



Classic Keyboard

C-230

Owner's Manual



ROLAND
C L A S S I C

For C.A. US (Proposition 65)

WARNING

This product contains chemicals known to cause cancer, birth defects and other reproductive harm, including lead.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For EU Countries



This product complies with the requirements of EMC Directive 2004/108/EC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Classic Keyboard

C-230

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" (p. 4) and "IMPORTANT NOTES" (p. 6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ⏻ symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING





⚠ WARNING

- Do not open (or modify in any way) the unit or its AC adaptor.
- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- Never install the unit in any of the following locations:
 - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
 - Damp (e.g., baths, washrooms, on wet floors); or are
 - Humid; or are
 - Exposed to rain; or are
 - Dusty; or are
 - Subject to high levels of vibration.
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.
- Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.







⚠ WARNING

- Use only the attached power-supply cord. Also, the supplied power cord must not be used with any other device.
- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!
- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.
- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
 - The AC adaptor, the power-supply cord, or the plug has been damaged; or
 - If smoke or unusual odor occurs
 - Objects have fallen into, or liquid has been spilled onto the unit; or
 - The unit has been exposed to rain (or otherwise has become wet); or
 - The unit does not appear to operate normally or exhibits a marked change in performance.






⚠ WARNING

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through. 
- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 

⚠ CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation. 
- Always grasp only the plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit. 
- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire. 
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 
- Never climb on top of, nor place heavy objects on the unit. 
- Never handle the AC adaptor or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit. 

⚠ CAUTION

- If you need to move the instrument, take note of the precautions listed below. At least two persons are required to safely lift and move the unit. It should be handled carefully, all the while keeping it level. Grasp the frame of the stand. Make sure to have a firm grip, to protect yourself from injury and the instrument from damage. 
 - Check to make sure the screws securing the unit to the stand have not become loose. Fasten them again securely whenever you notice any loosening.
 - Disconnect the power cord.
 - Disconnect all cords coming from external devices.
 - Remove the music stand.
- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet. 
- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet. 
- Should you remove the screws for music stand, knob bolts, and decorative panel stoppers, keep them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally. 
- Do not allow a source of flame such as a lighter or a cigarette to come near the netting on the top surface of the instrument. 

IMPORTANT NOTES

In addition to the items listed under “USING THE UNIT SAFELY” on p. 4, please read and observe the following:

Power Supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow rubber, vinyl, or similar materials to remain on the unit for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not allow objects to remain on top of the keyboard. This can be the cause of malfunction, such as keys ceasing to produce sound.
- Do not paste stickers, decals, or the like to this instrument. Peeling such matter off the instrument may damage the exterior finish.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface. You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.

Maintenance

- To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, pack it in shock-absorbent material. Transporting the unit without doing so can cause it to become scratched or damaged, and could lead to malfunction.
- Do not apply undue force to the music stand while it is in use.
- Use only the specified expression pedal (EV-7; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.
- Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch the metal portions of other objects, such as guitars. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see the figure on p. 13) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the “Information” page.

Unsuitable places for connection

- Water pipes (may result in shock or electrocution)
- Gas pipes (may result in fire or explosion)
- Telephone-line ground or lightning rod (may be dangerous in the event of lightning)

Using USB Memory

- When connecting USB memory, firmly insert it all the way in.
- Do not touch the pins of the USB memory connector, or allow them to become dirty.
- USB memory is made using high-precision electronic components, so please observe the following points when handling it.
 - To prevent damage from static electrical charges, discharge any static electricity that might be present in your body before handling USB memory.
 - Do not touch the terminals with your fingers or any metal object.
 - Do not bend or drop USB memory, or subject it to strong impact.
 - Do not leave USB memory in direct sunlight or in locations such as a closed-up automobile. (Storage temperature: 0–50 degrees C)
 - Do not allow USB memory to become wet.
 - Do not disassemble or modify USB memory.
- When connecting USB memory, position it horizontally with the USB memory connector and insert it without using excessive force. The USB memory connector may be damaged if you use excessive force when inserting USB memory.
- Do not insert anything other than USB memory (e.g., wire, coins, other types of device) into the USB memory connector. Doing so will damage the USB memory connector.
- Do not apply excessive force to the connected USB memory.
- Attach the USB memory cover when you're not using USB memory.

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Introduction

About this owner's manual

When you've finished assembling the stand, please read the section "Getting Ready to Play" and make the correct preparations for turning on the power.

This manual explains what you need to know to take full advantage of the C-230, divided into a Basic Operation section and an Advanced Operation section.

Conventions used in this manual

In order to present information as concisely as possible, this manual uses the following conventions.

- Text enclosed in square brackets [] indicates the name of a button (or knob); e.g., "the [8'I] button."
- Text preceded by a symbol such as **NOTE** or an asterisk (*) are warnings. Please be sure to read these.
- Pages to which you can refer to for further information are indicated like this: (p. **)

Main features

■ Reproduces the beautiful sound of the classic organ, harpsichord, fortepiano, and other instruments

Grand, glorious sound is the hallmark of the classic organ. Providing a rich and spacious ensemble sound complemented by crystal-clear definition, the C-230 will take you to new musical heights, while sustaining the tradition of quality, craftsmanship and innovation.

The sound-producing mechanism of the harpsichord, the sound of the key release, and the resonance of the sounding board have been carefully analyzed, and digital technology is used to reproduce faithfully even the sound of the plectrum contacting the string when a key is released. You'll be able to enjoy beautiful and realistic harpsichord sound.

The fortepiano, the precursor of the piano as we know it today, produces its sounds via its strings that are struck by hammers operated by a keyboard. The fortepiano is built entirely of wood, the strings are struck by hammers covered in hide, producing a metallic and brilliant sound. It enabled artists to pave new ways and therefore explore new possibilities of expression.

In addition, there are 18 "Others" sounds that can be used either in isolation or together with the organ section for a richer sound.

■ Five temperaments to support historically correct tuning

In addition to equal temperament, you can choose from Werckmeister, Kirnberger, Vallotti, and Meantone, giving you five temperaments that can be easily selected by pressing a single button.

There's also a Transpose function, which makes it easy to transpose the pitch for additional ways to vary your performance.

■ No maintenance and easy pitch changes

Not only will you never need to replace the plectrums or strings, you'll also never need to tune this instrument. Moreover, the C-230 is not affected by vibration or changes in humidity or temperature. You'll always be performing with precisely accurate pitches guaranteed by digital technology. It's also easy to adjust the tuning to match other instruments. You can furthermore use a single button to easily switch to Baroque pitch (A= 415Hz) or Versailles pitch (A= 392 Hz) or the default tuning (A= 440Hz).

■ Reverb that enhances the rich acoustics of chamber music

The built-in digital reverb lets you choose the reverberation of a variety of environments, ranging from a small room to a large hall. You can perform using acoustics that are appropriate for the space you are in.

■ Adjust the volume as appropriate for your situation

Whether you're at home, in a small hall, or in a large hall, you can adjust the volume as appropriate for your situation or the ensemble with whom you're performing. You can also use headphones, so you'll feel free to practice at any time.

■ Compact form that encompasses both tradition and functionality

While reflecting the historical tradition of the classic organ, the harpsichord, and the fortepiano, and other sounds, the C-230 provides the advantage of light weight and compact form. Since the main body can be detached from the stand, transportation and setup are easy.

■ Four different classical sections in one instrument

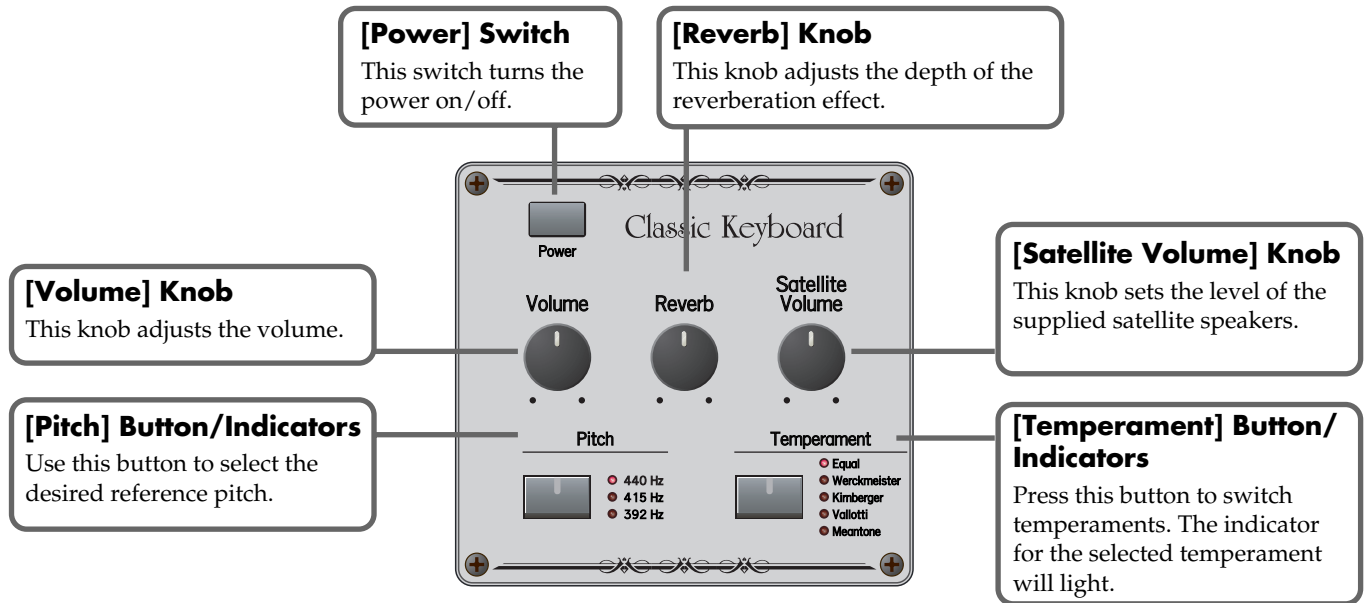
The C-230 comes with four sections for various types of classical music: "Organ" (Organ Bass + Classic Organ), "Harpsichord", "Fortepiano" and "Others".

■ Other highlights

Other highlights include satellite speakers for an enhanced spatial sensation, a highly intuitive user interface, an elegant finish, and a self-contained solution that includes both the stand and matching decorative elements.

Panel Descriptions

Front Panel

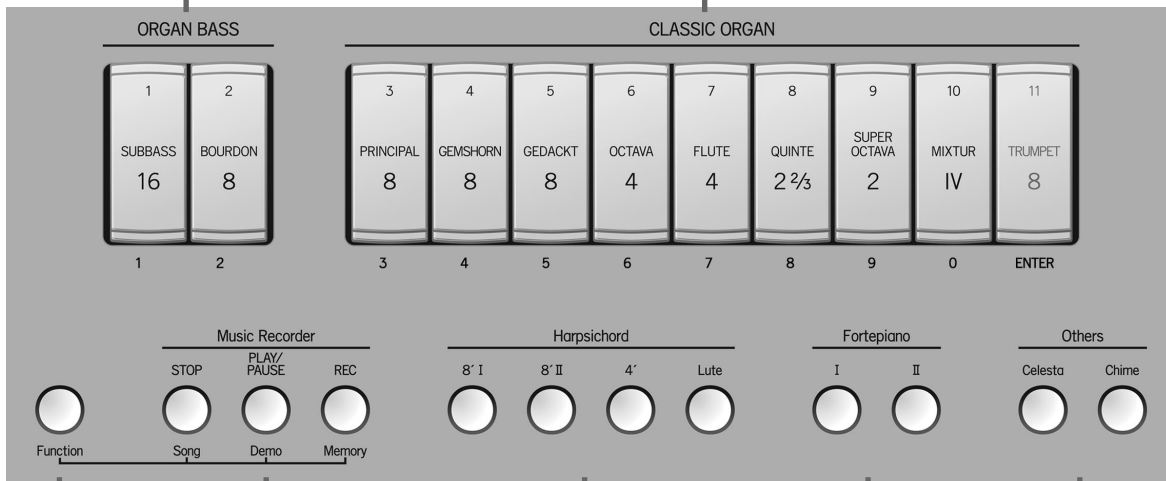


ORGAN BASS Tilt Tabs

These tilt tabs allow you to select an organ bass sound that can either be played via the left half of the keyboard (split) or from an external PK-5A pedal unit (optional).

CLASSIC ORGAN Tilt Tabs

These tilt tabs allow you to select an organ sound. You can use several sounds simultaneously. Furthermore, there are 4 different sounds for each tilt tab. The CLASSIC ORGAN section cannot be used at the same time as Harpsichord or Fortepiano section.



