

RP220

RealPiano

D I G I T A L

OWNER'S MANUAL
English



GEM
by GENERALMUSIC

General safety instructions

Power source

- Be sure that your local AC main voltage matches the voltage specified on the name plate before connecting to the mains.
- DC power cannot be used to power this instrument.

Handling the power cord

- Never touch the power cord or its plug with wet hands.
- Never pull on the cord to remove it from the wall socket, always pull the plug.
- Never forcibly bend the power cord.
- If the power cord is scarred, cut or broken, or has a bad contact, it will be a potential fire hazard or source of serious electric shock. NEVER use a damaged power cord; have it replaced by a qualified technician.

If water gets into the instrument

- Remove the power cord from the wall socket at once, and contact the store where the unit was purchased.
- The top surface of your instrument should never be used as a shelf for flower vases and other containers which hold liquids.

Metal items etc. inside the unit

- Do not permit metal items or other materials to fall inside the unit.
- **Metal items may result in electric shock or damage.**
- Be especially careful with regards to this point when children are near the unit. They should be warned never to try to put anything inside, and never to slide a hand into the unit while you or other persons are playing.
- If articles do fall inside, remove the power cord from the wall socket at once and, if necessary, contact the store where the unit was purchased.
- As a general precaution, never open the unit and touch or tamper with the internal circuitry.

If the instrument plays in an abnormal way

- Turn off the power immediately, remove the power cord from the main outlet and contact the store where it was purchased.
- Discontinue using the unit at once. Failure to do so may result in additional damage or other unexpected damage or accident.

General user maintenance

- Clean the cabinet and keys of your instrument using a soft, clean, slightly damp cloth and polish with a soft, dry cloth.
- Never use industrial cleaners, detergents, abrasive cleansers, waxes, solvents or polishes as they may damage the instrument finish.
- Always turn off the power supply after use and never turn the unit on and off repeatedly in quick succession as this places an undue load on the electronic components.

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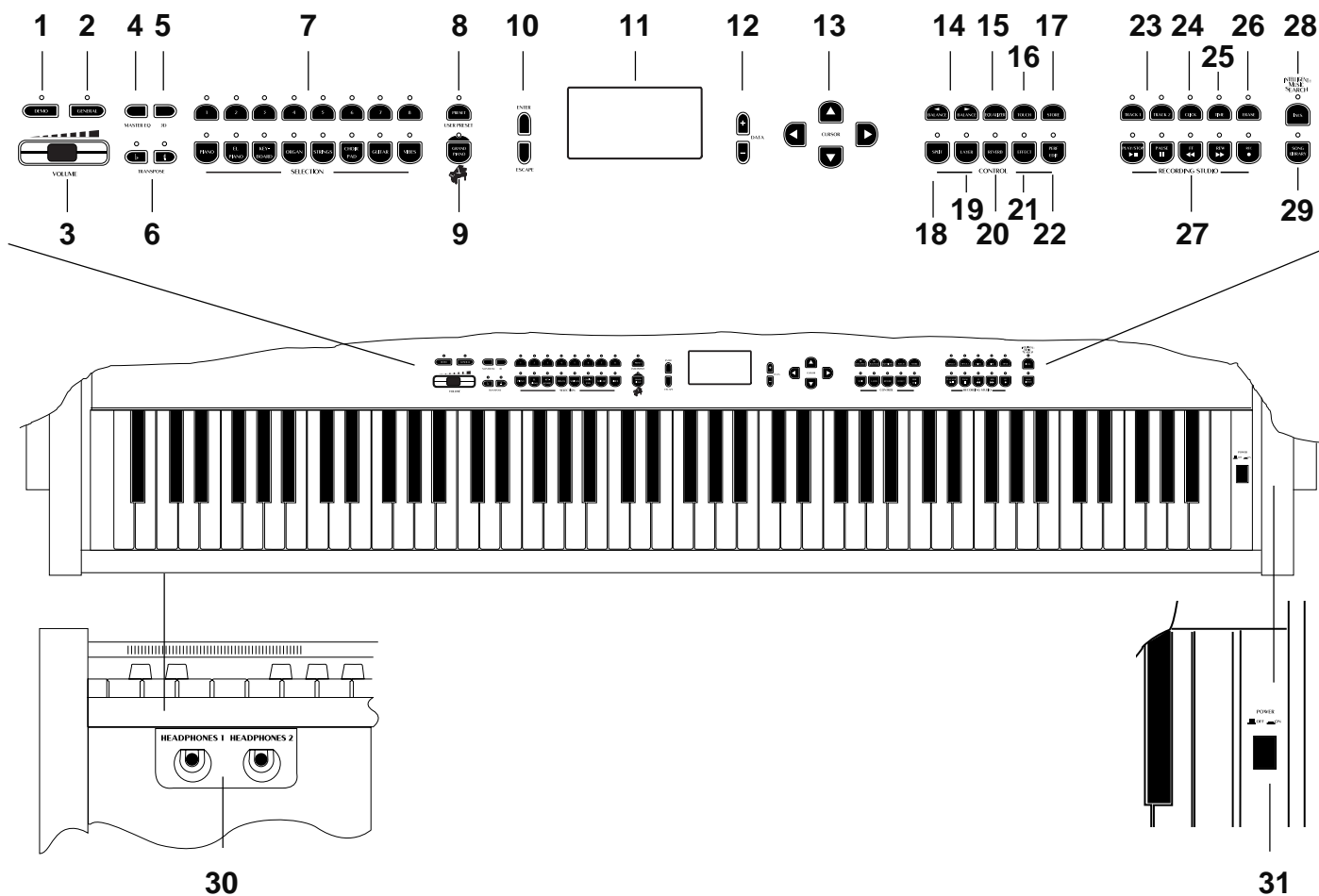
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Section 1

Instrument layout

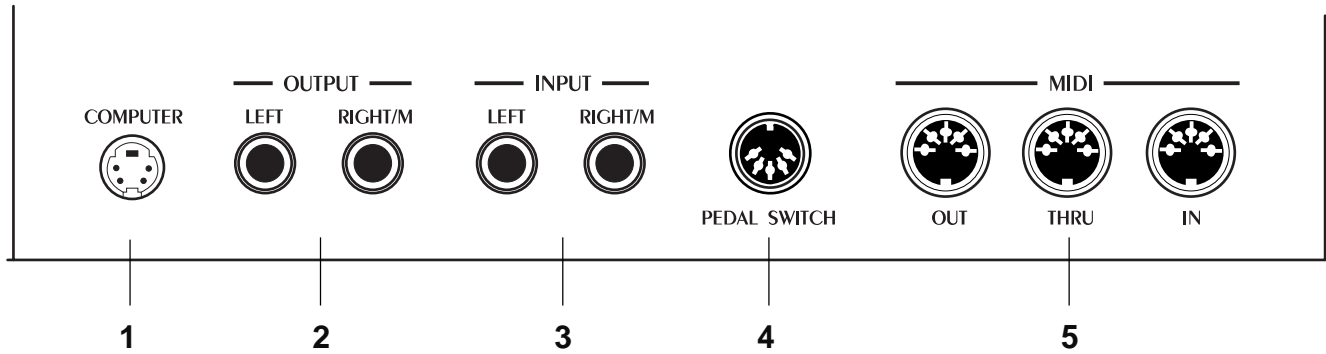
Front panel



- 1. Demo:** Activates the factory programmed demonstration of the internal sounds.
- 2. General:** This button provides access to the functions which affect the instrument as a whole: Tune, Midi, Piano Frame Level, Display Control, Restore Preset.
- 3. Volume Slider:** Controls the main volume of the instrument.
- 4. Master Eq.:** Selects various amplification response curves.
- 5. 3D DSP:** Activates a sound spatializer control.
- 6. Transpose #/b:** Increases (#) or decreases (b) the overall pitch of the instrument in half-step (semitone) increments.
- 7. Selection:** Use these buttons to select Presets and User Presets (single, layer or split sound combinations).
- 8. Preset\ User Preset:** This button switches between Preset selection mode and User Preset selection mode.
- 9. GrandPiano:** Press this button to select the GrandPiano Preset which instantly recalls the GrandPiano sound across the entire keyboard.
- 10. Enter/Escape:** Enter confirms entered data in edit situations and Escape exits from an edit menu.
- 11. Graphic Display:** 128 x 64 pixel graphic display, backlit.
- 12. Data +/-:** These buttons adjust values shown in the display when using programmable functions.
- 13. Cursor:** Use these buttons to step through the various functions of the Edit menus and scroll through the various pages.
- 14. Balance :** These buttons adjust the volume balance between two sounds in either Layer or Split modes.

