Record • **Listen** • **Burn CDs** all in one package!

Recording & Applications
Guidebook

CD-2e
SD/CD RECORDER

Roland®

CD-2e
SD/CD RECORDER

Record • Listen • Burn CDs all in one package!

Recording & Applications Guidebook

Chapter 1: What is the CD-2e?

Chapter 2: Create a CD!

Chapter 3: Recording tips

Chapter 4: Other applications

Chapter 5: Useful options

Features of the CD-2e

All-In-One Unit! Nothing Else Required to Make a CD

▶ **High-quality stereo mic, stereo speaker, and CD-R/RW drive in a slim case.**

▶ **No computer is required, from recording to CD burning.**

▶ **Light-weight and battery-powered for mobile use. Take it anywhere! ***

* Record and playback on SD card memory only. AC Adaptor (included) is required for CD writing and reading.

Easy-To-Use, Simple CD Recording Tool for Anyone!

▶ **As easy to use as a cassette recorder. CD-burning made simple.**

▶ **Includes wireless remote controller. Record from any location.**

▶ **Friendly LCD navigation by pressing [EASY GUIDE] button. ***

* Available display languages: English, German, French, Italian, Spanish, and Japanese.

A Great Tool for Lessons

▶ **A-B Repeat, Tempo Change, Pitch Change, and more for music lessons.**

▶ **Metronome and Tuner for both acoustic & electric instruments.**

▶ **CD-quality recording and playback for various educational needs.**

Meet the CD-2e!

Remote control

You can control record- ing and playback from a distance. No need to worry that you started recording too soon or too late.

Battery operation

Six AA alkaline batteries will provide approximately six hours of continu- ous recording. You can take the CD- 2e with you and record anywhere!

* Battery operation available only for re- cording/playback with an SD memory card.

SD card slot

You can use an SD memory card for recording and playback, and also edit the recorded data.

* Cards in a range of capacities, from 64MB up to 8GB, are supported.

SD memory cards that the CD-2e can use:
Refer to the Roland website for details on the SD or SDHC memory cards that can be used with the CD-2e. Up-to-date information about cards that are known to work is provided on the website.
http://www.Roland.com/

Recording Time (unit: min)

CD-R or CD-RW disc		
Disc Capacity	650MB	700MB
Recording Time	74	80

SD/SDHC Memory Card				
Card Capacity	512MB	1GB	2GB	4GB	8GB
Recording Time	46	93	190	373	763

* Each recording time is an approximate estimate including some errors.
* With multiple files, the sum of recording time would be shorter than above.
* Maximum recording time of one song is 74 minutes. If a recording exceeds 74 minutes, a new track division will automatically be created.

4

Stereo speakers

The CD-2e's sound comes from here. Simply press the [PLAY] button and you can listen immediately to what you've recorded.

CD slot

You can record directly to a CD-R/RW disc, or record selected songs from an SD memory card to a CD-R/RW disc. A CD-R/RW disc you record can easily be turned into a music CD!
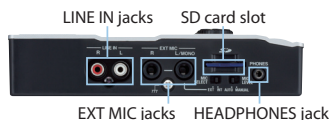
* You'll need the dedicated AC adaptor (included) in order to use the CD drive.
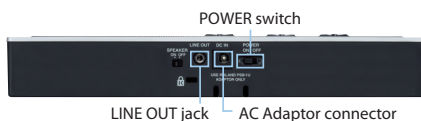
POINT

CD-R and CD-RW
Use them as appropriate

Performances you record on a CD-R disc can't be erased, but a CD-RW can be recorded to again and again. Use a CD-R for recordings you want to keep, and a CD-RW for repeated recording.

SIDE Panel

LINE IN jacks   SD card slot

EXT MIC jacks   HEADPHONES jack

REAR Panel

POWER switch

LINE OUT jack   AC Adaptor connector

Stereo mic

This is where the sound goes into the recorder. The CD-2e features high-performance stereo mics that capture every subtle nuance of your sounds with superb presence.

Easy recording in three steps

Step 1

Insert the CD-R disc into the CD-2e

Into the CD slot located on the right side of the CD-2e, insert a CD-R disc with the writing surface facing downward. You'll be able to record approximately 74 minutes on a 650 MB CD-R disc, and approximately 80 minutes on a 700 MB disc.