Music Recorder buttons

These buttons allow you to start and stop playback or the recording of your music. When you hold down [Function], and [PLAY/PAUSE] allow you to listen to the demo songs.

Fortepiano buttons

These buttons select fortepiano sounds. The Fortepiano section cannot be used at the same time as the ORGAN, Harpsichord or Others section.

[Function] Button

This button provides access to the Song, Demo and organ registration memories.

Harpsichord buttons

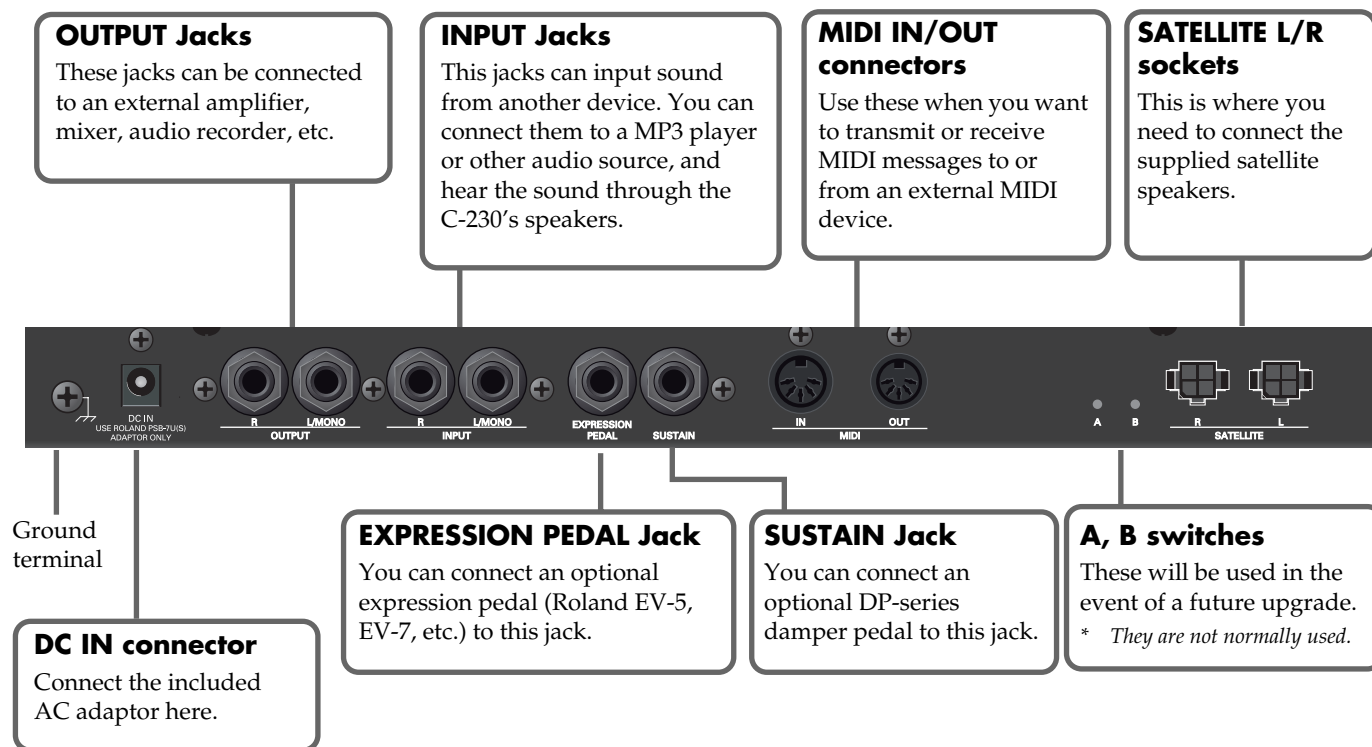
These buttons select harpsichord sounds. The Harpsichord section cannot be used at the same time as the ORGAN, Fortepiano or Others section.

Others buttons

These buttons allow you to select sounds that can be combined with the ORGAN section or used in isolation.

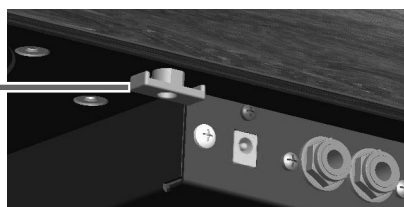
Panel Descriptions

Jack Panel



Cord hook (to the left of the DC IN connector)

Use this to secure the AC adaptor cord.



USB MEMORY connector

This port is mainly intended for compact storage devices, like a USB Flash memory (Roland M-UF-series). You can use it to save the songs you recorded and to play them back.

PHONES jack

This jack allows you to connect a pair of headphones (separately available).



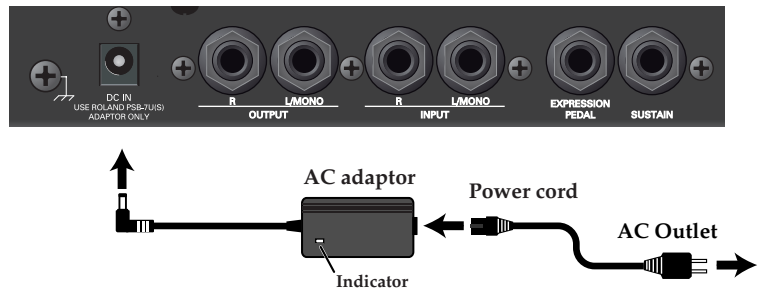
Getting Ready to Play

Connect the AC adaptor

1. In the operating panel, turn the [Power] switch off.
2. Connect the included power cord to the AC adaptor.

The indicator will light when you plug the AC adaptor into an AC outlet.

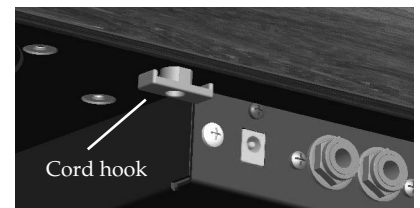
Place the AC adaptor so the side with the indicator (see illustration) faces upwards and the side with textual information faces downwards.



3. Connect the AC adaptor to the DC IN jack on the C-230's rear panel.
4. Plug the power cord connected to the AC adaptor into an electrical outlet.

NOTE

- Depending on the region, the included power cord may differ from the one shown.
- To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook shown in the illustration.
- If you won't be using the C-230 for an extended period of time, disconnect the power cord from the electrical outlet.



Ground Terminal

Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects, such as guitars. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see figure) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

Unsuitable places for connection

- Water pipes (may result in shock or electrocution)
- Gas pipes (may result in fire or explosion)
- Telephone-line ground or lightning rod (may be dangerous in the event of lightning)



Turning the power on/off

Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.

■ Turning the power on

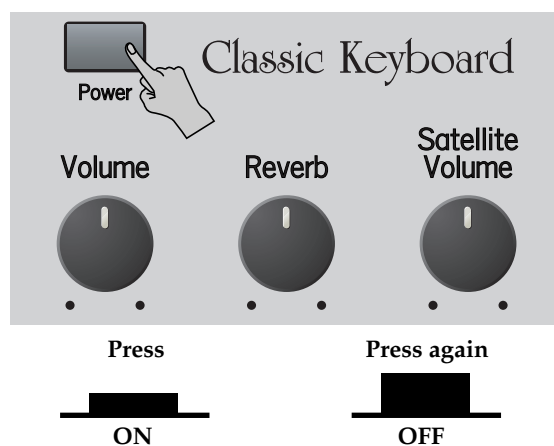
1. Press the [Power] switch.

* This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

2. Select an organ, harpsichord, fortepiano or "Others" sounds.

■ Turning the power off

1. Press the [Power] switch.



Using optional headphones

If you connect optional headphones, sound will no longer be produced from the C-230's internal and satellite speakers. You will hear only the sound from the headphones. This lets you enjoy practicing at night or at other times when you might not wish to be heard by other people nearby.

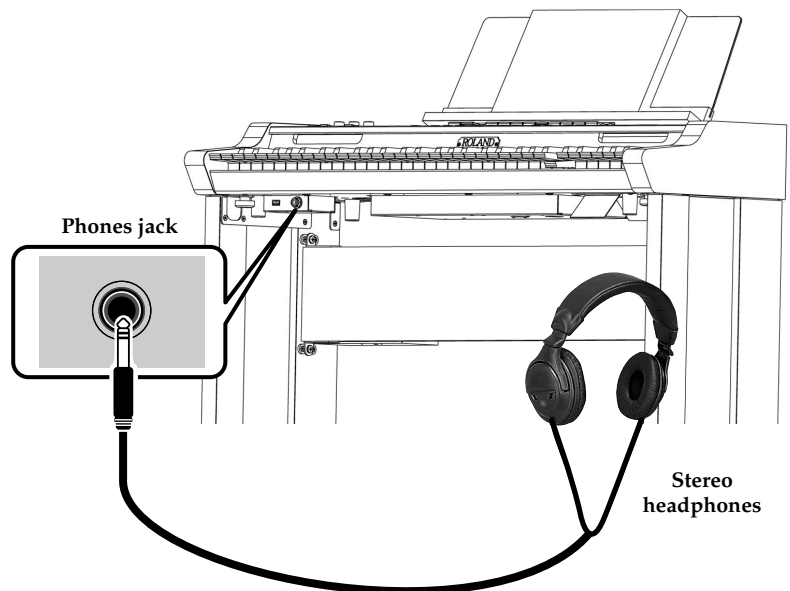
- ◆ **As shown in the illustration, connect the plug of your headphones to the headphone jack.**

Use the [Volume] knob to adjust the volume of the headphones.

* Use stereo headphones.

NOTE

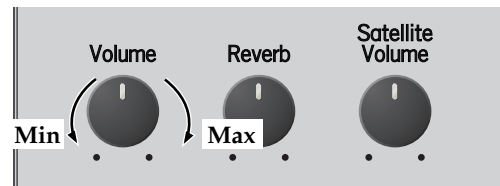
Please be aware that excessively high volume or extended use may contribute to hearing loss.



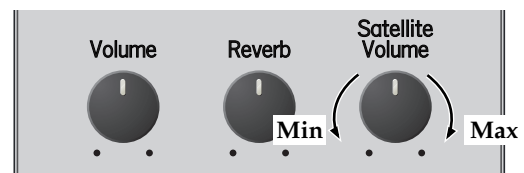
Playing <Basic Operation>

Adjusting the volume

- ◆ Turn the [Volume] knob to adjust the overall volume.
Turning the knob clockwise will increase the volume, and turning it counterclockwise will decrease the volume.
The [Volume] knob changes the level of **both the internal and the satellite speakers** (as well as the level in optional headphones you may have connected).



- ◆ The [Satellite Volume] knob allows you to set the level of the satellite speakers with respect to the overall [Volume] setting. This is a relative level control, which means that turning the [Satellite Volume] knob fully clockwise has no effect while the overall volume is set to the minimum value.
In Voice Palette or Others mode, this knob is used to set the volume of the individual organ voices and “Others” sounds (see pages 28 and 29).



Adjusting the reverb

Reverberation is the sound that you hear reflected from the walls or other surface of a hall or room in addition to the sound that reaches your ears directly from the instrument.

The C-230 provides a reverb effect that lets you simulate the reverberation of a variety of environments ranging from a small room to a large hall.

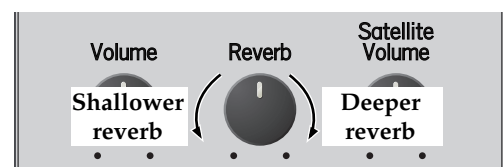
- ◆ Turn the [Reverb] knob to adjust the amount of reverb effect.
 - Turning the knob clockwise will increase the reverb level.
 - Turning the knob counterclockwise will lower the reverb level.

NOTE

Using the [Reverb] knob in this way will also affect the Reverb level for an input signal source you may have connected (see p. 39).

MEMO

If you turn the knob while pressing and holding the [Temperament] button, you can adjust the resonance noise of the harpsichord. See p. 31.



Choosing a sound

The C-230 provides four separate sound sections: Organ (ORGAN BASS + CLASSIC ORGAN), Harpsichord, Fortepiano and Others. Only one of the following sections can be used at any one time: Organ or Harpsichord or Fortepiano. The Others section can be combined with the organ section (allowing you to play several sounds simultaneously). The Others section cannot be combined with the Harpsichord or Fortepiano section.