- 15. Equalizer:** Selects equalization curves that can be stored to the Presets.
- 16. Touch:** This button adjusts the touch of the keyboard according to your playing style.
- 17. Store:** Press this button when you are ready to store the changes you have made.
- 18. Split:** Turning this button on will split the keyboard into separate left and right parts and automatically recall the sound for the left hand.
- 19. Layer:** Press this button to instantly activate two layered sounds which play at the same time across the entire keyboard.
- 20. Reverb:** Use this button to select a reverb type. When the LED is off, the current reverb type is cancelled.
- 21. Effect:** Use this button to select an effect type. When the LED is off, the current effect type is cancelled.
- 22. Perf.Edit:** Use this button to edit a variety of Preset performance features.
- 23. Track\Track2:** Selects the tracks of the sequencer.
- 24. Click:** Activates/deactivates the metronome click.
- 25. Time:** Gains access to various sequencer recording parameters : Time Signature, Tempo, Metronome volume and Countdown On\Off.
- 26. Erase:** Cancels recorded data from the sequencer tracks.
- 27. Recording Studio:** The on board digital recording section (sequencer) allows you to record what you play. See the dedicated "Recording Studio/Sequencer" section of this manual for more details.
- 28. I.M.S:** Intelligent Music Search® - an automatic means of recalling the Songs from the Library by playing the first few notes of the piece.
- 29. Song Library:** Gains access to the ROM Song Library consisting of several directories and sub-directories containing a selection of pieces of various classical composers.
- 30. Headphones:** The Headphones jack panel is located on the left side of the instrument, under the keyboard.
- 31. Power:** Situated on the right key block, press this button to turn the instrument on and off.

Rear panel

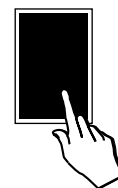


- 1. Computer:** Allows direct connection of the instrument to a PC or Macintosh computer (or relative compatibles) without the need to use a MIDI interface.
- 2. Output**
Left - Right/M: These two outputs are used to connect the instrument to another amplifier, mixer or recording device in stereo. If you are connecting to mono equipment (e.g. a guitar amplifier) then you should use only the Right/Mono jack.
- 3. Input**
Left - Right/M: You can use these two inputs to connect another instrument or sound module to the piano. The output of the other instrument will be mixed with the main signal of the RP220 and sent to the Output, Speaker and Headphone jacks. If you are connecting a mono signal (e.g. a microphone) then you should use only the Right/Mono jack.
- 4. Pedal Switch:** The pedal group consisting of three pedals (Damper, Sostenuto and Soft) should be connected to this connector.
- 5. MIDI interface:** These ports allow the instrument to be connected to other MIDI devices. MIDI In allows the sounds of the RP220 to be played by an external device, e.g. a controller keyboard or sequencer. MIDI Out sends MIDI information from the RP220 to other equipment so that the instrument can be used as a controller. MIDI Thru provides a copy of the information being received by the MIDI In. Use MIDI Thru when connecting a number of different instruments together.

Power switch and Headphones

Turn the instrument on

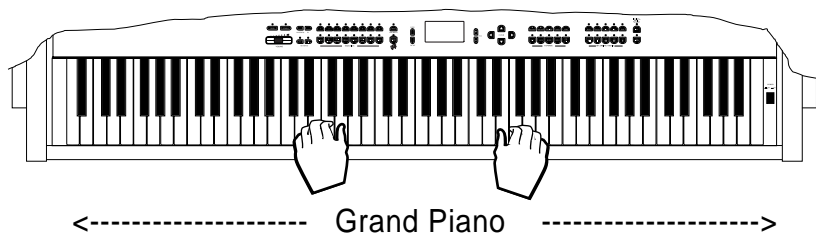
To turn the instrument on, press the Power switch located on the right key block. After turning on, the name of the instrument appears in the display for an instant.



Shortly after, the instrument is ready to play the Grand Piano preset.

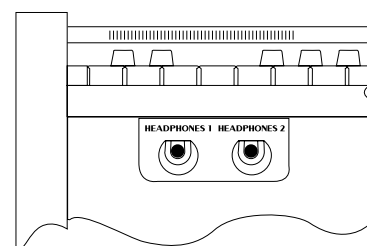
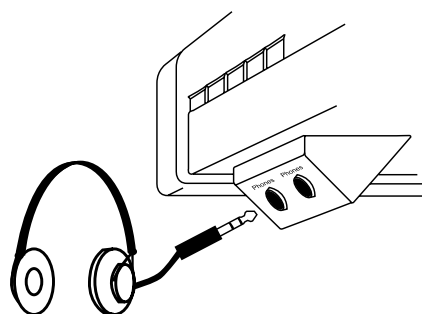


In this power up condition, you will be able to play a piano sound (GrandPiano) across the entire keyboard without carrying out other operations.



Headphone jacks

The headphone jacks are located at the extreme left side of the rail which runs beneath the keyboard.



Plugging a set of headphones into the left jack excludes the internal speakers to allow you to play in total silence without disturbing others in the same room. Plugging into the right jack does not exclude the internal speakers.

Use the Volume slider to adjust the Headphones volume.

Pedal Connection

The RP220 is supplied with a three pedal assembly, consisting of the Soft, Sostenuato and Damper pedals.

Connect the cable from the pedal assembly to the Pedal Switch connector on the rear panel.



PEDAL SWITCH

Soft : The Soft pedal (left) is a switch control pedal (On/Off) and affects the timbre of the instrument such that it plays softer, allowing you to continue using the same playing style at a lower volume.

Sostenuato : The Sostenuato pedal (center) is a switch control pedal (On/Off) which sustains the notes of the keys currently depressed. All new notes played after having depressed the pedal are not affected.

Damper : The Damper pedal (right) applies the Sustain effect to all notes released. If you release a note after depressing the Damper, the note will proceed towards its natural decay according to the type of sound played.

The Damper is particularly effective with Piano type sounds.

The Damper is controlled by a Physical Model. See the "Technology" paragraph in the Reference section.

Note: for all piano type sounds, the notes of the uppermost keys (from E6 to C8) are automatically sustained, such as in an acoustic piano.

Section 2

Quick Study Guide

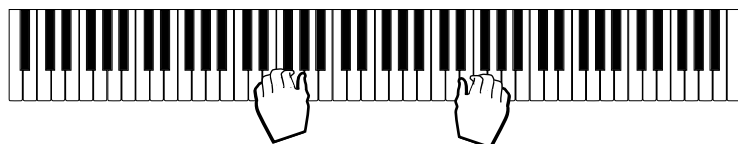
For those of you who don't like to read manuals or wish to read the manual in detail later, here is everything you need to get started. This section will explain how to approach the instrument for the first time in a simple fashion. It will help you to get quickly acquainted with the most important features of the instrument.

Realtime operations

The RP220 operating system has been conceived to permit several simple and quick real time operations.

