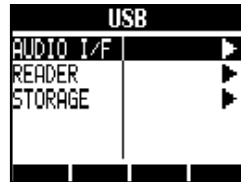
(ENTER) Press **ENTER**.

3 Select EXECUTE.

```
   AUDIO INTERFACE
SETTING   Continue
EXECUTE          ▶
```
Change menu ▲ ▼

(ENTER) Press **ENTER**.

▌ NOTE

• The ZOOM R16/R24 audio driver is essential for using the R24 as an audio interface with DAW software such as Cubase LE.
  When downloading it, follow the included installation guide to install it correctly.
• Download the latest R24 audio driver from the Zoom Corporation website.
  http://www.zoom.co.jp/

4 Connect the USB cable to the R24.


```
REU
AUDIO INTERFACE

Sample Rate
44.1kHz

REC [ SOLO ] MUTE | EXIT
```

USB DEVICE indicator lights

HOST ─── USB ─── DEVICE

5 Connect the USB cable to the computer.
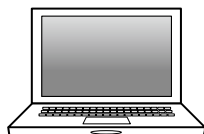
USB icon appears when connection completes.

```
AUDIO INTERFACE

Sample Rate
96.0kHz

REC [ SOLO ] MUTE | EXIT
```

Disconnecting

1 Press the ☐ below **EXIT**
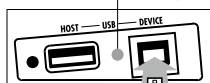
or ☐ . USB

2 Select YES.

```
Terminate

Are You Sure?

YES
NO
```

Change menu
▲
▼

(ENTER) Press **ENTER**.

3 Disconnect the USB cable

▌ NOTE

Select CONTINUE to use the same settings as last time.

• INSERT EFFECT settings
• SEND RETURN EFFECT settings
• Mixer settings
• TUNER settings

Select RESET to restore default settings for each item.

• The audio interface and control surface functions of the R24 can be used by drawing power through a USB cable from the USB bus.
• We recommend always using the latest R24 system software.
• When using phantom power, we recommend using batteries or an AC adapter even when the unit is used as an audio interface.

Using control surface functions

When using the R24 connected by USB as an audio interface, the R24 keys and faders can be used to control Cubase LE's transport and mixer.

About the control surface

In control surface mode the keys and knobs on the R24 can be assigned to particular Cubase LE functions.

Transport section	P.8
About banks	P.9
Fader section	P.9

Control surface setup

See R24 setup and connection steps 1–5 on P5~6

6 Then, launch Cubase LE.

7 From the Cubase LE "Devices" menu, select "Device setup…"

8 At the top left of the Device setup window [+], [–] and [|<] buttons appear. Click the [+] and select "Mackie Control"

9 Set the MIDI input and output

MIDI input: ZOOM R16_R24
MIDI output: ZOOM R16_R24

▌ HINT

Assigning keys
For a list of functions that can be assigned to the knobs and keys of the R24, as well as other transport/function keys that are supported by Cubase LE, please consult the "Control surface functions quick reference guide" in this manual.
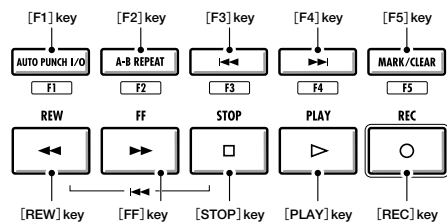
▌ HINT

The display of MENU etc. may be different depending on the version of Cubase LE. Please refer to your Cubase LE manual.

Transport section

By setting up the control surface, the R24's transport section keys can be assigned to individual functions in Cubase LE.

Fader section operation

Using the faders and status keys of the fader section, you can adjust the volume of corresponding Cubase LE tracks, mute and solo them, and arm them for recording.

About banks

After setting up control surface operation, the main parameters of Cubase LE can be operated using the R24's fader and status keys.

A group of tracks operated by the faders and status keys is called a "bank." With the R24, one bank of 8 adjacent tracks can be controlled.
For example, if fader 1 is assigned to Cubase LE track 1, tracks 1-8 can be controlled as shown in the following diagram.