Playing classic organ sounds

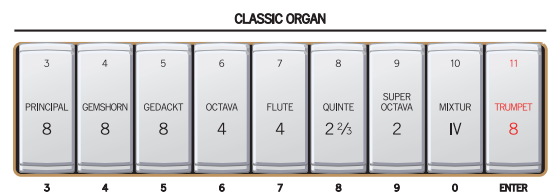
The C-230 comes with 36 organ voices that can be selected using the 9 tilt tabs. There are 4 voices per tilt tab, one of which can be assigned at a time (see p. 28).

1. Press the lower part of the tilt tabs you wish to use.

The tilt tabs you activate light. You can activate several sounds at once if you like.

2. To switch off the selected organ sounds, press the upper part of all tilt tabs that are lit.

The tilt tabs go dark.



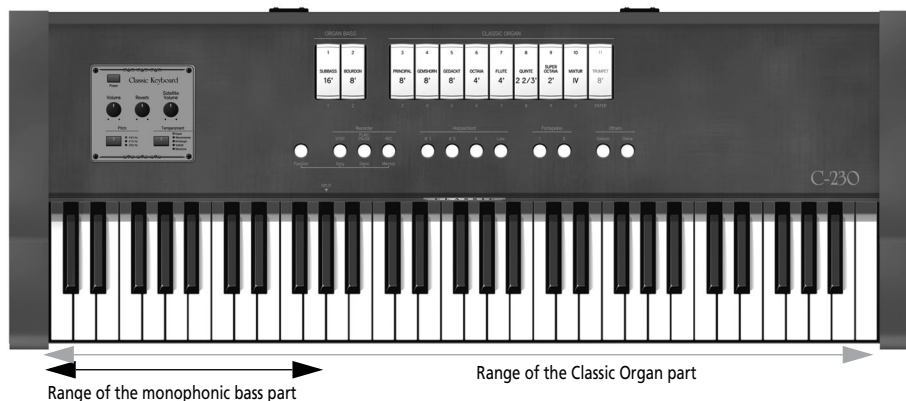
NOTE

See also “Additional functions for the Classic Organ sounds” on p. 25.

Playing an organ bass sound

The C-230 features an ORGAN BASS section that can either be played via the keyboard or with an optional PK-5A dynamic MIDI pedal unit. Here again, there are 4 voices for each of the 2 tilt tabs. And again, one of those voices can be assigned to the tilt tab in question (see p. 28).

If you use the keyboard, the ORGAN BASS section is monophonic and can be played in the left half of the split keyboard, up to the note that is set as “split point”.



1. Press the lower part of the ORGAN BASS tilt tabs you wish to use.

Now you can play the selected ORGAN BASS sound. The bass sound is added to the selected Classic ORGAN sounds. It sounds the lowest note you play with your left hand (it is monophonic).

2. To switch off the selected ORGAN BASS sound, press the upper part of the tilt tab that lights.

The tilt tab goes dark.



Playing <Basic Operation>

TIP

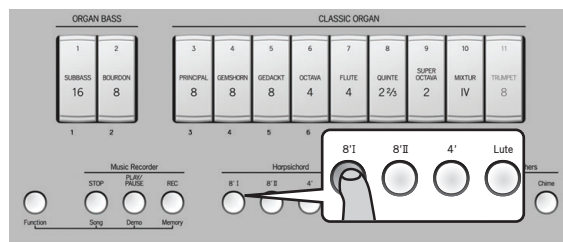
By connecting an optional PK-5A MIDI pedal board to the C-230's MIDI IN connector, you can play the bass organ part in polyphonic mode. In that case, the left half of the C-230's no longer triggers the Organ Bass part.

Playing a harpsichord sound

1. Press the Harpsichord button for the sound that you want to play.
The Harpsichord button you pressed lights. The ORGAN BASS, CLASSIC ORGAN, Fortepiano and Others sections are switched off. Now you can play the selected harpsichord sound.
2. To switch off the selected Harpsichord sound, select a sound in the ORGAN BASS, CLASSIC ORGAN, Fortepiano and Others section.

NOTE

Three harpsichord sounds can be layered and played together. See p. 31 for details.



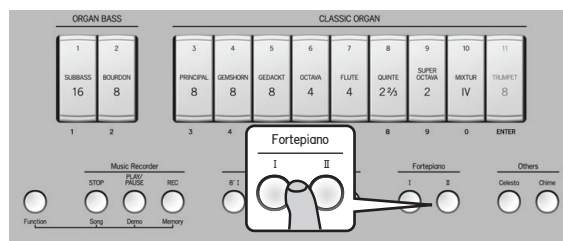
Playing a fortepiano sound

The fortepiano is the precursor of the grand piano as we know it today, with a rather more metallic sound. The C-230 contains two fortepiano sounds.

1. Press the Fortepiano button for the sound that you want to play.
The button you pressed lights, the ORGAN BASS, CLASSIC ORGAN, Harpsichord and Others sections are switched off. Now you can play the selected Fortepiano sound.
2. To switch off the selected Fortepiano sound, select a sound in the ORGAN BASS, CLASSIC ORGAN, Harpsichord and Others section.

NOTE

Only one Fortepiano sound can be selected at a time.



Playing other sounds (Others)

The C-230 contains 18 “Others” sounds that can be assigned to the [Celesta] and [Chime] buttons. By default, these buttons select the Celesta and Chime sounds respectively. The “Others” sounds can be played either separately or in combination with your current Organ selection.

1. Press the [Celesta] or [Chime] button (it lights).

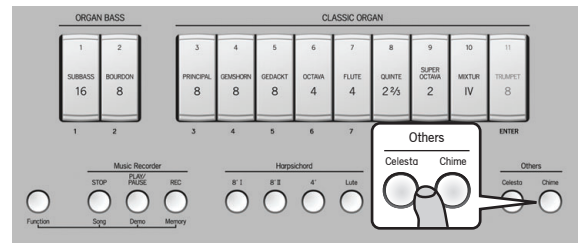
To use both “Others” sounds, simultaneously press the [Celesta] and [Chime] buttons.

2. Now you can play the selected “Others” sound.

3. If you like, you can add an organ sound.

NOTE

See “Choosing different Others sounds and setting their volume” on p. 29 for how to assign different sounds to these buttons.



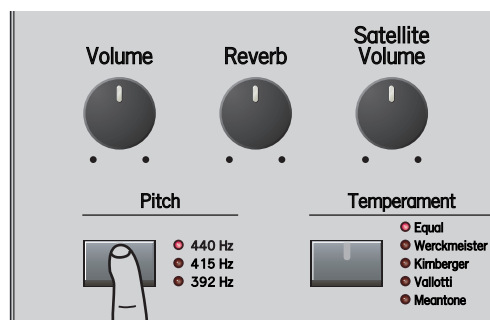
Selecting a classical tuning (Pitch)

If you're playing the C-230 together with other instruments in an ensemble, you can adjust the pitch of the C-230 to match the other instruments if necessary.

MEMO

- You can adjust the C-230's reference pitch by choosing one of three fixed settings: A= 440Hz (default), 415Hz (Baroque pitch) or 392Hz (Versailles pitch).
- When you turn on the power, the pitch is set to 440Hz (the "440Hz" indicator lights).

- ◆ Press the [Pitch] button repeatedly until the indicator of the desired pitch lights.



Selecting a temperament

The C-230 allows you to easily change the temperament. By using historical temperaments to play music that is appropriate for the characteristics of each temperament, you can more strongly bring out the beauty or tension inherent in a composition. In particular, when playing a composition that uses a transposable temperament and includes transpositions, the sonority of the chords will change when a transposition occurs, creating subtle changes in the coloration of the piece.

"Werckmeister" is a temperament that combines Meantone and Pythagorean scales to enhance the degree of transposability, and has been used ever since Bach up to the present. "Kirnberger" was conceived using similar methods, and is used mainly when playing the organ works of Bach.

"Vallotti" is the most recent of the temperaments described here. It is close to equal temperament, but since it is somewhat pure, it blends easily with other instruments, and today is often used in ensembles.

Meantone was popular throughout Europe during the Baroque era, and was used customarily by Baroque musicians such as Handel as well as in compositions of the Renaissance period.

- ◆ Press the [Temperament] button repeatedly until the indicator of the desired temperament lights.

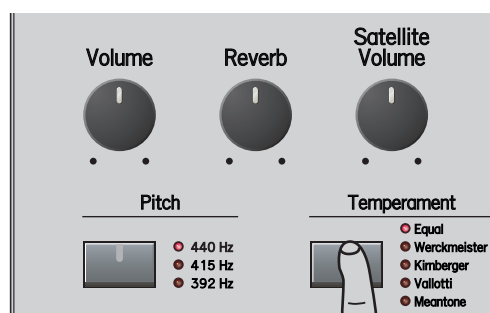
If you proceed past Meantone, you will "wrap around" to Equal.

The [Temperament] button only lights when a temperament other than "Equal" is selected.

MEMO

"Equal" will be selected every time the power is turned on.

Equal	Equal temperament
Werckmeister	Werckmeister temperament
Kirnberger	Kirnberger temperament
Vallotti	Vallotti
Meantone	Meantone temperament (E ♭)



NOTE

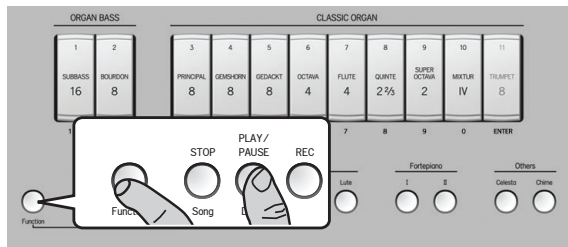
The difference between the various temperaments may not always be obvious.

Additional Convenient Functionality <Advanced Operation>

Listening to the demo songs

The C-230 contains 22 pieces that allow you to audition its sounds. These pieces are called “demo songs”, because they demonstrate the C-230’s capabilities. The demo songs are divided over 4 banks (see the table on p. 22).

1. While holding down the [Function] button, press the [Demo] (PLAY/PAUSE) button.



The C-230 starts playing all demo songs.

The first button in the Harpsichord section flashes to indicate that Bank 1 is selected. Tilt tab “1” also flashes to indicate that the first song of that bank is playing.

NOTE

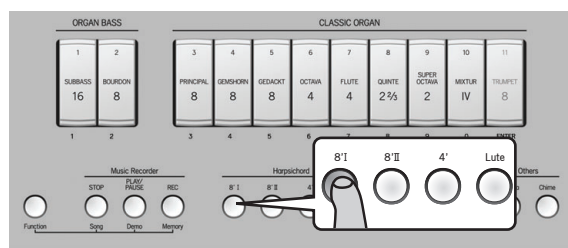
Demo playback will continue repeating all available songs until you stop it. To listen to a specific demo song, continue with step (2).

NOTE

You can’t control the voices while a demo performance is in progress.

To listen to a specific demo song, proceed with step (2). Otherwise, proceed with step (4).

2. Press the Harpsichord button of the desired bank.



The tilt tabs that can be used to select demo songs now light. See the table below for the correspondence between the tilt tabs and the demo song banks.

The demo songs are divided over four banks: the first bank contains demonstrations of the ORGAN BASS/ CLASSIC ORGAN section, the second showcases the Harpsichord section, while the third and fourth contain demo songs for the Fortepiano I, Fortepiano II and Celesta sounds.

3. Press the lower part of the ORGAN BASS or CLASSIC ORGAN (1~9) tab that is assigned to the demo song you want to listen to.

Playback of the selected song starts immediately (the corresponding tab flashes).

NOTE

Demo playback will continue repeating all available songs until you stop it.

4. Press the [PLAY/PAUSE] button to temporarily stop (and then resume) demo song playback.
You can also stop demo song playback by pressing the upper part of the flashing tilt tab.
5. Press the [STOP] button to stop demo song playback without leaving the demo function.
6. Press a different Harpsichord button and ORGAN BASS or CLASSIC ORGAN tab to listen to other demo songs.
7. Press the [Function] button to leave the C-230’s demo function.