Step 2

Adjust the level of the internal mics

On the left side of the CD-2e, set the [MIC SELECT] switch to "INT," and use the [MIC] knob to adjust the input level while producing sound with the source you're recording. If you have difficulty adjusting the input level, set the [MIC LEVEL] switch to "AUTO," and the CD-2e will make adjustments automatically.

Step 3

Start recording

When you've finished making preparations, start recording. Operation is as easy as using a cassette recorder. Press the [REC] button once to enter "recording-standby" mode, and then press the [PLAY] button to start recording. When the performance is finished, press the [STOP] button. The recording process is that simple!

📖 POINT

To record with the best sound quality

Adjust the input level appropriately for the sound you'll be recording. The peak indicator located above the [MIC] knob should light briefly when the loudest sounds occur. You can also use headphones to listen to the sound that's being input from the internal mics (i.e., the sound being recorded).

Easily create a CD in three steps

Step 1

Check the recording through the onboard speakers

Press the [PLAY] button to listen to the recorded performance. If you're satisfied with the recording, you're done at this point. If you decide to re-record, or if you want to record an additional song, repeat steps 1–3 on the page at left.

Step 2

Complete the process by "finalizing" the CD

"Finalizing" is the process that makes a recorded CD-R/RW disc playable on a conventional CD player. When you press the [EJECT] button, a message asking "Finalize Are You Sure?" will appear. Press the [ENTER] button to carry out the Finalize operation.

Step 3

Your original CD is ready!

Finalization will take approximately two minutes. When the process is completed, the CD will be ejected from the slot on the right side of the CD-2e. Your original CD is ready. Creating a CD is as simple as that.

📖 **POINT**

Taking advantage of an SD memory card
The CD-2e lets you record on SD memory cards as well as on CD-R/RW discs. If you use an SD memory card, you'll be able to freely organize and edit the songs. By taking advantage of SD memory cards you can enjoy recording and creating CDs in a variety of ways.

Recording an acoustic piano

Try different locations to capture the sound you want

The sound of a piano comes from the vibration of the entire instrument, including the vibration of the strings after they've been struck by the hammers, and the vibration of the sounding board as it resonates with the string vibrations. In general, emphasizing the sound from the strings will produce greater clarity, while emphasizing the overall resonance will produce greater richness. Moving the mic closer to the instrument will also make the sound brighter, while moving the mic away from the instrument will produce a sound that's richer and more mellow. Try different locations to get the sound you want to record.

Use the CD-2e for daily practice or to create lesson materials

The CD-2e is a wonderful tool, not only for recording "real" performances, such as recitals, but also for daily practice. For example, you can record yourself practicing and then play it back immediately, so you can more objectively evaluate how you sound. This can help you improve your abilities.

If you're a piano teacher, you can create a "model CD" of your own playing, or give the student a "practice CD." The CD-2e makes it easy to create lesson material.

To record a clear sound

Place the CD-2e on top of the instrument if you want to emphasize the attacks. This position will emphasize the vibration of the strings, producing a clear-sounding recording.

To record a well-balanced sound

Brightness

Richness

Change the height to adjust the attack and resonance

You can view the piano's lid as a sort of dividing line; placing the mics higher than it will emphasize the vibration of the strings, while placing them lower will emphasize the body resonances.

Vibration of the strings
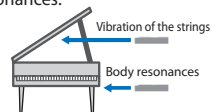
Body resonances

To record a rich sound

Place the CD-2e beside the performer if you want to record a rich sound. This position will emphasize the resonances of the sounding board and the body, producing a deep and rich-sounding recording.