Control	1	2	3	4	5	6	7	8
Track	Tr.1	Tr.2	Tr.3	Tr.4	Tr.5	Tr.6	Tr.7	Tr.8

As the diagram shows, when tracks 1~8 are selected, pressing the [9~16tr (Bank>)] key once switches the assignments as shown below.

Control	1	2	3	4	5	6	7	8
Track	Tr.9	Tr.10	Tr.11	Tr.12	Tr.13	Tr.14	Tr.15	Tr.16

1~8Tr
○ ▭

1~8Tr (< BANK) key
Tracks (channels) assigned to the fader section are moved backward by eight tracks.

9~16Tr
○ ▭

9~16Tr (BANK >) key
Tracks (channels) assigned to the fader section are moved forward by eight tracks.

Operating the fader section

**1** Assign the Cubase LE tracks (channels) that you want to control to the fader section.

2 Use the faders to control the volumes of the corresponding tracks.

The faders control the volumes of their respective tracks. Change the master volume by moving the [Master] Fader.

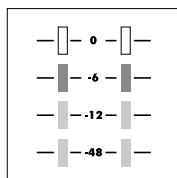**3** To change the function of the status keys for all the tracks, press the soft key for the desired function.
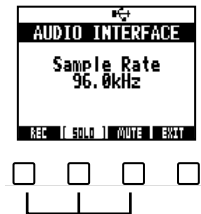
**R24 level meters
(Audio interface use)**
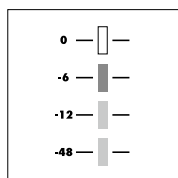
**1 / 9 / 17
8 / 16 / 24**

Each level meter other
than the MASTER displays
the signal immediately
before sending it to the
computer.

MASTER

The master level
meter displays the
returning signal from
the computer.

Checking DAW recording levels

Set "REC SIGNAL" (in the INSERT EFFECT menu) to "WET" (signal with effect) or "DRY" (no effect) to send signals to the computer with or without being processed by the insert effects.
The recording levels of the sent signals are displayed on the level meters. The signal shown on the master level meter differs from that shown on each level meter.
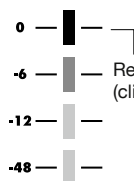
Red light
(clipping)

Adjust the levels so that the red (0 dB) clipping indicators on the meters do not light.

Setting the function keys

The five keys above the transport keys can be used as function keys (F1~F5) and assigned as desired.

Function key setup

1 Open the "Device setup…" dialog in Cubase LE.

2 Select "Mackie Control".

Commands can be assigned using the three columns displayed on the right side of the window.

3 From the "Button" column choose the function key (F1~F5) to be assigned a Cubase LE function.

4 Click on the "Category" column for that control.

5 Choose the type of Cubase LE function from the Category pop-up menu.

6 Click on the "Command" column and select the desired Cubase LE function from the pop-up menu.

The items in this pop-up menu will differ depending on the category chosen.

7 Press the "Apply" button.

▌HINT

The display of MENU etc. may be different depending on the version of Cubase LE. Please refer to your Cubase LE manual.

Control surface functions quick reference guide

	Control	Explanation
Fader section	Status keys	Turns mute, solo or record arming on/off for the track
	Faders	Controls the volume of the corresponding tracks
	MASTER Fader	Master volume operation
Display section	Soft keys	Change functions of status keys/End connection (EXIT)
Transport section	Cursor keys	Performs the same functions as the computer arrow keys
	DIAL	Moves the project cursor position
	REW key	Rewind
	FF key	Fast forward
	STOP key	Stop
	PLAY key	Play
	REC key	Record
	AUTO PUNCH I/O key	Depends on the [F1] key setting
	A-B REPEAT key	Depends on the [F2] key setting
	◄◄ (marker) key	Depends on the [F3] key setting
	►► (marker) key	Depends on the [F4] key setting
	MARK/CLEAR key	Depends on the [F5] key setting
Control section	**1-8Tr** key	Moves one bank forward
	9-16Tr key	Moves one bank backward

The mixer in audio interface mode

In audio interface mode you can make a mix for monitoring using the R24's internal mixer. In addition, you can adjust the balance of the internal mixer and the sound from the computer.
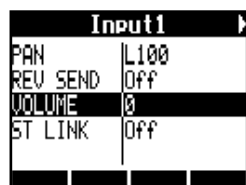
Volume, reverb send, pan

You can be adjust the reverb send, pan, volume and stereo link settings as in recorder mode.