• Activate Split mode

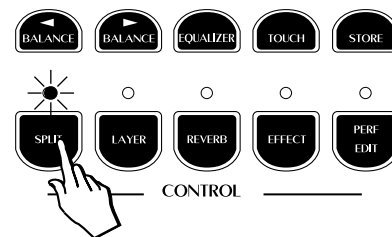
Starting from the Single Preset “GrandPiano”, you can easily split the keyboard by pressing the SPLIT button. This will divide the keyboard into separate left and right sections.



<----- Ac. Bass -----><----- GrandPiano ----->

After pressing the SPLIT button (the LED turns on), the GrandPiano sound remains active on the right side of the split. An Acoustic Bass sound is automatically assigned on the left side of the split.

If you press the SPLIT button again, the LED will turn off and the keyboard returns to the previous mode with the GrandPiano sound active to play across the entire keyboard.



• Change the sound assigned to a Split

When you press the SPLIT button, the display shows the sound assigned to the left split together with the current split point setting:



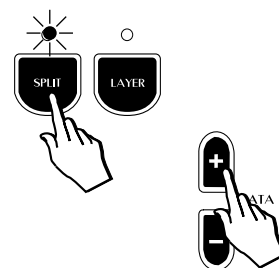
If you press the SPLIT button, the display returns to normal showing the starting situation (in this case the GrandPiano display).

1. Press the SPLIT button.
2. Press the DATA +/- buttons to scroll the various sounds.

In this case, pressing the DATA + button will change the sound assigned to the left keyboard section from Ac.Bass to RideBass, then to El.Bass and so on, cyclically through the entire Sound data base (see the Sound Program table on page 31 of this manual).



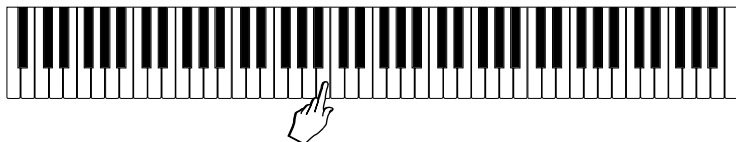
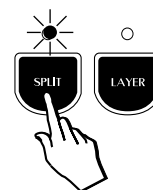
Clearly, if you use the DATA – button, you can scroll the sounds in reverse order.



• **Change the Split point setting**

The default setting of the Split point corresponds to F#3. You can quickly modify the setting to suit your requirements.

1. Press and hold down the SPLIT button.
2. Press the note on the keyboard corresponding to the new split point required.



In the example, the new split point is shown in the display as B3.

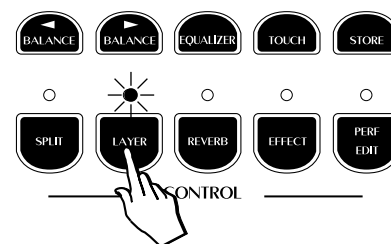


The setting remains memorized until you select a different Preset. The new Split Point setting may be memorized to the Preset with the Store button. It is possible to assign a different Split Point setting to each Preset.

• **Activate Layer mode**

To mix or “layer” two sounds together, simply press the LAYER button.

1. After pressing the LAYER button (the LED turns on), a second sound is activated layered with the first (in this case, Strings is added to the GrandPiano sound).



<----- GrandPiano ----->
 <----- Strings ----->

2. If you press the LAYER button again, the LED turns off and the keyboard returns to the previous mode with the GrandPiano sound active to play across the entire keyboard.

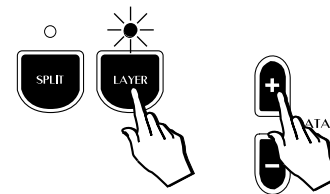
• **Change the sound assigned to a Layer**

When you press the LAYER button, the display shows the sound assigned to the layer:



If you press the LAYER button, the display returns to normal showing the starting situation (in this case the GrandPiano display).

1. Press the LAYER button.
2. Press the DATA +/- buttons to scroll the various sounds.



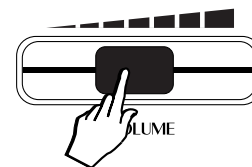
In this case, pressing the DATA + button will change the sound assigned to the layer section from Strings to Slow Strings, then to Mellow Strings and so on, cyclically through the entire Sound data base (see the Sound Program table on page 31 of this manual).



Clearly, if you use the DATA – button, you can scroll the sounds in reverse order.

• **Adjust the Volume of the instrument**

You can adjust the volume of the instrument as a whole by using the Volume slider.



This control increases or decreases the volume of the internal speakers, the Headphones and the Output Left - Right/M jacks.

• **Change the Volume Balance between two sounds**

If you are playing either in Layer or Split mode, you can adjust the volume of the two sections in real time using the BALANCE buttons (in the CONTROL section). These buttons adjust the volume of one section with respect to the other, creating a perfect balance between the two sections according to your requirements.

1. Press the BALANCE button to increase the volume of the main sound.

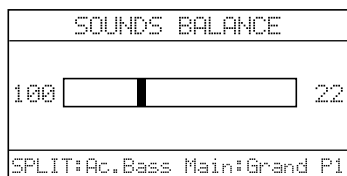



A temporary display activates showing a bar graph representing the balance level between the two sounds:



Holding the BALANCE button down increases the volume of the main sound continually and at the same time, decreases the volume of the second sound (split or layer) proportionally.

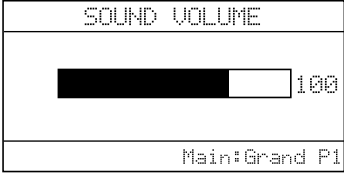
2. Conversely, press the BALANCE button to increase the volume of the second sound.



Holding the BALANCE  button down increases the volume of the second sound (split or layer) continually and at the same time, decreases the volume of the main sound proportionally.

If you select a Single Preset (or deactivate the SPLIT or LAYER button), the BALANCE buttons operate as normal Volume controls for the main section.

Pressing either Balance button activates the corresponding Sound Volume display:

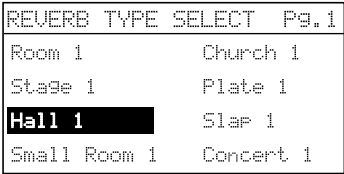
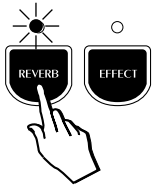


Add effects to the selected sound

You can easily add effects to the selected sound by using the REVERB and EFFECTS buttons in the CONTROL section.

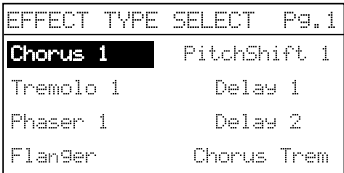
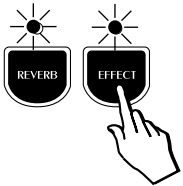
To add Reverb:

- Press the REVERB button (the LED turns on).
A temporary display activates showing the Reverb Type currently assigned to the GrandPiano sound, in this case Hall 1 (shown selected in negative highlight):



To add Effect (chorus/delay/modulation):

- Press the EFFECT button (the LED turns on).
A temporary display activates showing the Effect Type currently assigned to the GrandPiano sound, in this case Chorus 1 (shown selected in negative highlight):



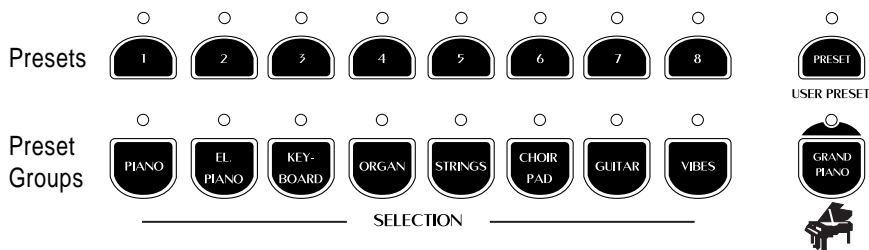
Note. It is possible to add either Reverb, or Effect, or both effects to a single sound, to a Split or Layer Preset and the settings can be memorized.