📖 POINT

Recording the best sound from an upright piano

An upright piano will have a slightly muffled sound. In order to record a sparkling sound similar to that of a grand piano, open the top lid and place the CD-2e about 40–80 inches (1–2 meters) away.
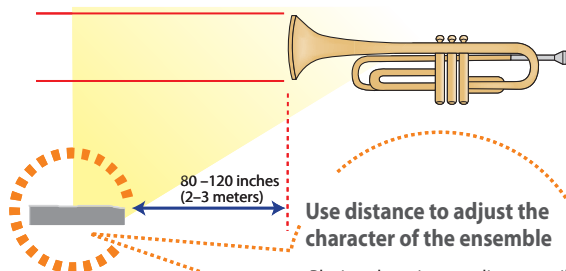
Recording a brass instrument

Minimize noise by avoiding wind pressure

When recording a brass instrument, placing the mics directly in front of the bell may cause noise to appear in the recording. This is a distinctive type of noise produced by the mic due to the pressure of wind blown out of the bell. To avoid this, it's important to place the mics at an appropriate distance for recording. Woodwind instruments played by pressing keys will also allow some sound to escape from the keys themselves. Place the mics slightly to the left or right, rather than directly in front of the instrument.

Keep the mics at a distance to minimize breath noise

When recording a brass instrument, you may notice unwanted sounds such as the opening or closing of the keys, or breath sounds. Moving the mics away from the instrument can minimize these sounds. Since brass instruments produce a fairly high volume, you don't need to worry that the level of the instrument itself will be inadequate. On the contrary, keeping the mics at a good distance will let you record the rich resonances of the entire room.

Minimize noise by avoiding direct sound

For instruments that have a forward-facing bell, such as a trumpet, wind pressure may cause noise to occur. Tilt the mics upward or downward to soften the direct sound.

Individual clarity

Blended ensemble

80 –120 inches (2–3 meters)

Use distance to adjust the character of the ensemble

Placing the mics at a distance will produce a unified and balanced recording of the entire ensemble, while moving the mics closer will allow the sound of each instrument to be clearly distinguished.
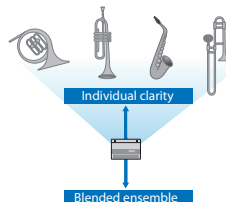
Distance the mics to reduce noise

Key noise may be a concern when recording sax or clarinet. If so, aim the mics at the entire instrument and keep them at a distance.

40 –80 inches (1–2 meters)
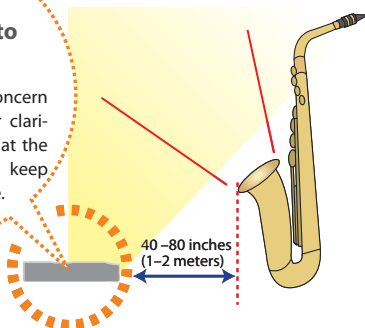
📖 POINT

Use headphones to check the noise level of the room

Be aware of often-unnoticed sources of noise in the room, such as refrigerators or air conditioners. Listen through headphones before you start recording, and turn off sources of noise that can be turned off.

Recording a string instrument

Get a rich sound by allowing distance from the instrument

The distinctive resonance of string instruments such as the violin is created by the combination of the sound of the strings themselves with the resonances of the instrument's body. The point is that you should place the mics where the string and body resonances are well-balanced. Placing the mics 80–120 inches (2–3 meters) from the front of the instrument (for a violin, facing the musician) will produce a well-balanced recording. Once you've become familiar with recording string instruments, you can try varying the distance and height of the mics to obtain other tonal characteristics.

Emphasize the body or strings to capture your unique tone

If you want a deeper sound, aim the mics at the f-holes from which the body resonances escape. On the other hand, if you want to emphasize the scraping of the bow on the strings, position the mics in front of the instrument and move a bit closer. In particular, moving the mics close to the bridge will allow the bow movements to be captured realistically.

Emphasize the sound of the strings

If you want to emphasize the sound of the bow on the strings, move the mics close to the bridge. When doing so, adjust the input level to prevent distortion from occurring.

Emphasizing the sound of the body

If you want to capture a deep and rich tone, aim the mics at the f-holes, which emit the body resonances.