Operation is the same as in recorder mode.
(Reference: OPERATION MANUAL)

PAN/EQ menu

VOLUME

Adjust the volumes of **INPUTS 1~8**.

Input1 ▶	
PAN	L100
REV SEND	Off
VOLUME	**0**
ST LINK	Off

0~127 (increments of 1)
Default value: 100

REV SEND

Adjust the reverb send levels of **INPUTS 1~8**.

Input1 ▶	
PAN	L100
REV SEND	0
VOLUME	0
ST LINK	Off
ON/OFF	

0~100 (increments of 1)
Default value: 0
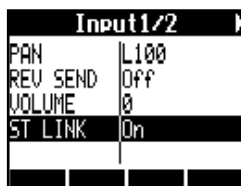Reverb only affects the monitored signal (as in recording mode).

PAN (BALANCE)

Adjust the pan for **INPUTS 1~8**.

Input1 ▶	
PAN	L100
REV SEND	Off
VOLUME	0
ST LINK	Off
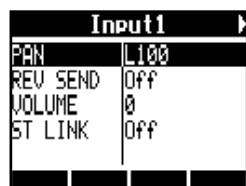
L100~R100
(increments of 2)
Default value: Center
(as in recording mode)

Stereo link

Link even and odd numbered **INPUTS** to handle them as stereo pairs.

| Input1/2 ▶	
PAN	L100
REV SEND	Off
VOLUME	0
ST LINK	On

On/Off
Default setting: Off
By setting up a stereo link, volume, reverb send and pan track parameters can be shared by pairs of even and odd inputs simultaneously (as in recording mode).
(Reference: Operation Manual)

Balance knob

In audio interface mode, the balance of the input monitoring signal and the signal from DAW software (the computer) can be adjusted with the **BALANCE** knob.

Left — Only the INPUT 1~8 signals — MASTER DIRECT

Right — Only the DAW stereo signal — CLICK DAW
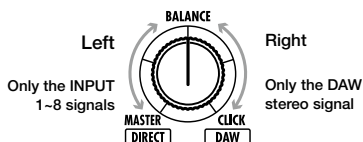
▌NOTE

The reverb send, pan, volume and stereo link settings are all saved when you terminate (EXIT) audio interface mode and can be used again the next time.
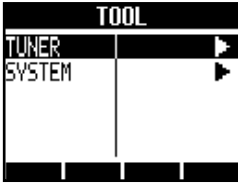
Tuner

The R24 tuner can be used as when recording. For details, see the Operation Manual.

Chromatic tuner
TOOL > TUNER

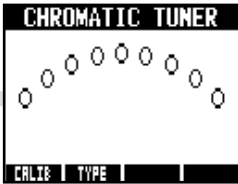**1** **TOOL** Press **TOOL**.

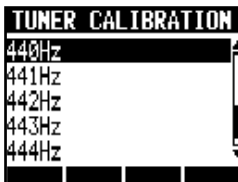**2** Select TUNER.

Change menu ▲ ▼

Press **ENTER**.

3 Tune the instrument.

CALIB | TYPE |

HINT

· The default value of the standard pitch is 440 Hz.
· Tuners other than the chromatic tuner can also be used.
  Reference: Operation Manual)

NOTE

Tuner settings are saved when you terminate (EXIT) audio interface mode and can be used again the next time.

☞ Reference: Operation Manual
          Tuner

---

4 To change the standard pitch, press the ▢ beneath **CALIB**.

CALIB | TYPE |

5 Select the standard pitch.

| TUNER CALIBRATION |
| 440Hz |
| 441Hz |
| 442Hz |
| 443Hz |
| 444Hz |

Change the standard pitch ▲ ▼

Press **ENTER**.