Selecting the RP220 Presets

The RP220 contains 64 Internal Presets, consisting of single, split and layered sound combinations which incorporate appropriately memorized volume, balance, effect settings and more. An additional 64 User Preset locations are available with as many sound variations and combinations, where you can store your preferred programmed sound settings. The Presets and User Presets are organized in the Selection section.

The Selection buttons

This section consists of a lower row of 8 Preset “family” Groups and an upper row of 8 Presets of the selected Preset Group.



On the right are the Preset/User Preset button and the GrandPiano button. The GrandPiano button sets the instrument to play the default GrandPiano sound instantly, returning the instrument to Single Preset mode from any situation.

When the LED of the Preset button is off, the sounds recalled relate to the internal Presets.

When the User Preset LED is on, the sounds recalled are user memorized Presets.

The 8 Preset Group buttons are marked as follows: Acoustic Piano, Electric Piano, Keyboard, Organ, Strings, Choir\Pad, Guitar, Vibes.

The 8 buttons of the upper row select 8 different Presets of the currently selected Preset Group and are factory-set to recall Presets in the following manner:

1	2	3	4	5	6	7	8
Single	Single	Single	Single	Layer	Layer	Split	Split

Each Preset of the current Group contains a memorized Layer and Split sound combination which you can recall in real time by activating the appropriate buttons.

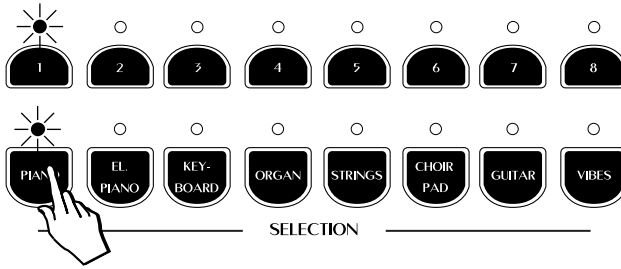
Similarly, a Layer or Split Preset is easily converted to one of the other modes by activating/deactivating the Split or Layer buttons accordingly.

For example, if you have selected the Layer Preset 5 of a Preset Group, simply press SPLIT to recall the memorized Split combination, or deactivate LAYER to recall the memorized Single sound.

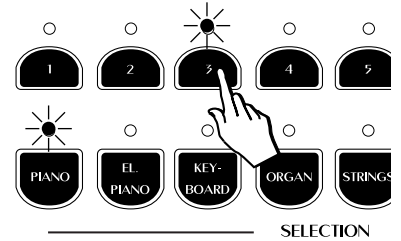
When you select a Preset Group from the lower row for the first time after turning on, Preset n. 1 of the upper row is automatically selected by default.

Example 1

1. If you select the Piano Group button, Preset 1 (GrandPiano) is recalled automatically.

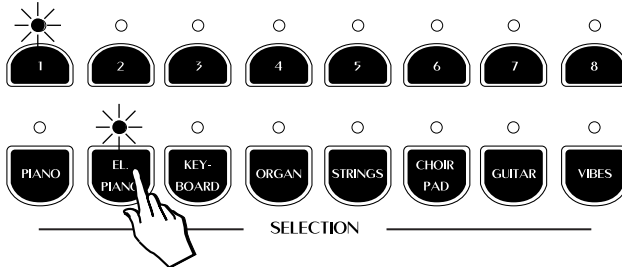


2. Now select button n. 3 of the top row.
This will recall the single Preset Upright Piano across the entire keyboard.



Example 2

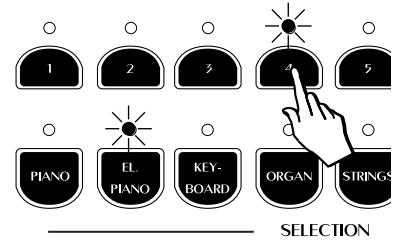
3. If you select the El. Piano Group button, Preset n. 1 of the top row activates automatically, recalling the Preset Rhodex 1.



4. Now press button 4 and you recall the Preset Rhodex 3.
Repeat the operations to select the other Presets.

The last Preset button selected for the current Preset Group remains memorized. For example, if you select the Piano Group button (as in the example explained above), Preset 3 (Upright Piano) will be recalled. If you now select the El Piano Group button, you will recall the Rhodex 3 Preset (button 4).

This system of memorizing the last selection made will help you recall your preferred Presets quickly.



Note: For a list of Presets and factory User Presets, refer to the tables in the Appendix.

User Presets

The same logic of memorizing the last selection made also applies to the User Presets. Simply press the Preset button to activate the User Presets (the LED turns on). Here you will find an additional 64 User Presets belonging to the same Preset Groups which recall different sound combinations with respect to the Presets.

For example, you can select the Preset n. 3 of the Piano Group to recall Upright Piano, select User Preset n. 7 to recall Jazz Piano 2, then switch from Preset to User Preset by pressing the Preset/User Preset button repeatedly.

The User Presets are also programmable. You can memorize any preferred sound setting to the User locations without permanently losing the factory User Presets. These can be restored to their original status using the Restore Preset function (see the General chapter).



The Preset

The changes that you make to your sounds and sound combinations (add effects, select Split or Layer, adjust the volumes, change the effect sends, etc.), can be memorized to the User Preset locations.

In simple terms, a User Preset (sometimes also called a “Performance”) is just the end result of some tweaking and editing where the instrument now sounds the way you want it to. At this stage, your User Preset can be saved in memory so that you can instantly recall it the next time you need to use it.

Although the procedure for saving and naming a User Preset is described in detail elsewhere in this manual, the basic steps are very simple.

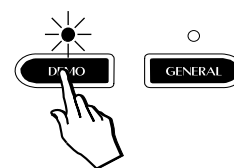
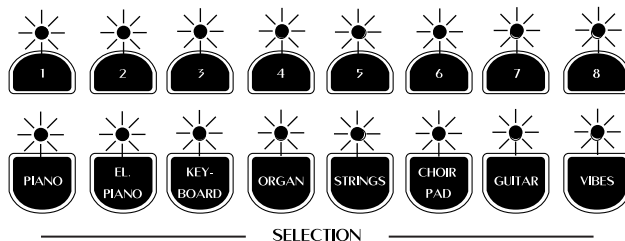
- After creating a User Preset which you want to store, press the STORE button.
- Next, choose one of the lower Selection buttons followed by one of the 8 buttons of the upper row. Your User Preset is now stored to memory.

Listen to the Demo songs

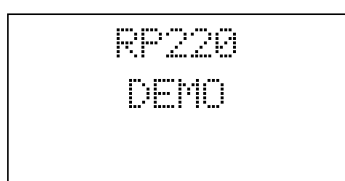
The RP220 contains a set of demonstration recordings of the internal sounds.

- Press the DEMO button to trigger the playback of the demo songs.

The LEDs of the Selection section start to flash.



The display shows the Demo mode situation for an instant.



Shortly after, the first demo recording of a piano sound starts to play. When it reaches the end, the second recording starts automatically and so on.... The title of each recording is shown in the display.

- To stop the playback at any point, press the DEMO button again.

The demonstration sequence consists of 16 recordings, chained to play as a medley automatically. Each recording corresponds to a demonstration of the selected Preset of the Selection section.

Select a single demonstration

It is possible to select a single demonstration recording without activating the chain playback.