Additional Convenient Functionality <Advanced Operation>

The four banks contain the following demo songs:

		Harpichord button			
		Bank 1 (8' I)	Bank 2 (8' II)	Bank 3 (4')	Bank 4 (Lute)
Type		(Organ songs)	(Harpichord songs)	(Fortepiano I songs)	(Fortepiano II/Celesta songs)
ORGAN BASS/CLASSIC ORGAN tilt tabs	1	J.S. Bach – Choral BWV626	J.S. Bach – Goldberg-Variationen Aria	W.A. Mozart – Sonata KV285	J. Maul – Miniature No. 1 for Dynamic Harpsichord
	2	J.S. Bach – Choral BWV639	J.S. Bach – Invention No. 1	J. Maul – Miniature No. 2 for Dynamic Harpsichord	E.H. Grieg – Peer Gynt, Suite No. 1, “Anitra’s Dance”
	3	J.S. Bach – Dorisch BWV538	J.S. Bach – Invention No. 4	----	----
	4	J.S. Bach – “Trio Super Herr Jesu Christ, dich zu uns wend” BWV 655c	J.S. Bach – Invention No. 13	----	----
	5	G. F Haendel – Allegro	J.S. Bach – Französische Suiten, No. 5 Allemande	----	----
	6	H. Purcell – Voluntary	J.S. Bach – Das wohltemperierte Klavier 1-1 (Ave Maria)	----	----
	7	R. Wagner – Wedding March-	F. Couperin – Le Roseau	----	----
	8	F. Mendelssohn – Wedding March	J. Duphy – Allemande	----	----
	9	J.S. Bach – Fugue in A minor BWV 559b	A. Forquerai – Le Rameau	----	----

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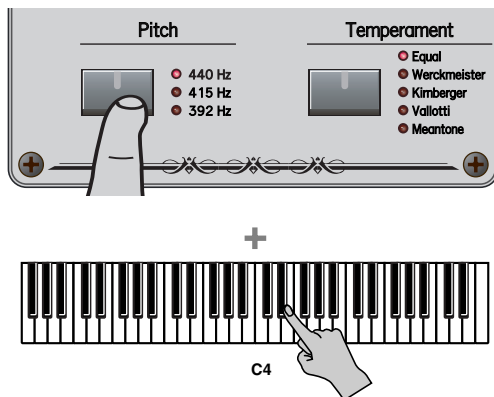
* No data for the music that is played will be output from MIDI OUT.

* Regarding “Das Wohltemperierte Klavier, 1-1 (Ave Maria),” this song is arranged for ensemble with a flute or recorder melody. For play-along purposes, the songs do not include the flute, recorder, organ, or harpsichord (main theme) parts.

Changing the pitch of the keyboard (Transpose)

You can transpose your playing without changing the position at which you play the keys. For example, if you're playing a song in a difficult key signature that contains numerous sharps (♯) or flats (♭), you can transpose the pitch of the keyboard and play the piece in an easier key.

1. Press and hold the [Pitch] button until the indicator on the button starts flashing in green.
2. While holding down the [Pitch] button, play the tonic note of the key to which you want to transpose the keyboard.



You can also hold down the [Pitch] and [Temperament] buttons and press the key of the desired tonic note.

3. Release the [Pitch] button.

If this is set to any key other than C, the [Pitch] button will light green.

For example, if you want the E♭ pitch to sound when you play the C key, hold down the [Pitch] button and press the E♭ key.

4. To return the keyboard to its normal state, hold down the [Pitch] button and press a C key.

- * You can transpose the keyboard in a range of five semitones upward (F) or six semitones downward (F♯) relative to C.
- * You can specify the transpose setting by pressing a key of any octave.

MEMO

Immediately after you turn on the power, the key transpose setting will be in the normal state.

Additional Convenient Functionality <Advanced Operation>

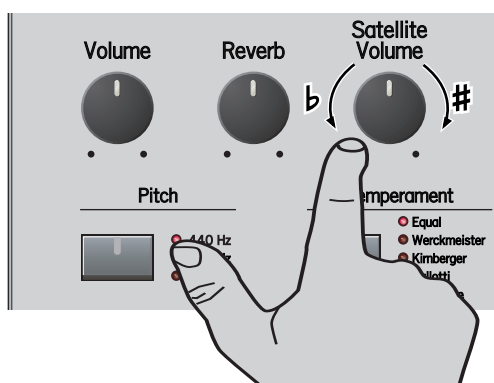
Matching the pitch of another instrument (Tuning)

If you're playing the C-230 together with other instruments in an ensemble, you can adjust the pitch of the C-230 to match the other instruments if necessary.

MEMO

- You can adjust the reference pitch of the C-230 in the steps of ± 50 cents.
- When you turn on the power, the tuning is set to A= 440Hz.

- ◆ While holding down the [Pitch] button, turn the [Satellite Volume] knob.



Turn the knob clockwise to raise the overall pitch, or counterclockwise to lower it.

NOTE

Do not press and hold the [Pitch] button for too long to avoid activating Transpose mode. (Otherwise, press a C key on the keyboard to leave Transpose mode and repeat this step.)

MEMO

Immediately after you turn on the power, the tuning will be in the normal state (A= 440Hz).

MEMO

- The range of adjustment is $\pm 1/2$ semitone (50 cents).
- The center position of the knob corresponds to the following:
 - 440Hz if the "440Hz" indicator lights (Normal pitch)
 - 415Hz if the "415Hz" indicator lights (Baroque pitch)
 - 392Hz if the "392Hz" indicator lights (Versailles pitch).

Additional functions for the Classic Organ sounds

General procedure

Before showing you how to use the C-230's memories and TUTTI/CANCEL functions, here is an overview:

1. Enter Function mode by holding down the [Function] button and pressing the [REC] button.
2. Press one of the following buttons to select a memory or setting:

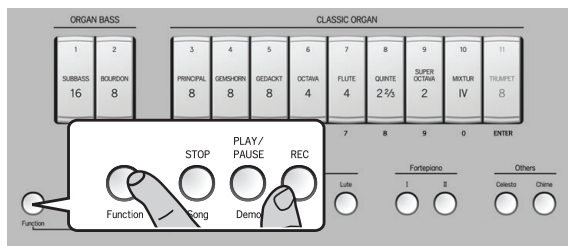
Button	Function	Remarks
Harpischord [8' I]	#1 (Registration memory)	To save a registration: Press and hold the corresponding button a few seconds until the [Function] button flashes and the button you pressed lights.
Harpischord [8' II]	#2 (Registration memory)	
Harpischord [4']	#3 (Registration memory)	
Harpischord [Lute]	#4 (Registration memory)	
Fortepiano [I]	CANCEL	To configure the TUTTI setting: Choose the desired ORGAN BASS, CLASSIC ORGAN and Other voices you wish to assign to the TUTTI setting. Press and hold the Fortepiano [II] button until the [Function] button flashes.
Fortepiano [II]	TUTTI	

3. Press the [Function] button to exit Function mode.

Using the organ registration memories

The C-230 comes with four factory-set memories that contain useful organ registrations ranging from very soft (pianissimo) to loud (forte). If you like, you can replace the contents of these memories with your own registrations and settings (see p. 26) and recall them in the same way as described here.

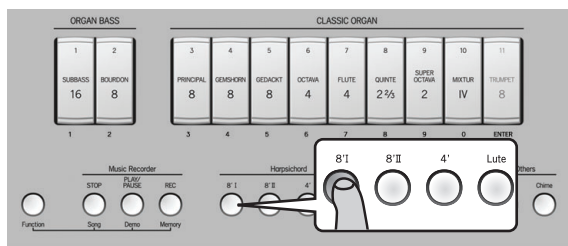
1. While holding down the [Function] button, press the [REC] button (the [Function] button lights).



If you haven't yet overwritten the factory settings, the Harpischord [8' I] button selects the softest registration ("pianissimo"), while the [Lute] button calls up the loudest ("forte").

3. Press the [Function] button (it goes dark) to leave organ registration mode.

2. Briefly press the Harpischord button that is assigned to the registration memory you want to use.



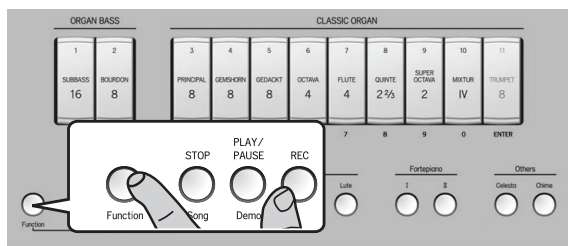
Do not hold it for too long to avoid overwriting the memory in question.

Additional Convenient Functionality <Advanced Operation>

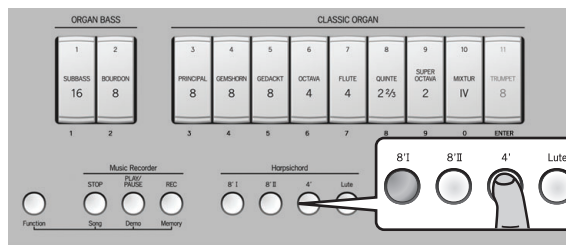
Saving your organ registration memories

To save your own registration (ORGAN BASS, CLASSIC ORGAN and Others button), follow the instructions below.

1. While holding down the [Function] button, press the [REC] button (the [Function] button lights).



2. Press and hold the Harpsichord button that corresponds to the memory where you want to save your settings.



See the table on p. 25. The [Function] button flashes for a few seconds and the Harpsichord button corresponding to the selected memory lights.

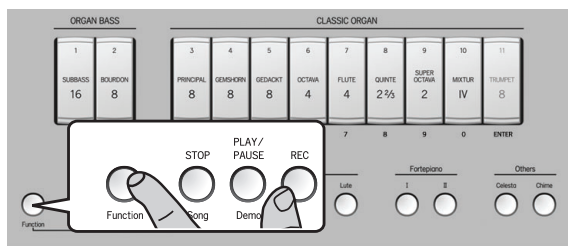
3. Press the [Function] button (it goes dark) to leave this mode.

Switching all tilt tabs on (TUTTI) or off (CANCEL)

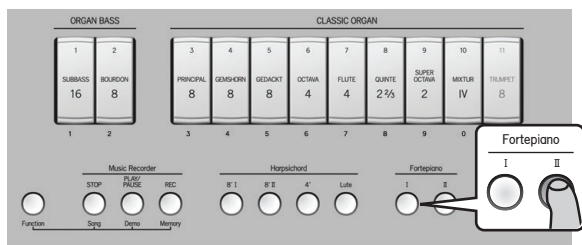
Certain organ pieces contain "TUTTI" sections, i.e. passages where all organ tilt tabs are used. Though you could achieve this effect by quickly switching on all 11 tilt tabs, this may take too long for a fluid organ performance. That is why the C-230 provides a "TUTTI" function.

TUTTI function

1. While holding down the [Function] button, press the [REC] button (the [Function] button lights).



2. Press the Fortepiano [II] button.

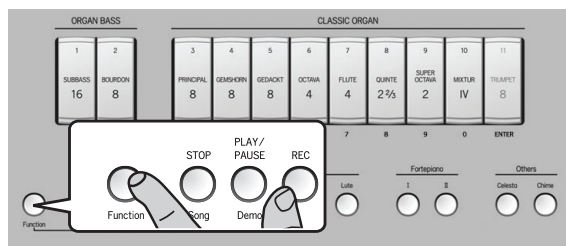


All 11 tilt tabs light to indicate that all voices are active. The Fortepiano [II] button lights to indicate that the "TUTTI" function has been activated.

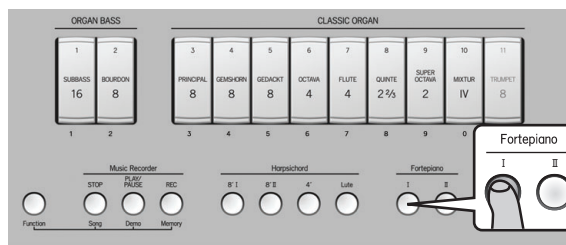
3. Press the [Function] button (it goes dark) to leave this mode.

CANCEL function

1. While holding down the [Function] button, press the [REC] button (the [Function] button lights).



2. Press the Fortepiano [I] button.



All tilt tabs go dark, and the keyboard no longer responds to your playing (this is the "CANCEL" function).

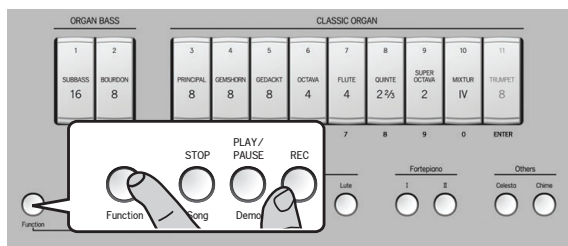
3. Press the [Function] button (it goes dark) to leave this mode.