4 To change the tuner type, press the ▢ beneath **TYPE**.

CALIB | TYPE |

5 Change the tuner type.

| TUNER TYPE |
| CHROMATIC |
| GUITAR |
| BASS |
| OPEN-A |
| OPEN-D |
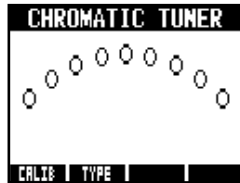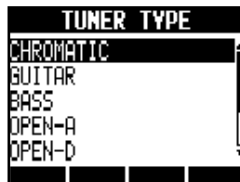
Change the tuner type ▲ ▼

Press **ENTER**.

Effects in audio interface mode

The R24's insert and send-return effects can both be used when the sampling frequency is set to 44.1 kHz. Basic operation is the same but there are a few differences in the menus.

Insert effect

As in recording mode, you can select the insert location and the insert effect algorithm, as well as the effect patches to be applied to the signal being recorded.

Send return effect

As in recorder mode, use the SEND REVERB menu to change the patch and use the PAN/EQ menu to set the REV SEND level that adjusts the reverb depth.

INSERT EFFECT menu

Select the insert location

Insert on any **INPUT 1~8**.

```
INSERT EFFECT
ON/OFF     On
ALGORITHM  Clean
PATCH      No.00 Z CL
INPUT SRC  Input1
EDIT              ▶
INSERT REVERB
```

(Reference: Operation Manual)

Setting the reverb send level

REVERB SEND

Adjust the amount of reverb using the REV SEND level of the PAN/EQ menu.

```
      Input1        ▶
PAN        L100
REV SEND   0
VOLUME     0
ST LINK    Off

ON/OFF
```

(Reference: Operation Manual)
(Reference: Audio interface manual – Mixer)

Apply the effect only to monitoring

The effect can be set to only be applied to the monitoring signal and to not affect signals recorded in DAW software.

```
INSERT EFFECT
EDIT              ▶
SAVE              ▶
RENAME            ▶
IMPORT            ▶
REC SIG    Wet
INSERT REVERB
```

(Reference: Operation Manual)

NOTE

· Effects can only be used when the sampling rate is 44.1 kHz. At all other times it is turned OFF.
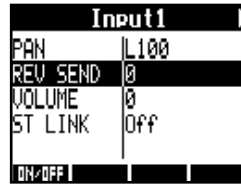· Insert and send return effect settings are saved when you terminate (EXIT) audio interface mode and can be used again the next time.

Working with patches

After making many changes, you can restore a patch to its pre-edited settings by initializing it. This will return it to its factory preset condition.

Patch operations
For both insert and send return effects

Patch operation menu

Selecting insert effect/reverb patches

To use an insert effect, select an algorithm and a patch.
To use a send reverb effect, select a patch.
(Reference: Operation Manual)

Editing patches (EDIT)

By adjusting effect module parameters and levels, you can create the desired result. (Reference: Operation Manual)

Importing patches (IMPORT)

All effect algorithms (and reverb patches) or a single one can be imported from a selected project on the R24.
(Reference: Operation Manual)

In audio interface mode, one complete set of effect data is saved for the mode. There are no project based settings.

Saving patches (SAVE)

Edited patches can be saved.
(Reference: Operation Manual)

Initializing patches (INITIAL)

Restores patches to their original factory settings (only available in audio interface mode).

Changing patch names (RENAME)

The name of the currently selected patch can be changed.

Patch initialization (factory reset)
EFFECT > INITIAL

1 **EFFECT** Press **EFFECT**.

Turning effects on/off

Insert effect
Press the ☐ beneath **INSERT**.

Send return effect
Press the ☐ beneath **REVERB**.

The following example is of an insert effect.

2 Turn the effect On.

```
INSERT EFFECT
ON/OFF      On
ALGORITHM   Clean
PATCH       No.00 Z CL
INPUT SRC   Input1
EDIT
INSERT REVERB
```
Change

3 Select INITIAL.

```
INSERT EFFECT
SAVE
RENAME
IMPORT
REC SIG     Wet
INITIAL
INSERT REVERB
```
Change menu ▲ ▼

(ENTER) Press **ENTER**.

4 Select YES.

```
PATCH INITIAL
Are You Sure?
YES
NO
```
Change menu ▲ ▼

(ENTER) Press **ENTER**.