- Press the DEMO button then, while the LEDs of the Selection buttons are flashing, press one of the Selection buttons to trigger the playback of the single recording.

The titles of the recordings are listed below:

Demo song list

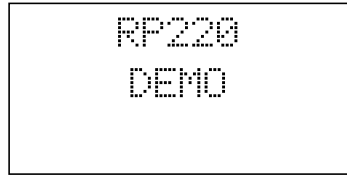
1	2	3	4	5	6	7	8
Beethoven Romance Piano+String	Latin Electric Grand+Bass	Tchaikovsky NutRock Celesta	Walkin' Jazz Organ + Bass	Bach Concerto Harpsi+String	Clouds Pad+Fretless Bass	Karma Strato + Pad	Combo Vibes + Bass
Chopin Prelude Piano solo	Nuances Rhodex solo	Bach v. Goldberg Harpisichord	Bach Fugue ChurchOrgan	Vivaldi Concerto in A-- Strings	Bach Air Choir	6 string Guitar Alborada	Toccatu Vibes solo
Ac.Piano	El.Piano	Keyboard	Organ	String	Choir/Pad	Guitar	Vibes

The buttons of the lower row recall single Preset recordings: piano, organ, etc.. The upper row of buttons recall recordings of the Presets containing two sections: piano and strings, piano and bass, etc.

When you press a button, the corresponding LED remains on and the corresponding demonstration recording starts to play.

Example:

1. Press the DEMO button. The Demo mode display is shown:

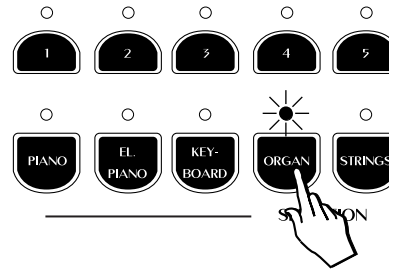
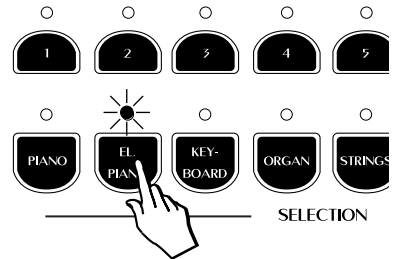
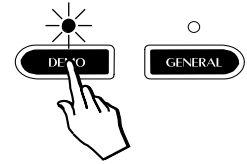


2. Press, for example, the El.Piano button.
The demo starts to play. At the same time, the display shows the number and name of the Demo song currently playing:



3. It is possible to pass instantly from one Demo song to another by pressing another button (in this case Organ).
4. To stop the Demo song press the corresponding button again.

Note: In DEMO mode, all the instrument's panel commands, the keyboard and the MIDI interface will be temporarily disabled.

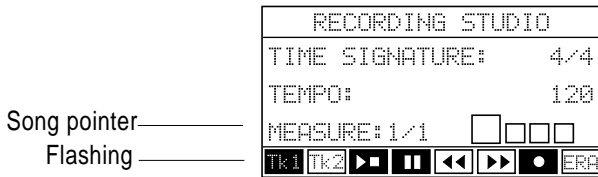
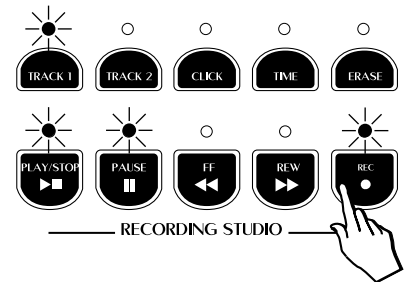


Recording a song

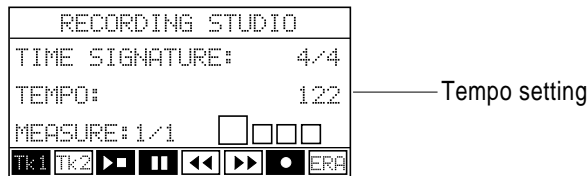
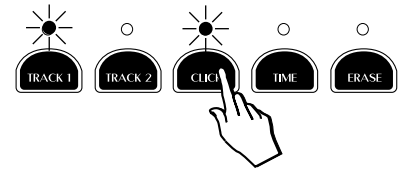
The RP220 sequencer (Recording Studio) allows you to record a simple song just as you play it.

1. Select the Preset that you want to record.
2. Press the REC button.

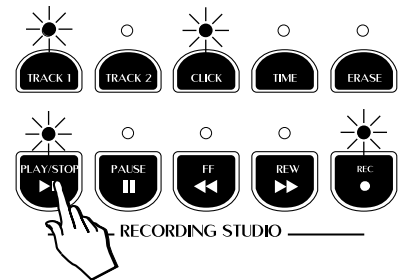
The LED of the TRACK 1 button starts to flash and the display shows the Time Signature, the Measure counter (Song pointer) and the current Tempo setting.



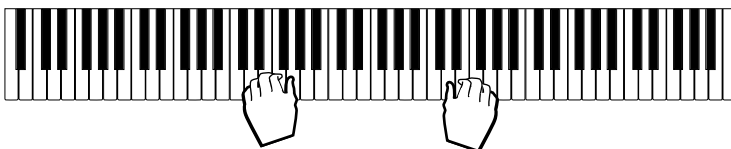
3. If you want to record with the click of the Metronome, press the CLICK button in the Recording Studio.
4. Using the DATA +/- buttons you can adjust the recording and playback speed (Tempo):



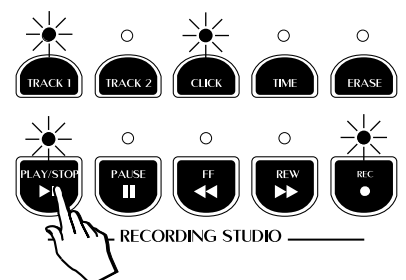
5. Press the PLAY/STOP or PAUSE button.
A one measure countdown into the recording starts, indicated by the Measure counter (0/1, 0/2, 0/3, 0/4):



6. Start to play after the one measure countdown.



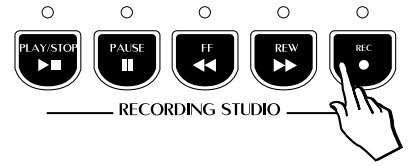
7. When you have finished playing, press PLAY/STOP.
The LED of the Track 1 button remains on to show that the track contains recorded data.



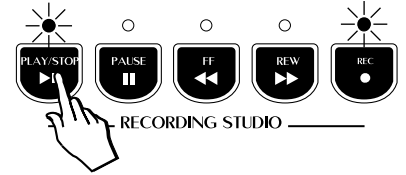
At this point, you can activate the Track 2 button and repeat the recording procedure to record the second track. Pressing Play/ Stop activates the Track 1 playback and the Track 2 recording

process. (Refer to chapter on “Recording Studio/Sequencer” in Section 6 for detailed information on the sequencer functions).

- 8. After pressing Play/Stop to stop the recording, press the REC button to escape Record mode.



- 9. To playback your recording, press PLAY/STOP.



Section 3

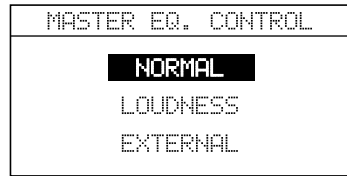
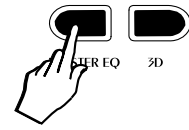
Basic Functions

This section will explain some basic real time panel functions which affect the instrument as a whole.

MASTER EQUALIZER

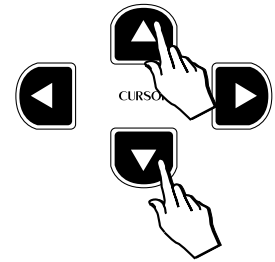
Pressing the Master Eq. button gains access to a Master EQ control that provides two response curves which affect the overall tone of the instrument (Normal and Loudness) and a bypass option (External).