Additional Convenient Functionality <Advanced Operation>

Configuring your own 'Tutti' setting

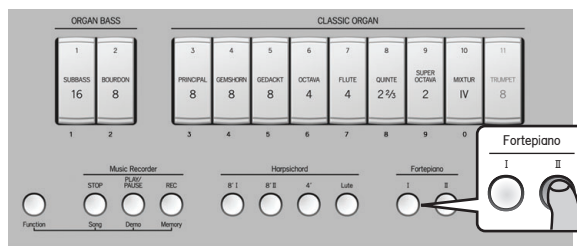
Even though "Tutti" means that all organ tilt tabs are used, the C-230 allows you to configure your own TUTTI function that activates the desired tilt tabs (but not necessarily all of them) when pressed. If you like, your own TUTTI registration can even select the desired ORGAN BASS, CLASSIC ORGAN and Others voices (see pages 28 and 29) and switch on the [Celesta] and/or [Chime] button.

1. While holding down the [Function] button, press the [REC] button (the [Function] button lights).



2. Choose the desired Classic Organ, Bass Organ and Others voices you wish to assign to the "TUTTI" setting.

3. Press and hold the Fortepiano [II] button until the [Function] button briefly flashes.



Your new TUTTI registration has been stored and can be recalled anytime (see "Switching all tilt tabs on (TUTTI) or off (CANCEL)" on p. 26).

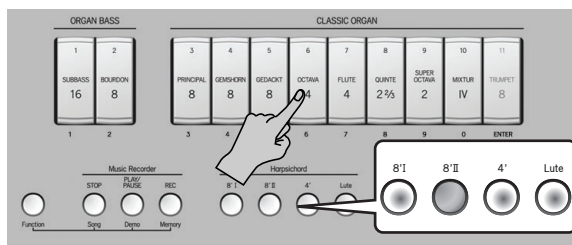
4. Release the Fortepiano [II] button.

Choosing different organ voices and setting their volume (Voice Palette)

■ Choosing a different voice for a tilt tab (Voice Palette function)

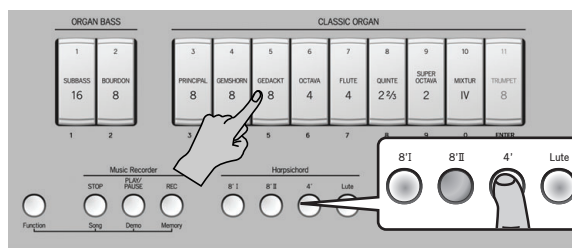
The C-230 contains 4 different voices for each of the 2 ORGAN BASS and the 9 CLASSIC ORGAN tilt tabs. The [PRINCIPAL 8'] tab, for instance, can be used to select the Principal 8', Open Diapason 8', Montre 8' or Prinzipal 8' voice. See p. 43 for a complete list of the available voices. To select a different voice for one of the tilt tabs, proceed as follows:

1. Press and hold the lower part of the tilt tab for which you wish to select a different voice.



After a few seconds, the tilt tab flashes and one button in the Harpsichord section lights to indicate which of the four voices is selected. The other 3 buttons flash.

2. To choose a different voice, press the desired button in the Harpsichord section.



The button you press lights, while the remaining three buttons flash. You can play on the keyboard to audition the voice you selected.

3. If you are satisfied with the newly selected voice, you can press the lower part of the flashing tilt tab you selected earlier.
(If you are not satisfied, you can return to the previously selected voice by pressing the upper part of the tilt tab.)
4. Repeat steps (1)~(3) above to change the voicing of other tilt tabs.

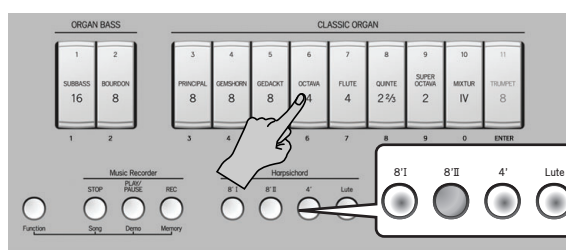
NOTE

If you want to use the newly selected voice each time you press this tab even after switching the C-230 off and back on again, save your settings to the Global area (see p. 30). Your settings can also be saved to one of the four memories (see p. 25).

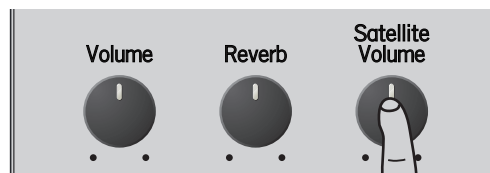
■ Changing the volume of each Palette voice

You can also set the volume of the newly selected voice (see above) to set the desired balance with respect to the remaining organ voices you may be using simultaneously (by switching on other tilt tabs).

1. Press and hold the lower part of the tilt tab for which you wish to change the volume setting (the tilt tab flashes).



2. To change the volume of the currently selected voice (i.e. the one assigned to the Harpsichord button that lights), rotate the [Satellite Volume] knob.



3. Press the lower part of a tilt tab that flashes.
That tilt tab now lights steadily.

NOTE

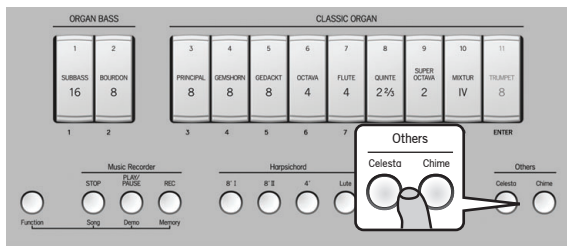
The volume settings of the various voices can be stored in the C-230's Global area (see p. 30).

Choosing different Others sounds and setting their volume

■ Selecting a different 'Others' sound

As stated above, the C-230 provides 9 different sounds for the [Celesta] and [Chime] buttons. One of these sounds can be assigned to the button in question and selected simply by pressing that button. Here is how to assign the desired sound to an Others button:

1. Press and hold the [Celesta] or [Chime] button for a few seconds (the button you press flashes).



To indicate which of the 9 sounds is selected, one of the CLASSIC ORGAN tilt tabs lights, while the other 8 flash.

2. Press the lower part of the tilt tab that is assigned to the desired sound (see the numbers below the tilt tabs).

CLASSIC ORGAN tilt tabs	No.	[Celesta] button	[Chime] button
	3	Celesta	Chime
	4	Violone 16	Holz. Gedackt 8
	5	Contra Trompette 16	Dulzian 8
	6	Bassoon 16	Aeoline II
	7	Geigen Principal 8	Flute Celeste II 8
	8	Quintadeen 8	Mixtur III
	9	Mult Viols II	Cymbel III
	0	Celestes III 8	Scharf II
	ENTER	Unda Maris III	Voce Umana 8

The tilt tab you pressed lights, while the other 8 flash. You can play on the keyboard to try out the selected sound, and select another one, if necessary.

3. Press [Celesta] or [Chime] (depending on which one you pressed above) to confirm your selection.
If you don't want to confirm your selection and revert to the previously selected sound, press the upper part of any CLASSIC ORGAN tilt tab instead.

MEMO

The last sound you selected will be remembered until you switch off the C-230. If you want to use it each time you press this tab even after switching the C-230 off and back on again, save your settings to the Global area (see p. 30). Your settings can also be saved to one of the four memories (see p. 25).

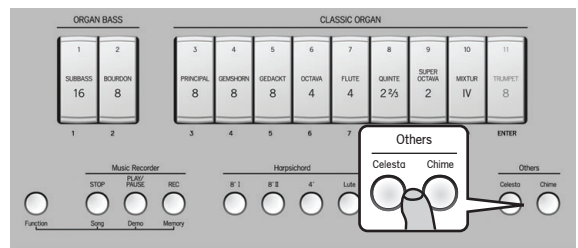
NOTE

You can also select different sounds while both the [Celesta] and the [Chime] button light.

■ Changing the volume of each 'Others' sound

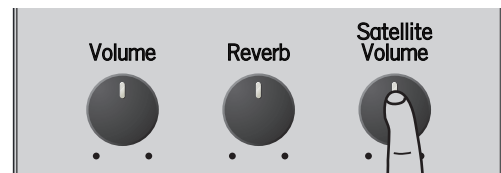
You can also set the volume of the newly selected sound (see above) to set the desired balance with respect to the remaining sounds.

1. Press and hold the [Celesta] or [Chime] button for a few seconds (the button you press flashes).



To indicate which of the 9 sounds is selected, one of the "Classic Organ" tilt tabs lights, while the other 8 flash.

2. Rotate the [Satellite Volume] knob to change the volume of the currently selected sound (i.e. the one assigned to the tilt tab that lights).



3. Press the [Celesta] or [Chime] button you pressed in step (1).
The [Celesta] or [Chime] button you pressed in step (1) lights steadily.

NOTE

The volume settings of the various "Palette" voices can be stored in the Global area (see p. 30).

Additional Convenient Functionality <Advanced Operation>

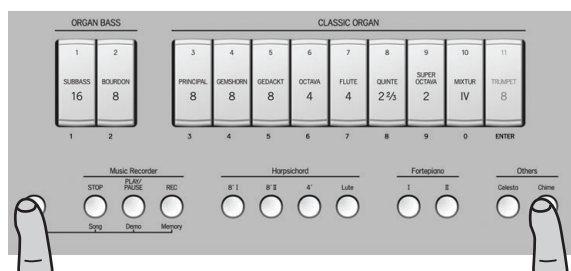
Saving your settings to the Global area

Some of the settings you make can be saved to the C-230's Global area. The C-230 recalls those settings each time you switch it on.

More specifically, the following can be saved to the Global area: Voice Palette, volume of each Palette, Others sounds, volume of each Others sound.

To save your settings, proceed as follows:

1. While holding down the [Function] button, press the [Chime] button.



The [Function] and [Chime] buttons flash to indicate that the C-230 is saving your settings.

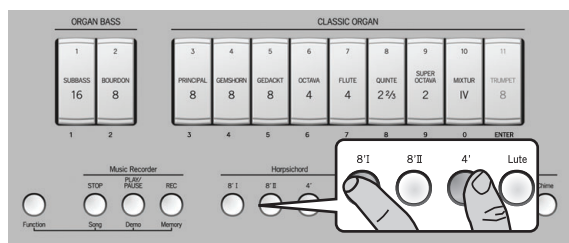
NOTE

Do not power off the C-230 while the [Function] button flashes. Always wait until it goes dark.

Layering harpsichord sounds

The C-230 allows you to play up to three harpsichord sounds simultaneously, creating a richer sound.

1. Simultaneously press the Harpsichord buttons for the sounds you want to layer, making their indicators light.



NOTE

You can't layer a harpsichord sound with an ORGAN, Fortepiano or Others sound.

NOTE

You cannot use four harpsichord sound simultaneously.

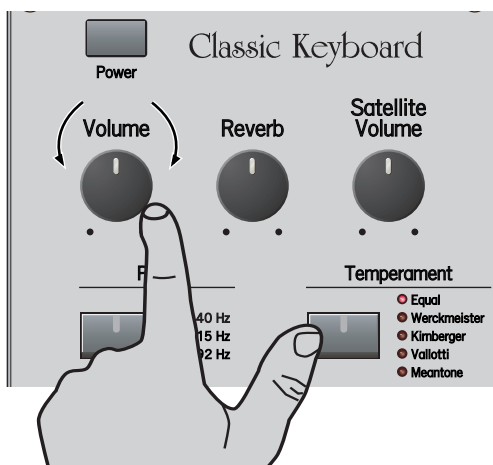
2. To return to only one harpsichord sound, press only the desired Harpsichord button.

Adjusting the volume of the keyboard noise

Adjusting the noise volume for strong keystrokes

NOTE

This function is only available for the four Harpsichord sounds (8' I, 8' II, 4' and Lute) and the Fortepiano II sound.



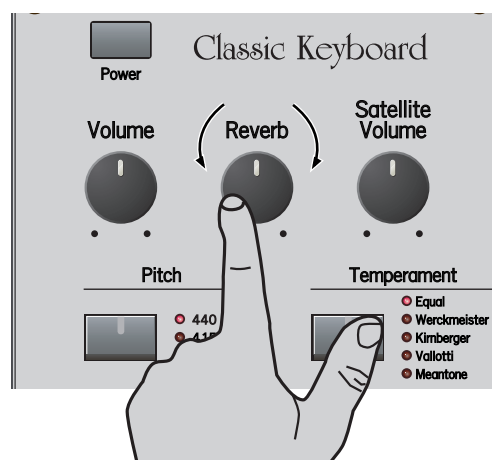
- ◆ While holding down the [Temperament] button, turn the [Volume] knob to adjust the volume of the noise produced by strong keystrokes.

- * The noise will be at the standard level when the knob is at the 2 o'clock position.
- * Once the power is switched off, the instrument reverts to the standard noise level.