Clear

Bright
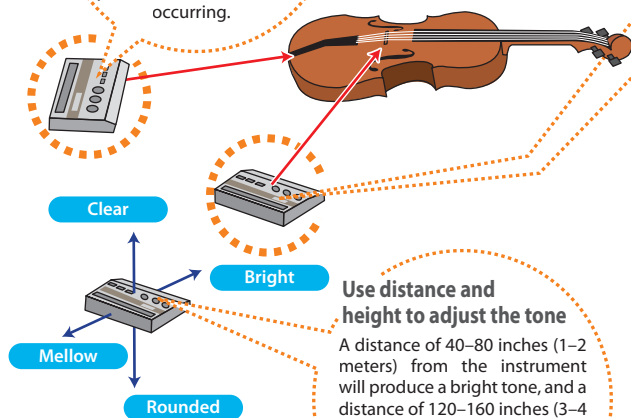
Mellow

Rounded

Use distance and height to adjust the tone

A distance of 40–80 inches (1–2 meters) from the instrument will produce a bright tone, and a distance of 120–160 inches (3–4 meters) will produce a rounded, mellow tone. Placing the CD-2e on a chair to gain some height will give the sound more clarity.

> ### 📖 POINT
>
> #### Use the internal tuner to check the pitch before recording
>
> The CD-2e contains a built-in chromatic tuner. You can tune to a reference pitch, and there's also a tuning guide that provides a visual indication of the pitch.
>
> ```
> TUNER  Pitch:440
> ·····+····  ◀ B 5
>      TRACK        TIME
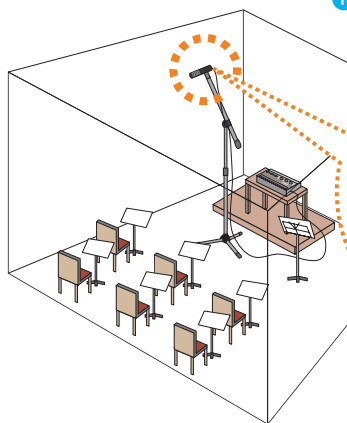> ```

10

Recording a wind ensemble

In a concert hall, record from the center!

If you're recording from the audience seating of a concert hall, place the mics in the middle of the seating area. The best location is usually in the center, somewhere in the middle third (seen front to back) of the audience seating.

The height is important. Place the mics at the level of your ears when seated. If you don't have a stable platform, use an external mic and mic stand.
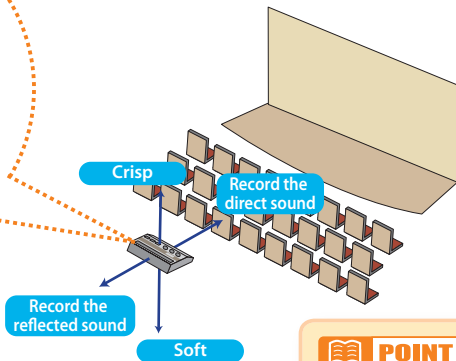
Use height to adjust crispness
Use distance to adjust clarity

Placing the mics near the stage will capture a well-defined sound, and moving them away from the stage will capture more reverberation, producing a softer effect. You should start by sitting in the center of the hall and placing the CD-2e at the level of your ears.

Crisp

Record the direct sound

Record the reflected sound

Soft

### In a small room, use an external mic to record from above

By placing the mic up high, you can prevent the sound of specific instruments from entering the mic directly. This will improve the overall balance of the recording.

Refer to the optional stereo microphone (CS-15R) on page 18.

Avoid recording the direct sound in a practice room

In a small room, you may be unable to avoid placing the CD-2e in front of the conductor, but in this scenario, the instruments near the mics will be recorded at an inappropriately high volume. You'll get better results by using an external mic and positioning it in a high location so that the volume balance between all of the instruments will be correct. A useful trick is to place the CD-2e at the height of the conductor's desk, pointing away from the musicians. This may enable you to record the instruments without unduly emphasizing any particular one, so it's worth trying if you have problems with the volume balance.

📖 POINT

Aim the mics toward the center of the stage

If you're recording right next to a wall, aim the mics toward the center of the stage. It's convenient to place the CD-2e on a music stand. (Use an SD memory card for recording.)
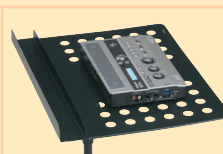
Recording your band practice

The key is to restrain the volume of your PA and amps

When recording your band in a rehearsal studio, the mic input level (p. 6) is crucial. However, if your PA and amps are too loud, lowering the input level may not be enough to avoid distortion. This is because the sound level has already exceeded the capacity of the mics when it enters the mics. Keep the mics at a distance and lower the volume of your PA and amps.