Pressing the button activates a temporary display showing 3 curves to choose from. The selected option is shown in negative highlight:



- Normal:** This curve is selected by default and provides a linear frequency response.
- Loudness:** This response curve provides an enhancement of the bass frequencies and is particularly effective when playing at low volume levels.
- External:** This setting deactivates the Master Eq. and is particularly effective when the instrument's sounds are amplified by an external amplification system.

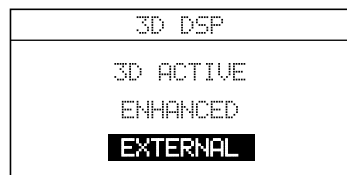
Use the Cursor Up/Down buttons to select the various curves; the selection menu is cyclic.



3D DSP

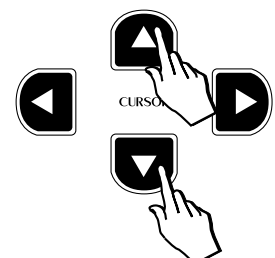
This button activates a DSP menu where you will find two special “three-dimensional” effects designed to enhance the sound of your RP220 (3D Active and Enhanced) and a bypass option (Eternal).

Pressing the button activates a temporary display showing the 3 options to choose from. The selected option is shown in negative highlight:



- 3D Active:** This default setting activates the 3D surround effect which spatializes the sound.
- Enhanced:** This setting boosts the spatial effect further and is particularly effective when playing a low volume levels.
- External:** This setting deactivates the 3D DSP and is particularly effective when the instrument's sounds are amplified by an external amplification system.

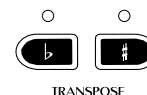
Use the Cursor Up/Down buttons to select the options; the selection menu is cyclic.



TRANSPOSE

Pressing either TRANSPOSE button will adjust the pitch of the instrument in half-step (semitone) increments or decrements, through the overall range of $-/+ 12$ semitones.

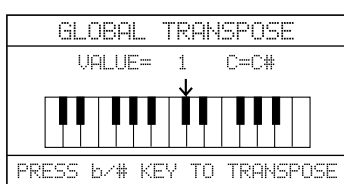
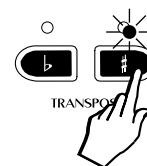
When both LEDs are off, the pitch of the instrument is set to normal (Equal: C = C).



To Transpose the instrument

1. Press TRANSPOSE #.

The corresponding LED turns on and the pitch of the instrument is raised one semitone. The amount of transposition is displayed as a relative value for a short period, together with a graphic indication on a small keyboard image.

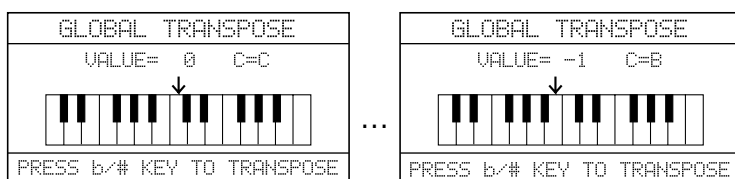
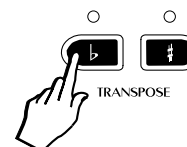


After about 5 seconds, if you don't press either Transpose button, the display returns to the previous situation and the instrument remains at the last set pitch.

Every time you press the TRANSPOSE # button, the pitch is raised by one semitone.

2. Press TRANSPOSE *b*.

The pitch of the instrument is lowered one semitone and the amount of transposition is displayed as a relative value for a short period. (An eventual raised transpose setting will be lowered by one half-step by pressing Transpose *b*).



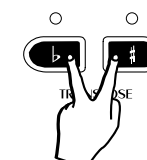
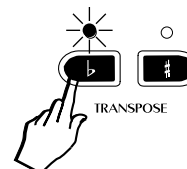
Every time you press the TRANSPOSE *b* button, the pitch is lowered by one semitone.

After about 5 seconds, if you don't press either Transpose button, the display returns to the previous situation and the instrument remains at the last set pitch.

The current Transpose setting remains memorized even after turning the instrument off. When you turn the instrument on again, the LED of the Transpose *b* or # buttons shown indicate the lowered or raised status of the pitch.

Reset Transpose

The current pitch setting can be cancelled instantly by pressing both buttons together. This restores normal pitch to the instrument.



TOUCH

The RP220 offers three different keyboard responses, or “velocity curves”, which affect the instrument as a whole. Every time you turn on the instrument, the “NORMAL” curve is set automatically. Two other curves are available: Soft and Hard.

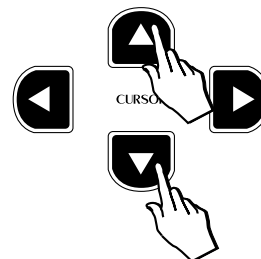
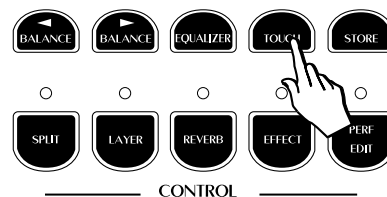
Pressing the TOUCH button (in the Control section) activates a temporary display showing 3 velocity curves to choose from. The selected option is shown in negative highlight:



- Soft :** this is useful for a player with a lighter touch or somebody more accustomed to a synth action keyboard. It requires only a relatively soft touch to achieve maximum volume.
- Normal :** This setting most accurately represents the touch response of a piano.
- Hard :** This setting is for “stronger” players. It requires a fairly powerful touch to achieve maximum volume.

Use the Cursor Up/Down buttons to select the various curves; the selection menu is cyclic.

The selected response curve remains in memory until changed again, or until you turn the instrument off. Turning on again will restore the NORMAL setting.



Section 4

Perf. Edit - the Presets and how to edit them

When you construct a combination of sounds there are many powerful performance features available under the PERF. EDIT button which can help you tailor the sound combination to your needs. This section will explain how to edit Presets to create User Presets.

The concept of the RP220 Preset

How to select the Sounds (or Presets) is discussed in the Quick Guide. This chapter takes a deeper look into the Preset controlling parameters and how to use them to create User Presets to suit your playing.

Whatever RP220 Preset is selected also recalls a set of user programmable performance parameters, as shown in the margin.

As can be seen in the table shown opposite, the RP220 Presets “carry” several different types of variable performance parameters, easily accessed and modified. The modified Presets can then be saved (together with any other changes that you decide to make) to the User Preset locations for future recall.

PRESET

Sound Program
KBD Mode: single, Split Layer
Sound Volume (section)
Split Point
Section Transpose
Reverb send (section)
Reverb Type & parameter
EFX send (section)
EFX Type & parameters
Damper assign (section)
Auto Wha-Wha (section)
Microtuning
Detune (Layer section)
Delay (Layer section)
Preset Name
Equalizer

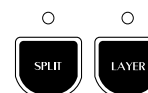
The structure of a Preset

The RP220 provides three different playing modes: Single, Split and Layer. The passage from one mode to the other is simple and straight forward; from Single, press Split or Layer. From Layer or Split, deactivate the selected Control button to return to Single.

If you have followed the Quick Guide, you will have discovered that the Single, Split and Layer Presets are appropriately programmed to suit the mode being used.

The possibility of switching from one mode to the other is due to the RP220 Preset structure, which consists of three sections:

1. A section for the main sound (Single mode);
2. A section for the Split;
3. A section for the Layer.



The three sections recall independently programmed control parameter settings together with the possibility of memorizing the On/Off status of each section.

You can check this by selecting, for example, the Preset buttons from 5 to 8 for any Preset Group button. You will note that the Split or Layer button will activate automatically according to the Preset button selected.