Adjusting the noise volume for key releases

NOTE

This function is only available for the four Harpsichord sounds (8' I, 8' II, 4' and Lute).



- ◆ While holding down the [Temperament] button, turn the [Reverb] knob to adjust the volume of the noise heard when you release a key.

- * The noise will be at the standard level when the knob is at the 2 o'clock position.
- * The noise volume setting will be remembered until you switch off the C-230. If you want to use it each time you press this tab even after switching the C-230 off and back on, save your settings in the C-230's Global area (see p. 30).

Using the C-230's internal recorder

The C-230 contains a "Song Recorder" function you can use to record your own performances that you can save (and play back) as many songs as the USB memory device connected to the USB MEMORY port will hold, for a maximum of 99 songs. The recorder not only memorizes the notes you play, but also the sounds you use (organ with or without "Others", harpsichord or fortepiano).

Recording

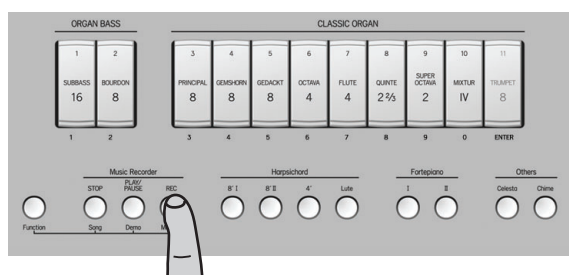
1. Select the sound(s) you want to use for your recording.

See p. 17 and following for details.

NOTE

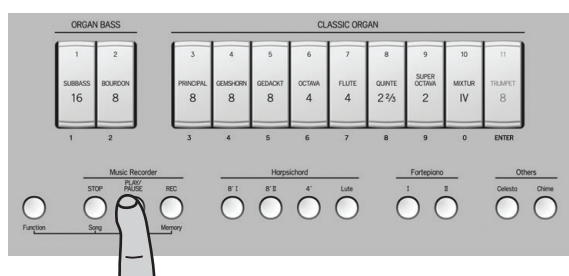
The C-230 has only one internal song memory. If you already recorded another song since switching on the C-230, that song will be erased without warning when you perform the next step. To keep that song, you need to save it before continuing. See "Saving your song to a USB memory stick" on p. 33. Also note that your last recording (in the temporary memory) is erased when you switch off the C-230.

2. Press the [REC] button (it flashes).



Press the [STOP] button if decide not to record.

3. Press the [PLAY/PAUSE] button or play the keyboard to start recording.



Recording begins after a count-in of two bars. If you start recording by pressing a key on the keyboard, there is no count-in: recording will begin immediately.

The [PLAY/PAUSE] and [REC] buttons light.

4. Start playing.

Feel free to select different sounds and sections while recording. All changes will be performed when you play back your recording.

NOTE

While the C-230 is recording, it is impossible to assign different voices to the ORGAN BASS/CLASSIC ORGAN tilt tabs (Voice Palette Function), or different sounds to the [Celesta] and/or [Chime] buttons.

5. Press the [STOP] button to stop recording and return to the beginning of the song.

The [PLAY/PAUSE] and [REC] buttons go dark.

The C-230 now processes your recording, which may take a few seconds.

NOTE

Once the memory has become full, recording stops automatically.

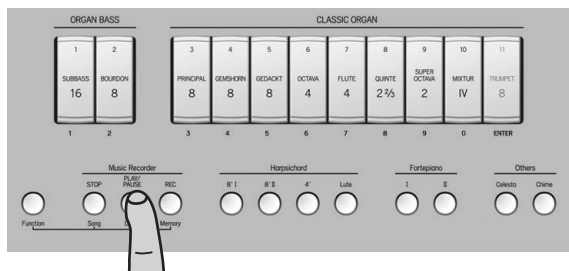
NOTE

Your recording is erased when you switch off the C-230 or load another song. You can, however, save it to a USB memory stick (see p. 33).

Playing back your recorded song

To listen to your new (or a previously recorded) song, proceed as follows:

1. Press the [PLAY/PAUSE] button (it lights) to start playback.



To temporarily stop playback, press [PLAY/PAUSE] again (the button flashes). Press it again to resume playback from where you halted it.

2. Press the [STOP] button to stop playback and return to the beginning of your song.

NOTE

The recorded song data are transmitted to the C-230's MIDI OUT port.

Saving your song to a USB memory stick

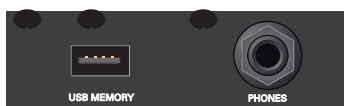
At first, the C-230 uses a temporary memory for the data you record. That memory is erased when you redo your recording, load another song or when you switch off the C-230.

Therefore, you need to save recordings you want to keep and play back at a later stage. To this end, the C-230 provides a USB MEMORY port located next to the PHONES socket (below the left side of the keyboard).

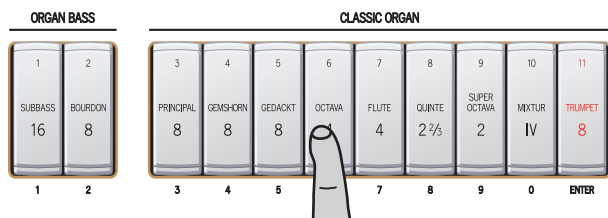
NOTE

The USB MEMORY connector cannot be connected to a computer.

1. Insert the USB flash memory into the USB MEMORY connector.



2. Hold down the [REC] button until the [TRUMPET] (ENTER) tilt tab starts flashing.
3. Enter a number between "1" and "99" using the ORGAN BASS/CLASSIC ORGAN tilt tabs.



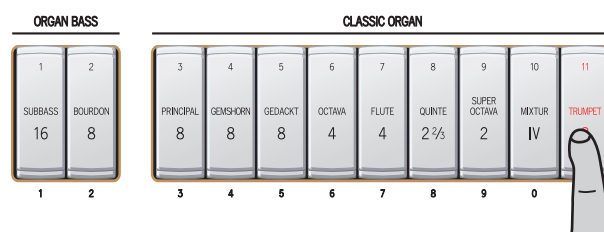
See the numbers BELOW the tilt tabs. To enter "1", just press [SUBBASS]. To enter "39", press [PRINCIPAL] and [SUPER OCTAVE] (in that order).

If you only press [SUBBASS] (number "1") at this stage, for example, the [SUBBASS] and [MIXTUR] tilt tabs flash to indicate that you selected memory "01". A similar flashing pattern is also used for any other number you select here.

NOTE

The C-230 uses the number you selected as file name to save your song to the USB flash memory. It cannot display the song numbers that already contain data.

4. Press the lower part of [TRUMPET] (ENTER) to save your recording.



The C-230 saves the song, and the tilt tabs of the last configuration you have been using light.

NOTE

If the file name with a number you selected already exists, the [TRUMPET] tilt tab and the [STOP], [PLAY/PAUSE], and [REC] buttons start flashing. You can overwrite the "old" song on your USB memory stick by pressing [TRUMPET] again.

To select a different number, enter it using the Classic Organ tilt tabs and press [TRUMPET] again.

NOTE

Never remove the USB memory stick while the C-230 is saving data.

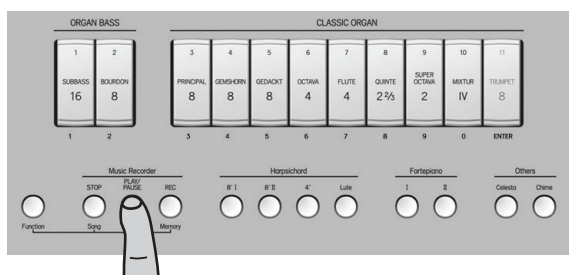
Additional Convenient Functionality <Advanced Operation>

Playing back songs on a USB memory stick

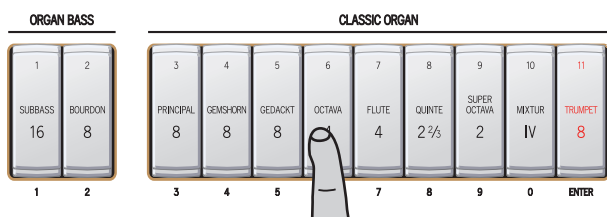
You can play back the songs stored on a USB storage device connected to the C-230. Given the possibility to work with external USB storage devices, you might be tempted to copy Standard MIDI Files to that device (using your computer, for instance) and play them back using the C-230.

The C-230 does not conform to the GS standard or General MIDI format. Songs not specifically prepared with/for the C-230 may therefore use the wrong sounds.

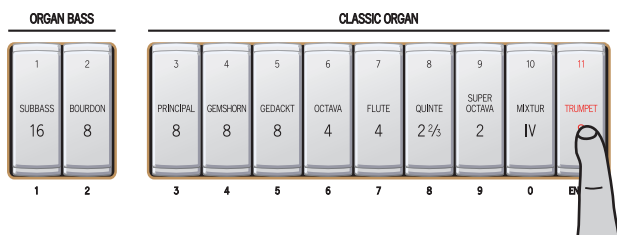
1. Hold down the [PLAY/PAUSE] button until the [TRUMPET] (ENTER) tilt tab starts flashing.



2. Enter a number between "1" and "99" using the Classic Organ tilt tabs.



3. Press the lower part of the [TRUMPET] (ENTER) tilt tab to confirm your selection.

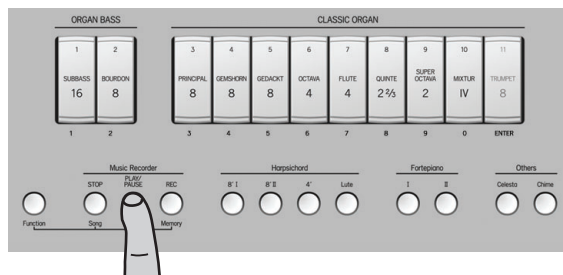


The song you selected is loaded, and the tilt tabs of the configuration used in that song light up.

NOTE

If you select a song number that doesn't exist on the USB memory stick, [STOP], [PLAY/PAUSE], and [REC] start flashing. In that case, enter a different number and repeat step (3) above.

4. Press the [PLAY/PAUSE] button to start playback.



The [PLAY/PAUSE] button lights and playback starts.

5. Press [PLAY/PAUSE] again to temporarily halt playback (it flashes). Press it again to continue playback from that point.
6. Press [STOP] to stop playback and return to the beginning of the song.

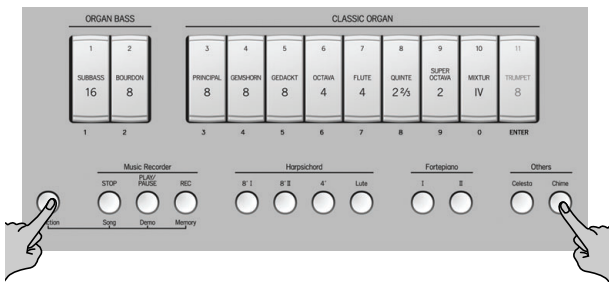
Loading the factory settings

If necessary, you can erase all settings you have saved inside the C-230 and instead load the settings the C-230 contained when you first bought it.

NOTE

The following procedure will erase all settings you have made up to this point.

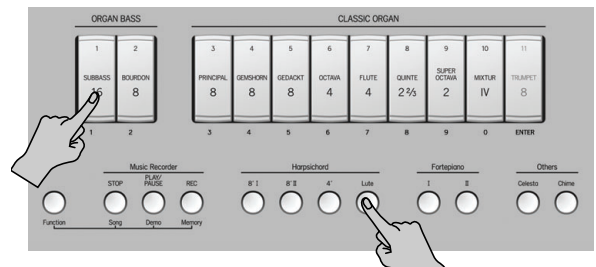
1. While holding down the [Function] button, press the [Chime] button.



The [Function] and [Chime] buttons start flashing.

2. Release the [Function] and [Chime] buttons.
Be sure to proceed with step (3) within ± 10 seconds. If you wait longer, the [Function] and [Chime] buttons go dark. After that, you need to return to step (1) if you still want to load the factory settings.