Use a mic to sing along with your electronic instrument

The CD-2e lets you record simultaneously from the mic input and LINE input. This is a convenient way to record yourself singing while you perform on an electronic musical instrument. Use the [MIC SELECT] switch to choose either the internal mics or external mics, and connect the output of your electronic musical instrument to the [LINE IN] jacks. Use the [MIC] knob to adjust the mic volume, use the [LINE] knob to adjust the volume of the electronic musical instrument, and then start recording.
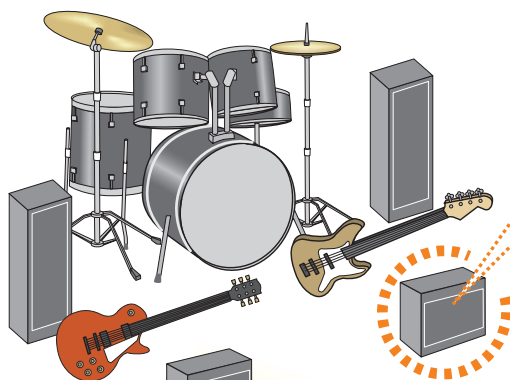
Keep your amp volume down

Lower the output of your amps so that each person can be heard. Adjust your volume balance based on the acoustic sound of the drums.
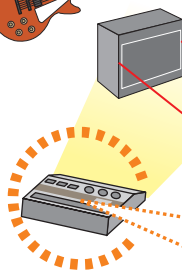
Adjust the direction of the amps

If the sound is still distorted even though you've lowered the amp volume, change the angle of your amps so that the direct sound does not reach the mics.

📖 POINT

Change the playback speed for easy learning by ear

The CD-2e lets you play back a song faster or slower than normal. This is a great way to practice rapid phrases or to learn complex passages by ear.

Speed
: 90

TRACK   TIME
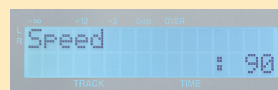
Recording an acoustic guitar

Minimize the room resonances and capture the sound of the guitar itself

The acoustic guitar is a familiar instrument that can be conveniently played at home. But when played in a typical room, the sound may resonate excessively, blurring the tonal characteristics or possibly causing specific pitches to be inappropriately accentuated. Try closing the curtains or draping blankets over the backs of chairs to dampen the resonances of the room. On the other hand, a completely dead sound is not desirable either. You can use reverb to add spatial ambience.

Record a good balance of the strings and body resonance

The enchanting sound of the acoustic guitar is a combination of the rich mid- and low-range body resonances together with the highs produced by the plucked strings. But if the body resonances are excessively emphasized, the result will sound muddy. Place the mic about 20–40 inches (50 cm to 1 meter) away from the guitar to get a well-balanced recording. It's also important to avoid moving the instrument during the performance. If tonal characteristics seem to waver, pay attention to your playing posture.

Emphasizing the sound of the strings

If you feel that the mid and low ranges are too strong, point the mic toward the neck so that the string vibrations will be picked up more strongly.

Use a blanket to reduce unwanted reflections

You can use blankets to reduce unwanted acoustic reflections from the walls. This is also a very useful technique when recording vocals.

Well-balanced strings and body resonance

Aiming the mics at a point between the sound hole and the neck joint will give you a well-balanced recording. You can vary the tonal characteristics by changing the angle.

📖 POINT

This also works for ukulele

In the case of instruments that have a substantial difference between loud and soft notes, turn the [MENU] → "Limiter" setting "On." Even when loud notes are played, the input level will be automatically adjusted to prevent distortion.
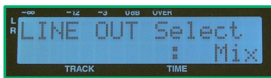
Recording a digital piano