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ZOOM

4-4-3 Kandasurugadai, Chiyoda-ku, Tokyo 101-0062 Japan
Web Site: http://www.zoom.co.jp

Cubase LE   Startup Guide

① Install Cubase LE referring to the bundled 'Download access code sheet'.

② Download the latest driver from ZOOM website (www.zoom.co.jp) and install it.

③ Connect the ZOOM unit to the computer.
Please refer to Operation Manual how to connect.

Download access code sheet

④ Startup Cubase LE, select "Device Setup..." from the "Devices" menu, and click "VST audio system" in the Devices Column.
Select the downloaded driver or the devices including the ZOOM model names here.
e.g. H Series Multi Track is shown as following.
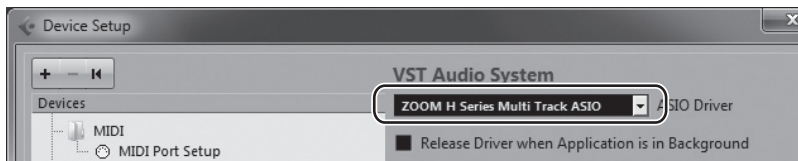
⑤ Select "VST Connections" from "Devices" menu and set the input and output device ports to the downloaded driver or the devices including the ZOOM model names.
For multi-track supported models, click "Add Bus" and add the input bus.
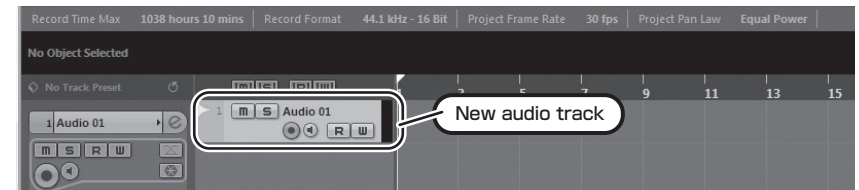e.g. H Series Multi Track is shown as following.
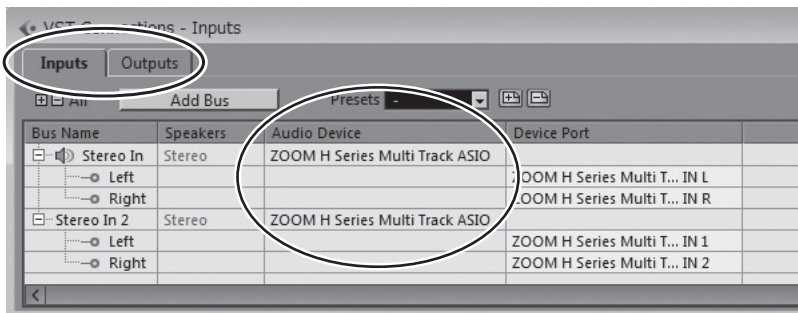
⑥ Select "New Project" from the "File" menu.

"Project Assistant" window opens in order to select a project template. Click "More", select "Empty", and then click the "Create" button to display the project window.
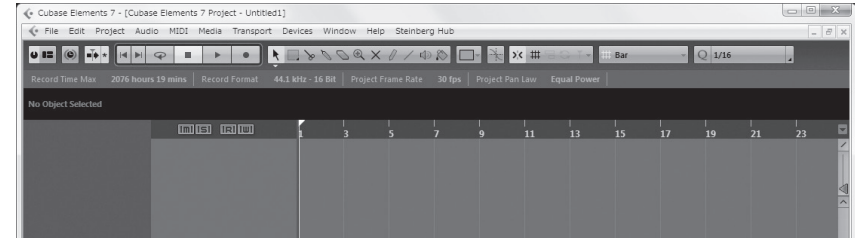
⑦ Select "Add Track">"Audio" from "Project" menu and add new audio track.

New audio track

⑧ Click "Record" button on the Transport panel and start recording.

Stop button   Play button   Record button

Recording starts. Click "Stop" button to stop recording.

⑨ Click "Play" button to check the recording.

This is all for the basic setting.
For more information, please **refer to the Documentation from "Help" in Cubase LE** or **visit Steinberg website (www.steinberg.net/en/home).**

The Menu items are subject to change. Please refer to the Cubase LE Operation Manual in such cases.