3. While holding down the lower part of the [SUBBASS 16] tilt tab, press the [Lute] button.



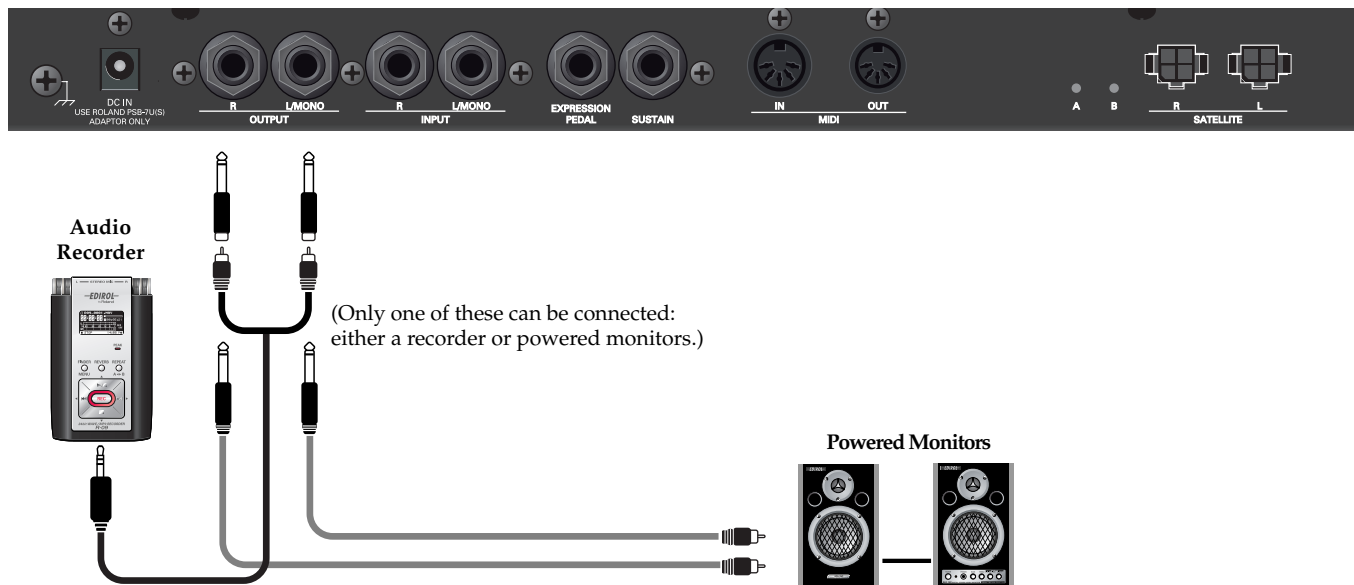
The [Lute] button starts flashing.

4. Wait until the [Function], [Chime] and [Lute] buttons go dark.
5. Switch off the C-230, wait a few seconds, then switch it back on again to use the factory settings.

Additional Convenient Functionality <Advanced Operation>

Playing through external speakers/Recording your performance using an audio device

You can connect external speakers or a mixing console to the OUTPUT jacks for performance on stage, or connect a recorder to record your playing.



NOTE

To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

■ To turn the power on

1. Set the volume of the C-230 and the connected audio device to the minimum level.
2. Switch on the C-230's power.
3. Switch on the connected device.
4. Adjust the volume of the C-230 and the external audio device.

■ To record a performance from the C-230 onto an audio recorder

1. Start recording on the connected device.
2. Perform on the C-230.
3. When you've finished performing, stop recording on the connected device.

■ To turn the power off

1. Minimize the volume of the C-230 and of the connected device.
2. Switch off the connected device.
3. Switch off the C-230.

Using an optional sustain pedal

An optional sustain pedal can be connected to the C-230's SUSTAIN jack and used as the damper pedal of a piano. If you press the pedal while performing, the decay will extend even after you take your fingers off the keyboard. This function is only available when you select a harpsichord or fortepiano sound.

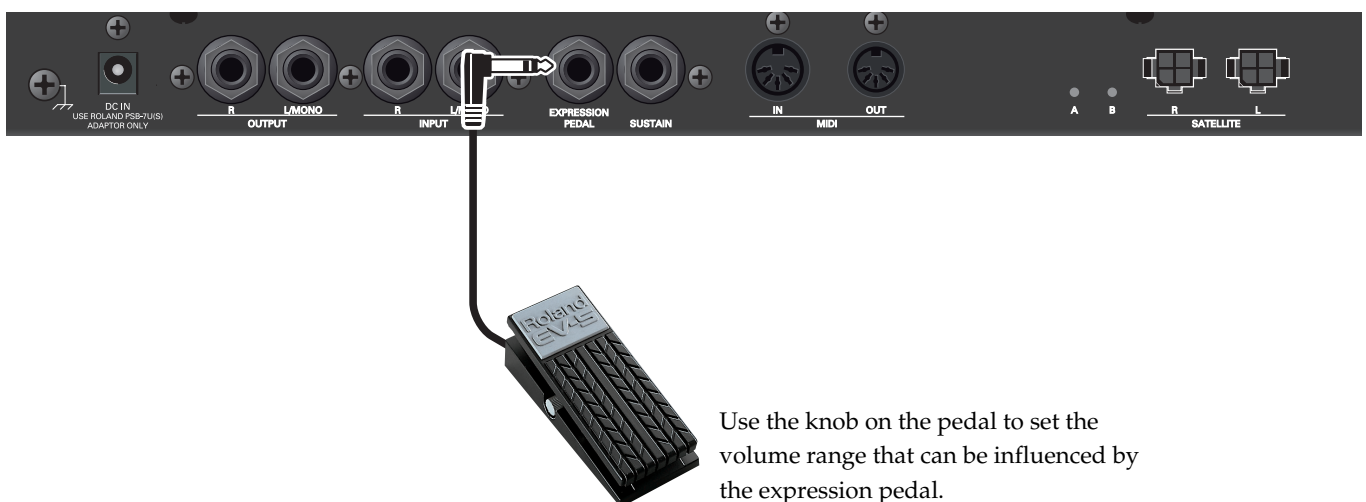


NOTE

Use only the specified sustain pedal (DP-series, sold separately). By connecting any other sustain pedal, you risk causing malfunction and/or damage to the unit.

Using an optional expression pedal

An optional expression pedal can be connected to the C-230's EXPRESSION PEDAL jack and used to set the volume of the organ registration (ORGAN BASS + CLASSIC ORGAN) and the Others sound you are using. It has no effect on the Harpsichord or Fortepiano section.



NOTE

Use only the specified expression pedal (EV-5 or EV-7, sold separately). By connecting any other expression pedal, you risk causing malfunction and/or damage to the unit.

Listening to an external device's sound through the C-230's speakers

You can input the sound from a MP3 player or other audio device connected to the INPUT jacks, and hear it through the C-230's speakers.

NOTE

To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

NOTE

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

1. Minimize the volume of the C-230 and your external audio device.
2. Switch off power to the C-230 and your external audio device.
3. Use a commercially available audio cable to connect your external audio device to the C-230.



NOTE

Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

4. Switch on power to your audio device.
5. Switch on the C-230's power.
6. Adjust the volume of the C-230 and your external audio device.

The sound of your audio device will be heard from the C-230's speakers.

MEMO

To change the volume, make adjustments on your external audio device. You can also change the input volume (see "Adjusting the amount of reverb for the input signal" on p. 39).

■ To turn the power off

1. Minimize the volume of the C-230 and your audio device.
2. Switch off the C-230 and your external audio source.

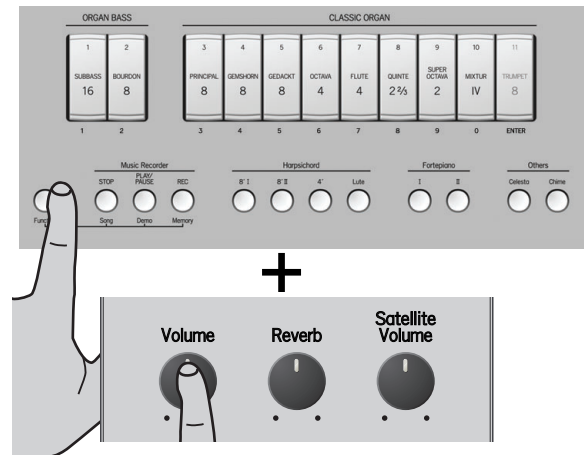
Adjusting the input volume

You can make adjustments on the C-230 to regulate the volume being input from your external audio device to the INPUT jacks.

NOTE

The volume may change abruptly when you adjust the volume of the input from an external device, so you should turn the C-230's [Volume] knob counterclockwise to lower the volume before you make this adjustment.

- ◆ While holding down the [Function] button, turn the [Volume] knob.

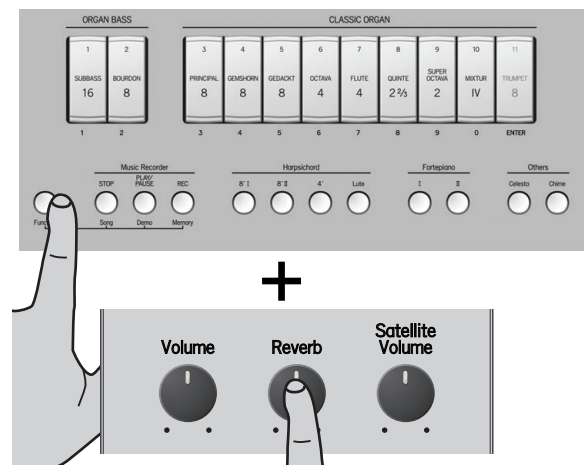


Adjusting the amount of reverb for the input signal

When you turn the [Reverb] knob of the operating panel (see p. 16), the reverb effect will be applied to the C-230's sound as well as to the sound being input via the INPUT jacks.

However, you can also adjust the amount of reverb that is applied to the input sound separately.

- ◆ While holding down the [Function] button, turn the [Reverb] knob.



Additional Convenient Functionality <Advanced Operation>

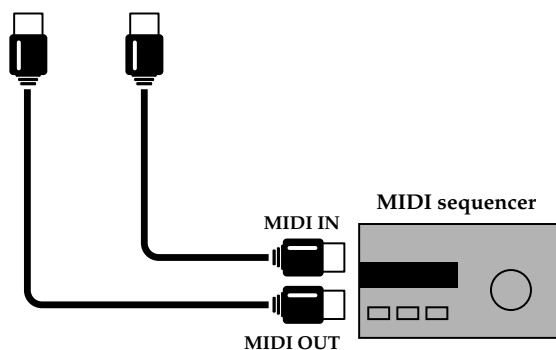
Connecting the C-230 with MIDI equipment

You can use the MIDI OUT socket to connect external devices, like a sequencer, you want to control with your C-230. You can use the MIDI IN socket to connect external devices, like a sequencer. We suggest you connect an optional PK-5A MIDI pedalboard to the C-230's MIDI IN socket to play the bass part in polyphonic mode.

What is MIDI?

"MIDI" stands for "Musical Instrument Digital Interface," and is a worldwide standard for exchanging performance data between electronic musical instruments and computers. The C-230 provides MIDI connectors that can send and receive performance data to and from an external device. By connecting the C-230 to other devices via these connectors, you can take advantage of a wide range of possibilities.

■ Connecting a MIDI sequencer to the C-230



NOTE

- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- Before you carry out any operations using the C-230's panel, stop the MIDI sequencer.

NOTE

The C-230's MIDI channels are fixed. Refer to the MIDI implementation chart on p. 44 for the channel assignments and the MIDI data the C-230 can manage.

Important note regarding the ORGAN BASS part

If you connect a sequencer or any other MIDI device that sends "Active Sensing" (0xFE) and/or "MIDI Clock" (0xF8) messages to the C-230, the left half of the keyboard can no longer trigger the ORGAN BASS part. If you need to play the ORGAN BASS part from the keyboard, do one of the following:

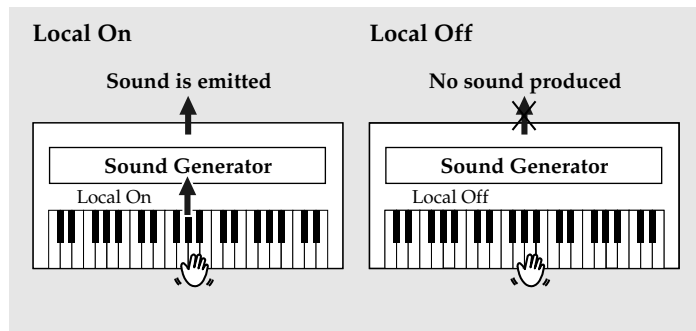
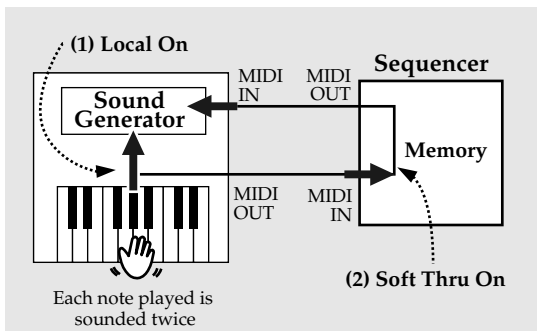
- Switch off the transmission of Active Sensing and/or MIDI Clock messages on the transmitting device (if those messages can be filtered). —or—
- Switch off the C-230, then press and hold its [Function] and Harpsichord [4'] buttons while switching the C-230 back on. The C-230 now filters the aforesaid messages and the ORGAN BASS part can be played from the keyboard.