For recording a digital piano on the CD-2e

Connect the CD-2e's LINE IN jacks to your digital piano (or keyboard, electronic instrument, etc.).
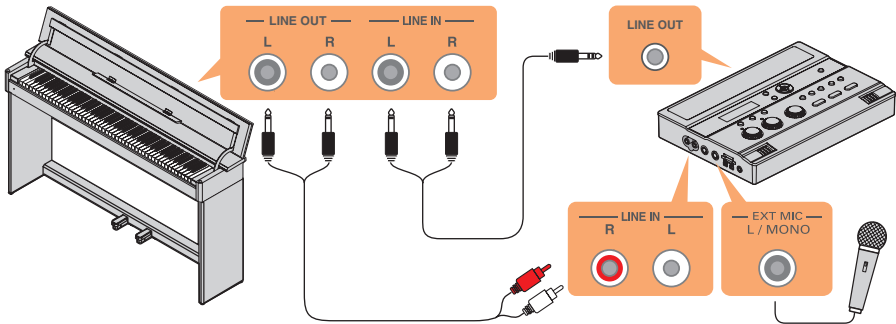Use audio cables to connect the CD-2e's LINE IN jacks to the output jacks of your electronic musical instrument. Sound will not be produced from the speakers while in recording-standby mode or while recording. If you want to listen to the sound that's being recorded, you'll need to use headphones.

Playing back the CD-2e through the digital piano

Connect the CD-2e's rear panel LINE OUT jack to your digital piano.
If you want to record your performance on a digital piano together with your voice, make connections as shown in this illustration so that the sound from the mic will also be output from the speakers of the digital piano. With this setup, set LINE OUT Select to "MIC" to prevent a feedback loop from occurring between the CD-2e and the electronic piano.

When recording a digital piano, the CD-2e makes a noiseless recording as the sound comes directly from the audio cable without the background noise you'd get with a microphone.
To make the CD-2e sound louder in a classroom, connect the CD-2e's LINE OUT jack to the external input (LINE IN) found on most digital pianos so that you can record and play back the sound of the original digital piano and the CD-2e together.

Mix three sounds and record onto CD-R

Digital Piano   CD-2e (SD)   Microphone

Mix three sounds and record onto SD

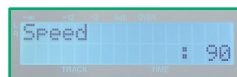Digital Piano   CD-R or SD (in CD-2e)   Microphone
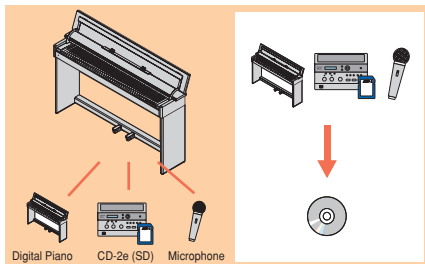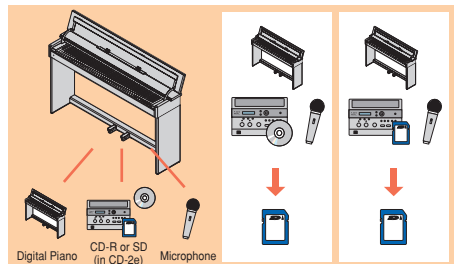
Other applications

A-B Repeat and slow playback for music / language lessons and audio transcription

The A-B Repeat feature lets you repeatedly play back a certain section of music/speech from a pre-recorded track on an audio CD or SD card so that you can keep practicing it.

(1) A-B Repeat

You can also use the Slow Play feature to decrease the playback speed without changing pitch --- a great way to learn fast-tempo passages of music or create an audio transcription of business meetings, lectures, and so on.

(2) Slow Playback

Slow or Fast
50% ~ 125%
（1/2 speed）（1.25speed）

This is useful when you are learning a song by ear and want to hear it slowly, or if you want to quickly listen to a song that you recorded.

Essential items in music lessons

● **Tuner**

Daily practice is essential to progress, and the CD-2e provides various features that can help. Use the built-in Tuner to tune your instrument before you begin practicing.

Guide Tone
A3~A4~A5

You can choose one of 25 chromatic notes in the range A3-A5.

Reference Pitch
435~440~445Hz
Resdution = 1Hz

You can change the tuner's reference pitch according to your chromatic instrument.