The Single Presets, on the other hand (buttons 1 - 4) provide the possibility of activating Layer or Split situations at any moment. Furthermore, in the User Preset section, you can save your modified Presets to suit your playing needs.

The Effects

The Presets include DSP data (Reverb and modulating Effects), of fundamental musical importance, because it allows you to select Preset sounds together with appropriate effects settings without additional operations. For example, the Preset “Rhodex1” (El Piano n. 1) carries the Stage reverb and a Chorus effect, while the Preset “Wurlie” (El Piano n. 2) recalls the Room reverb and a Tremolo effect.

To insert or deactivate the effects, simply press the corresponding effect button (Reverb and/or Effect). When the LEDs of either or both buttons are on, the corresponding effect types are active. When the LEDs are off, the effects are deactivated.

Selecting different effects

When you press one of these buttons, the effect assigned to the current Preset is displayed for a short period.

Example:

1. Press the GrandPiano button.
2. Press the Reverb or Effect button.

The display shows the Reverb or Effect type memorized for the GrandPiano sound (Hall 1 for Reverb and Chorus 1 for Effect in this case):



Reverb display:

REVERB TYPE SELECT Pg.1	
Room 1	Church 1
Stage 1	Plate 1
Hall 1	Slap 1
Small Room 1	Concert 1

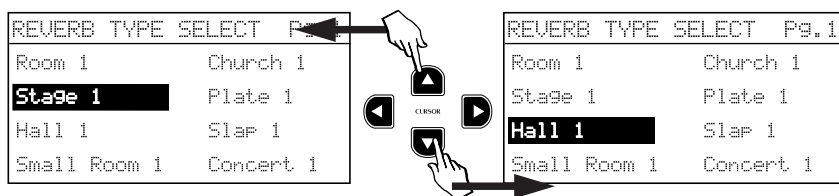
Effect display:

EFFECT TYPE SELECT Pg.1	
Chorus 1	PitchShift 1
Tremolo 1	Delay 1
Phaser 1	Delay 2
Flanger	Chorus Trem

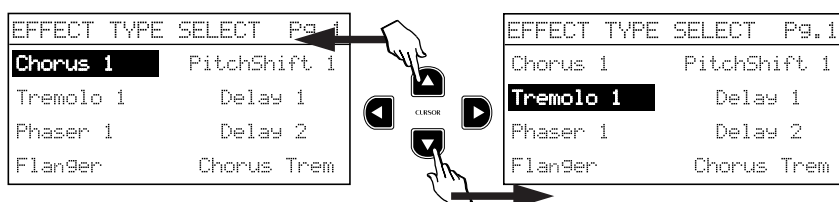
3. If, during the temporary display period, you press the CURSOR buttons to the right of the display, you can change the Reverb or Effect type.



Pressing the Cursor  /  buttons scroll the Reverb or Effect types.

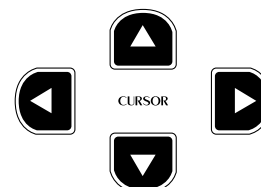
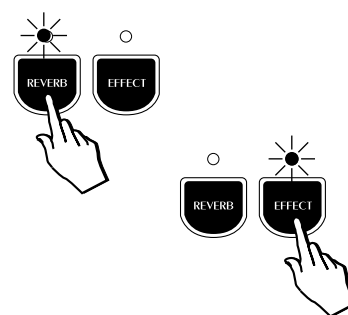
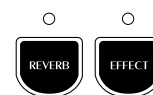
Reverb displays:




Effect displays:

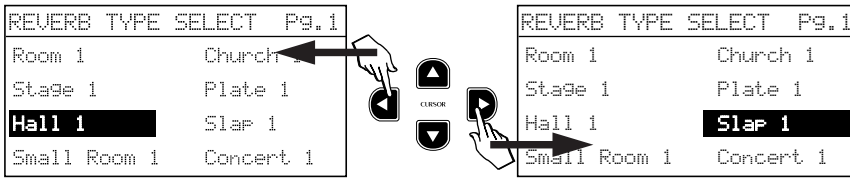


If you hold the Cursor  or  button, you can scroll through both columns of the current display.

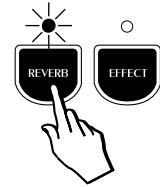
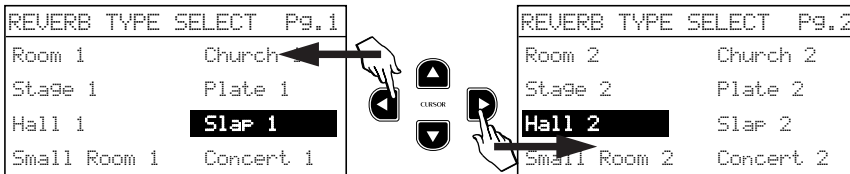


The Cursor  button switches from the left column to the right and changes page from 1 to 2:

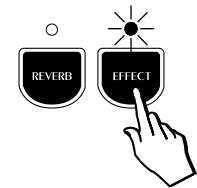
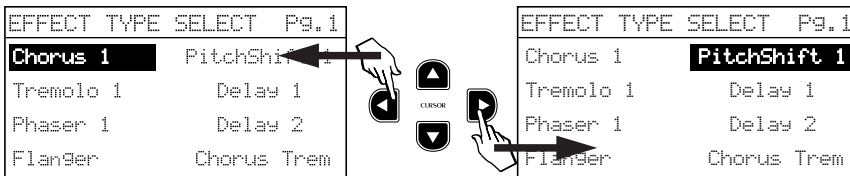
Reverb from column to column:



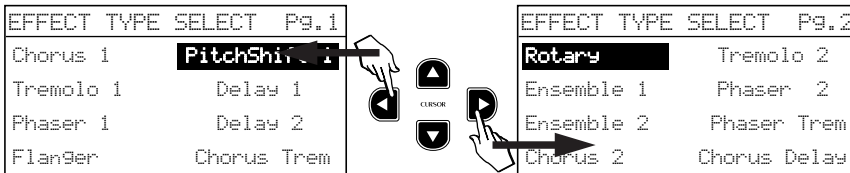
Reverb from page to page:




Effect from column to column:



Effect from page to page:

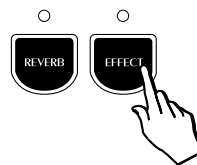


The Cursor  button gives the inverse effect - it switches from the right column to the left and changes page from 2 to 1.

If you press the Reverb and/or the Effect button again (LED turns off), the effect is bypassed and the sound plays “dry”.

Whatever changes you make to the Reverb or Effect selections for the current Preset will be lost when you select another Preset.

Further ahead in the manual you will find instructions regarding how to save your changes to memory.

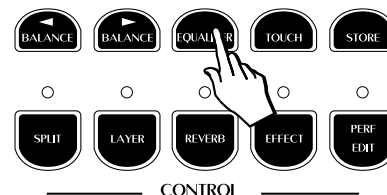


The Equalizer

The status of the Equalizer can also be independently memorized to the Presets in addition to the changes made to the Perf Edit menu.

The Equalizer edit is activated by pressing the Equalizer button (in the Controls section).

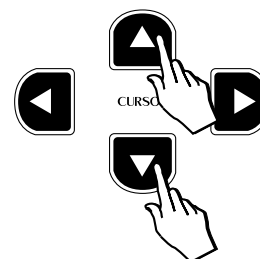
Entering the Equalizer shows a menu where it is possible to choose from 8 different Equalizer curves. The selected curve is shown in negative highlight.