Local On/Off setting

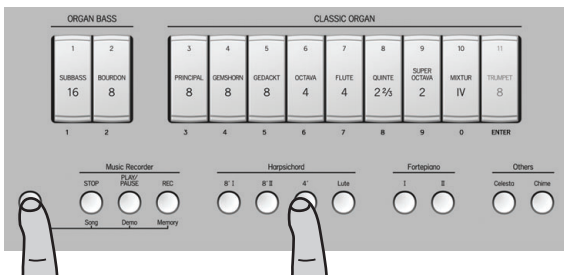
If you've connected the C-230 to a MIDI sequencer, you should set the C-230 to the Local Off state.

Most sequencers enable their Thru function, so that the notes that you play on the keyboard or that are played back by the recorder will reach the sound generator section by both routes (1) and (2) if the C-230 is in the Local On state, causing notes to be sounded in duplicate, or to be cut off unnaturally.

To prevent this, choose the "Local Off" setting so that route (1) is disconnected.



- ◆ While holding down the [Function] button, press the Harpsichord [4'] button to switch off the Local function.



Repeat this operation to select Local On again.

- * If you've selected Local Off and no sequencer is connected, you won't hear any sound when you play the C-230's keyboard.

MEMO

The Local On setting is selected when you turn on the power.

Additional Convenient Functionality <Advanced Operation>

Using the V-LINK function

V-LINK (**V-LINK**) is a function that allows music and images to be performed together. By using MIDI to connect two or more V-LINK compatible devices, you can easily enjoy performing a wide range of visual effects that are linked to the expressive elements of a music performance.

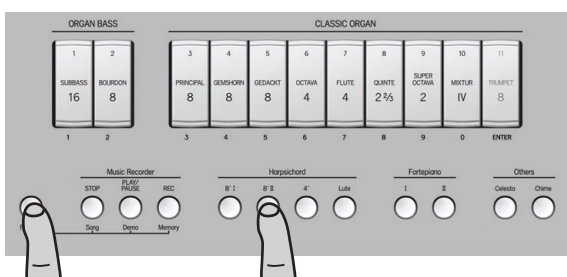
■ Activating V-LINK

1. Connect the C-230's MIDI OUT socket to the MIDI IN socket of your optional Edirol video device.

NOTE

V-LINK communication is not possible via the USB port.

2. While holding down the [Function] button, press the Harpsichord [8' II] button switch on the V-LINK function.



3. To turn V-LINK off, once again hold down [Function] and press the Harpsichord [8' II] button.

■ Operations on the C-230

V-LINK messages are transmitted on MIDI channel "16". The following functions can be controlled from the C-230:

Video clip selection: the keys in the highest octave allow you to switch clips on an optional Edirol device. (Those keys are temporarily unavailable for triggering notes.)

Sound lists

Classic Organ voices

VOICE 1 (default)	VOICE 2	VOICE 3	VOICE 4
Principal 8	Open Diapason 8	Montre 8	Prinzipal 8
Gemshorn 8	Diapason 8	Geigen Diap	Gambe 8
Gedackt 8	SpitzGeign 8	Fl. Harmonique 8	Stl.Gedackt
Octava 4	Principal 4	Prestant 4	Fugara 4
Flute 4	Flute Trav 4	Spill Flute 4	Flute a Bec 4
Quinte 2-2/3	Twelfth 2-2/3	Nazard 2-2/3	Dolce Cornet II
Super Octava 2	Fifteenth 2	Doublette 2	Piccolo 2
Mixtur IV	Terce Mixture V	Rauschqnt IV	Sesquialtera II
Trumpet 8	Waldhorn 8	Trompette 8	Cromorne 8

Organ Bass voices

Subbass 16	Principal 16	Bourdon 16	Open Wood 16
Bourdon 8	Octave 8	Flute 8	Gedackt 8 + Spill Flute 4

Other voices

1. Celesta	1. Chime
2. Violone 16	2. Holz. Gedackt 8
3. Contra Trompette 16	3. Dulzian 8
4. Bassoon 16	4. Aeoline II
5. Geigen Principal 8	5. Flute Celeste II 8
6. Quintadeen 8	6. Mixtur III
7. Mult Viols II	7. Cymbel III
8. Celestes III 8	8. Scharf II
9. Unda Maris III	9. Voce Umana 8

Harpsichord sounds

8' I
8' II
4'
Lute

Fortepiano sounds

I
II

MIDI Implementation Chart

[Classic Keyboard]
Model: C-230

Date: April 2009
Version: 1.00

Function...	Transmitted	Recognized	Remarks
Basic Channel Default Changed	1, 12, 13, 14, 16 X	1, 12, 13, 14, 11 X	1= Harpsichord, & Fortepiano, 12= Classic Organ, 13= Others, 14= Organ Bass, 11= Reverb, 16= V-LINK
Mode Default Message Altered	Mode 3 X *****	Mode 3 X	
Note Number True Voice	30~101 *****	30~101 O	
Velocity Note ON Note OFF	O (only Fortepiano) O	O (only Fortepiano, Chime, Celesta) O	Fortepiano on channel 1 Chime and Celesta on channel 13
After Touch Key's Ch's	X X	X X	
Pitch Bend	X	X	
Control Change	0,32 X 6 X 7 O 10 X 11 O 64 O 66 X 67 X 91 O (Reverb) 93 X (Chorus) 98, 99 X 100, 101 O	X X O X O O X X O (Reverb) X (Chorus) X O	Bank Select Data entry Volume *3 Panpot Expression *3 Hold 1 *4 Sostenuto Soft Effect 1 Depth *5 Effect 3 Depth NRPN LSB, MSB RPN LSB, MSB
Program Change True #	O (1~12) *****	X	Only on MIDI channel 11 Program no. 1~128
System Exclusive	O	*1 O	*1
System Common Song Position Pointer Song Sel Tune	X X X	X X X	
System Real Time Clock Commands	X X	X O	*2 Only FAh
Aux Messages All Sounds Off Reset All Controllers Local On/Off All Notes Off Active Sensing Reset	X X X X O X	X X X X O X	
Notes	*1 SysEx for voice changes. *2 Received Start sends selected voice and expression status *3 Ignored when received on channel 1 *4 Only on MIDI channel 1 *5 Only on MIDI channel 11		

Mode 1: OMNI ON, POLY
Mode 3: OMNI OFF, POLY

Mode 2: OMNI ON, MONO
Mode 4: OMNI OFF, MONO

O: Yes
X: No

Specifications

C-230: Classic Keyboard

Keyboard	61 keys	
<Sound Generator>		
Maximum Polyphony	128 voices	
Tones	36 organ voices (9 tilt tabs x 4 voices) (see p. 43) 8 organ bass voices (2 tilt tabs x 4 voices) 4 harpsichord sounds (8'I, 8'II, 4', Lute) 2 fortepiano sounds (I, II) 18 other sounds (can be added to the organ voices)	
Effect	RSS Reverb	
Controls	VOLUME knob, REVERB knob, SATELLITE VOLUME knob	
Transpose	-6 to +5 (semitone steps)	
Temperaments	5 types: Equal (default setting), Werckmeister, Kirnberger, Vallotti, Meantone	
Master tuning	±50 cents	
Classical pitches	3 types: 440Hz (default setting), 415Hz, 392Hz	
<Others>		
Registration memories	4 + TUTTI + CANCEL	
Song recorder	1 track	Controls: STOP, PLAY/PAUSE, REC
Data storage	USB Flash memory	
Speakers	12cm x2 (woofers), 5cm x2 (tweeters)	
Satellite speakers	12cm x2	
Rated Output	10W x 4	
Connectors	PHONES jack (Stereo) INPUT jacks (L/MONO, R) SUSTAIN jack SATELLITE R, L sockets USB MEMORY connector	OUTPUT jacks (L/MONO, R) MIDI connectors (IN, OUT) EXPRESSION PEDAL jack DC IN connector
Power Supply	DC 12V (AC Adaptor)	
Power Consumption	39W (AC 110V), 39W (AC117V), 39W (AC 230V), 39W (AC 240V)	
Cabinet Finish	Simulated mahogany	
Dimensions (including the stand)	935 (W) x 477 (D) x 964 (H) mm / 36-13/16 (W) x 18-13/16 (D) x 38 (H) inches (including the music rest) 935 (W) x 388 (D) x 790 (H) mm / 36-13/16 (W) x 15-5/16 (D) x 31-1/8 (H) inches (without the music rest)	
Satellite dimensions	179 (W) x 91 (D) x 144 (H) mm / 7-1/16 (W) x 3-5/8 (D) x 5-11/16 (H) inches	
Weight	30kg/66 lbs 12 oz. including the satellite speakers and music rest	
Accessories	Owner's manual, PSB-7U(S) AC adaptor, Power cord, Music rest, 2x decorative panels (already mounted onto the legs), 2x satellite speakers	
Options	Bench (BNC-29), EV-series expression pedal, DP-series sustain/hold pedal, Decorative panels, PK-5A MIDI pedal board, Stereo headphones, USB Flash memory	

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

For EU Countries



- UK** This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.
- DE** Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.
- FR** Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.
- IT** Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici. Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.
- ES** Este símbolo indica que en los países de la Unión Europea este producto debe recogerse aparte de los residuos domésticos, tal como está regulado en cada zona. Los productos con este símbolo no se deben depositar con los residuos domésticos.
- PT** Este símbolo indica que nos países da UE, a recolha deste produto deverá ser feita separadamente do lixo doméstico, de acordo com os regulamentos de cada região. Os produtos que apresentem este símbolo não deverão ser eliminados juntamente com o lixo doméstico.
- NL** Dit symbool geeft aan dat in landen van de EU dit product gescheiden van huishoudelijk afval moet worden aangeboden, zoals bepaald per gemeente of regio. Producten die van dit symbool zijn voorzien, mogen niet samen met huishoudelijk afval worden verwijderd.
- DK** Dette symbol angiver, at i EU-lande skal dette produkt opsamlles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.
- NO** Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.

- SE** Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.
- FI** Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.
- HU** Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbóllummal ellátott termékeket nem szabad a háztartási hulladék közé dobni.
- PL** Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.
- CZ** Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.
- SK** Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhazovať spolu s domovým odpadom.
- EE** See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.
- LT** Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekviename regione. Šiuo simboliu paženklinoti produktai neturi būti išmetami kartu su buitiniėmis atliekomis.
- LV** Šis simbols norāda, ka ES valstīs šo produktu jāievāc atsevišķi no mājstaimniecības atkritumiem, kā noteikts katrā reģionā. Produktus ar šo simbolu nedrīkst izmest kopā ar mājstaimniecības atkritumiem.
- SI** Ta simbol označuje, da je treba proizvod v državah EU zbirati ločeno od gospodinjjskih odpadkov, tako kot je določeno v vsaki regiji. Proizvoda s tem znakom ni dovoljeno odlagati skupaj z gospodinjjskimi odpadki.
- GR** Το σύμβολο αυτό υποδηλώνει ότι στις χώρες της Ε.Ε. το συγκεκριμένο προϊόν πρέπει να συλλέγεται χωριστά από τα υπόλοιπα οικιακά απορρίμματα, σύμφωνα με όσα προβλέπονται σε κάθε περιοχή. Τα προϊόντα που φέρουν το συγκεκριμένο σύμβολο δεν πρέπει να απορρίπτονται μαζί με τα οικιακά απορρίμματα.

For China

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本资料就本公司产品中所含的特定有害物质及其安全性予以说明。
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环保使用期限



此标志适用于在中国国内销售的电子信息产品，表示环保使用期限的年数。所谓环保使用期限是指在自制造日起的规定期限内，产品中所含的有害物质不致引起环境污染，不会对人身、财产造成严重的不良影响。环保使用期限仅在遵照产品使用说明书，正确使用产品的条件下才有效。不当的使用，将会导致有害物质泄漏的危险。

产品中有毒有害物质或元素的名称及含量

部件名称	有毒有害物质或元素					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
外壳(壳体)	×	○	○	○	○	○
电子部件(印刷电路板等)	×	○	×	○	○	○
附件(电源线、交流适配器等)	×	○	○	○	○	○

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

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

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