● **Metronome**

There's also a Metronome to guide your rhythm.
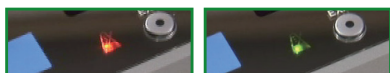
The Metronome indicator blinks on the beat: Red means "strong beats" and Green means "weak beats" to help you for your lesson on the beat.
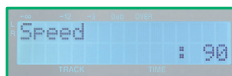
| Tempo	Sound	Beat
$\quad$ = 20~120~250	Click Bell Voice	1/4,2/4,3/4,4/4,4,5/4,0/4,7/4 triplet, sixteenth notes

Other applications

Turn records or cassette tapes into CDs

Are there any dusty boxes of records or cassette tapes in your closet? They're taking up space, and their sound quality is also gradually deteriorating. Why not transfer your music from old media to CDs for archiving? Just connect your record player or cassette deck to the [LINE IN] jacks located on the left side of the CD-2e, and start recording. If you use the automatic marker function, silences between songs on the record or tape will be detected, and the songs will be numbered accordingly.
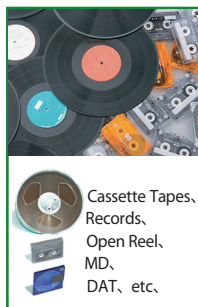
● **Recording sound from the record player**
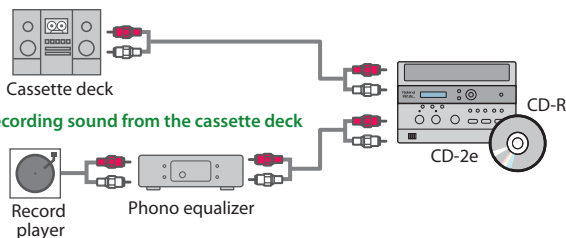
Cassette deck

● **Recording sound from the cassette deck**

Record player

Phono equalizer

CD-R

CD-2e

Cassette Tapes、
Records、
Open Reel、
MD、
DAT、etc、

*   You may need a phono amp (phono equalizer) when connecting your record player.

Use your CD-2e with the EDIROL R-09 to capture the sounds of the world on CD!
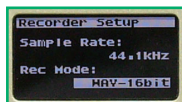
The EDIROL R-09 is a great way to make outdoor recordings, such as birdsongs, the murmur of a brook, the sounds of nature, trains, vehicle sounds, or sonic memories of your travels. The R-09 uses the same SD memory cards as the CD-2e. After you've made a recording on the R-09, simply move its SD card over to the CD-2e to transfer the audio data without having to use a computer. You can use the CD-2e to edit the recorded data and turn it into a CD. Used in combination, these two recorders will open up new ways for you to enjoy recording.

*   When recording on the R-09, set the recording mode to "WAV 16-bit" and sampling frequency to "44.1 kHz."

Recorder Setup
Sample Rate:
   44.1kHz
Rec Mode:
     WAV-16bit

When you're not sure how to proceed, use the EASY GUIDE feature

The CD-2e provides an Easy Guide feature that helps you accomplish a goal—simply press the buttons as directed onscreen. If technology isn't your strong point, rely on this helper. Start by pressing the [EASY GUIDE] button, and then select the desired task from the list. Then, just operate the controls as directed by the CD-2e. Easy Guide will walk you through basic operations.
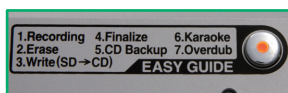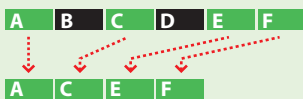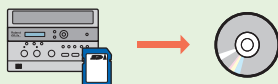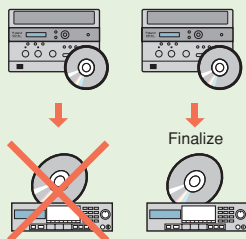

[EASY GUIDE] button

1. Recording
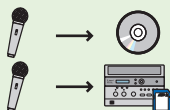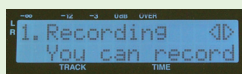
2. Erase

3. Write (SD → CD)

4. Finalize

Finalize

5. CD Backup
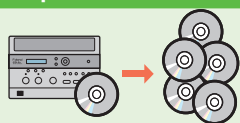
6. Karaoke

For karaoke ,the Center Cancel function lets you use a music CD with vocals as a karaoke CD.

7. Overdub

You can play back a recorded performance from an SD memory card, add a vocal or a performance of another instrument, and re-record the combined result onto the SD memory card. Refer to the examples in page 14.

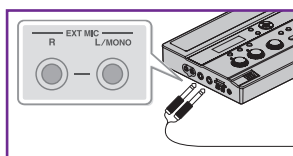# Useful options

Carrying Case

CB-CD2E（Dedicated to the CD-2e）

The CB-CD2E Carrying Case is the semi-hard case for the CD-2e body and its accessories. It protects the CD-e from the pressure and impact when carried.
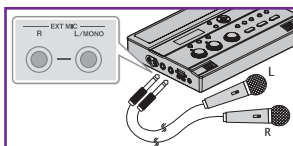
## Dynamic Microphones

DR-50
（For professional vocal）

DR-30
（For Karaoke）

The CD-2e has two microphone ports for dynamic type. You can record them at the same time along with the song on CD or SD.

Stereo Microphone

CS-15R（Dedicated to the CD-2e）

EXT MIC
R   L/MONO

The CS-15R is the omni-directional, cardioid-type stereo microphone. It realizes the serious recording to capture the sound sources of the back instrument players (or voices) over the front when record large-scaled musicians.

Microphone Stand

ST-100MB

The ST-100MB is the lightweight microphone stand, which comes with carrying bag with strap. It's portable and the companion for field recording by using the CD-2e.

📖 **POINT**

PLAYBACK
Center Cancel

Karaoke

Center Cancel function cancels the portion of the sound that is heard in the center of its stereo image, such as the main vocal or lead guitar, making it less audible. This lets you use a commercially available CD as a simple karaoke source, giving you an easy way to enjoy karaoke or to practice singing or playing an instrument.
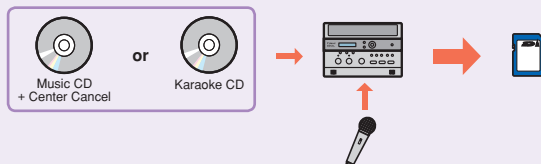
Music CD
+ Center Cancel

or

Karaoke CD

Powered Monitor Speakers
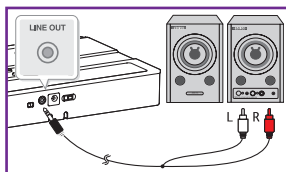
DS-5/DS-7/DS-8

CM-30

EDROL
MA-150DK(pair)

EDROL
MA-7ABK(pair)

When you use the CD-2e in your classroom or listen to the CD-2e sound with two or more people, you will need louder sound. You can choose any of powered monitor speaker options according to your room space and the volume you need.

Headphones

RH-300
(Professional model)

RH-200S
(for lesson, black body, coiled cord)

RH-200
(for lesson, silver body, straight cord)

When you want to make a present for kids: for instance, you can make an audio book --- record your voiceovers of picture book and burn a CD.

📖 POINT   Pitch Change in karaoke or music lesson.

Key Change function can be useful in situations like the following.
● You want to practice flute along with an accompaniment CD that was created for alto sax.
● You want to sing along with a karaoke CD at a key that's easier for you to sing.

Key Range

-6 ~ 0 ~ +5
Resolution: Semitone

Pitch Change function adjusts the pitch of the playback sound in one-cent steps. One cent is 1/100th of a semitone.
Sometimes when you are practicing your instrument along with a CD, you may have difficulty because the CD playback is pitched slightly different than your instrument. In such cases, you can adjust the CD playback pitch to match your instrument. When you're using an instrument that is not easily tuned, such as an acoustic piano, you can adjust the pitch of the CD so that it matches your instrument.
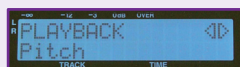
Pitch Range

-100 ~ 0 ~ +100
Resolution: 1 cent

Frequency of A4 after adjustment	Pitch setting
438Hz	-8 (cents)
439Hz	-4 (cents)
440Hz	0
441Hz	+4 (cents)
442Hz	+8 (cents)

As you like ... (see page below.)

Direct record to CD **P.7**	Grand piano **P.8**	Upright piano **P.8**	Trumpet **P.9**
Saxophone **P.9**	Violin **P.10**	Wind instrument **P.11**	Music stand **P.11**
Band Rehearsal **P.12**	Acoustic guitar **P.13**	Ukulele **P.13**	Digital piano **P.14**
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The chorus **P.17**	Bird (Field recording) **P.16**	Speakers **P.19**	Audio book **P.19**
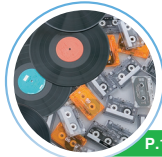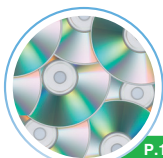
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