↑↑↑↑	EQUALIZER	Pg. 1
FLAT	EXCITER	
BRILLIANCE	WARM	
PRESENCE	COMBO	
BASS BOOST	ORCHESTRA	

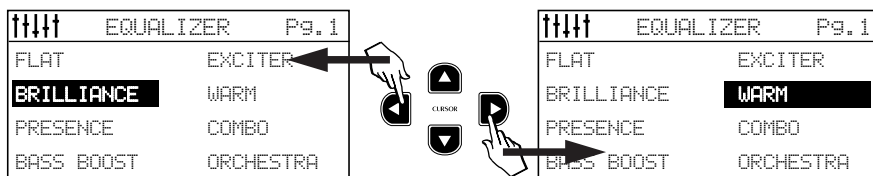
Using the Cursor Down button, you can scroll the various curves until you find the one best suited to your requirements for the current Preset.

↑↑↑↑	EQUALIZER	Pg. 1
FLAT	EXCITER	
BRILLIANCE	WARM	
PRESENCE	COMBO	
BASS BOOST	ORCHESTRA	



Using the Cursor Up button scrolls in the opposite direction.

Holding the Cursor Up/Down buttons scrolls the 8 displayed curves continually. For quicker selections, use the Cursor and buttons which change column.



When you have selected the desired curve, remember to save the changes to the Preset using the Store Preset command (explained afterwards).

The Equalizer menu is a temporary display which returns to the previous selection after 5 seconds of inactivity.

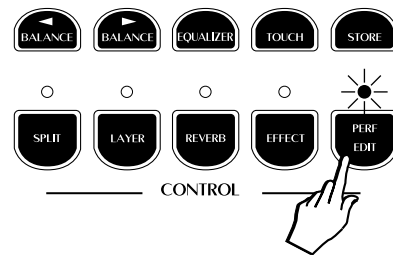
The PERF. EDIT menu

The PERF. EDIT button gains access to several performance parameters of the Presets which can help you tailor your Presets to your needs.

The status of the Edit varies according to the current Preset type selected: Single, Split, Layer.

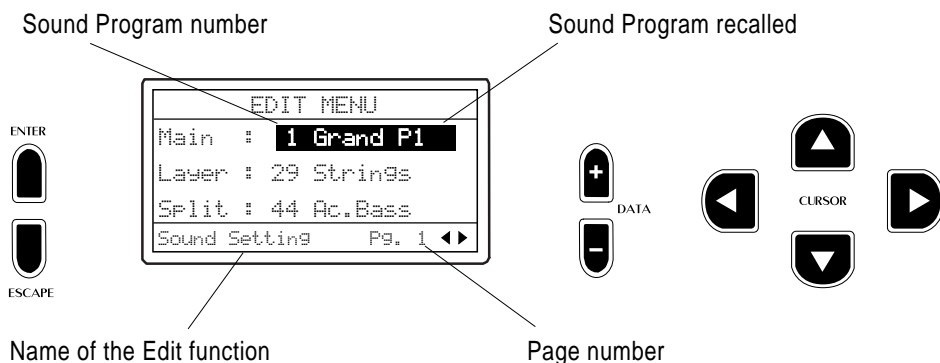
The following table shows the list of the Perf. Edit parameters:

1. Sound Program
2. Sound Volume (section)
3. Section Transpose
4. Rev. Send (section)
5. EFX Send (section)
6. DSP Parameter
7. Microtuning
8. Damper assign (section)
9. Auto Wha Wha Assign (section)
10. Detune/Delay (Layer section)



Press the Perf. Edit button to enter the Preset functions. The corresponding LED starts to flash to indicate that an edit situation is currently active.

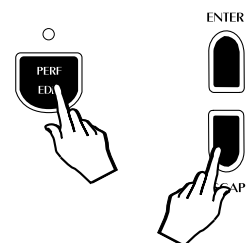
You can select the parameters of the current page with the CURSOR Up/Down buttons located to the right of the display.



Use the DATA +/- buttons to change the value or status of the selected parameter.

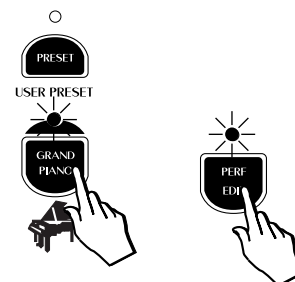
Use the CURSOR Left/Right buttons to change edit page.

To escape the edit menu, press the Perf. Edit button. The LED stops flashing and turns off. You can also use the ESCAPE button to exit the Edit mode at any time.



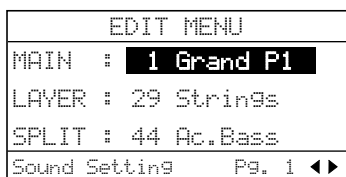
For the purpose of the following explanations, select the GrandPiano Preset (press the corresponding button).

Press the Perf. Edit button to gain access to the relative Edit functions. The first function displayed is the Sound Program.

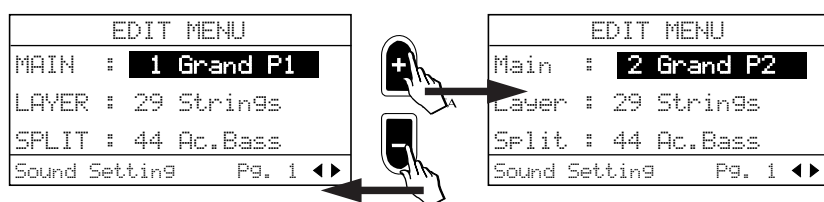


1. Sound Program

The Sound Program is a fundamental function which determines the instrument's timbre. The relative Sound Program display shown below refers to the single Preset selected at the beginning (GrandPiano in this case). The Main sound is shown selected (negative):



To change the Sound Program of the selected section, simply press the DATA +/- buttons to select the next or previous Sound Program (see the complete Sound Program list on page 31).



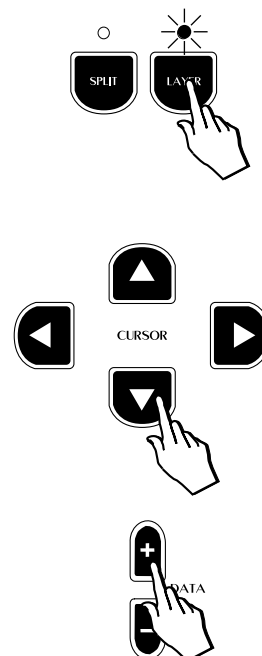
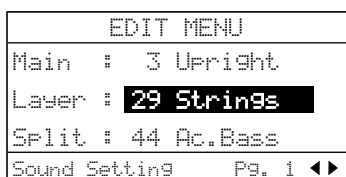
As in all selection procedures, the Sound Program selection is cyclic. The DATA + button selects in increasing order of Program change while the DATA – button selects in the reverse order.

Modify the Layer

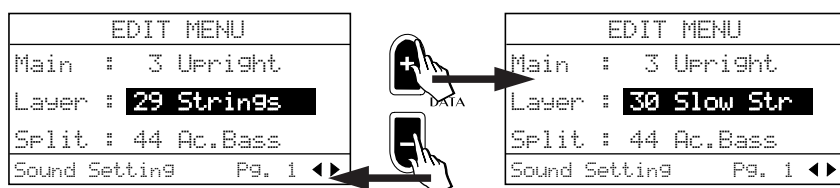
It is also possible to modify the Layer status of the current Preset.

Note: Whatever changes you make to the Layer section of the current Preset can be heard only if the Layer button is active (LED on).

With the Sound Program function still active, press the CURSOR Down button. The programmed Layer sound (in this case Strings) is shown selected:



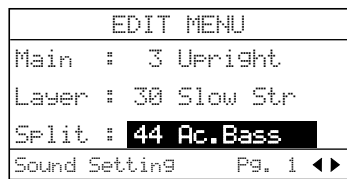
To change the Layer sound, proceed as already described, by using the DATA +/- buttons to scroll the Sound Programs.



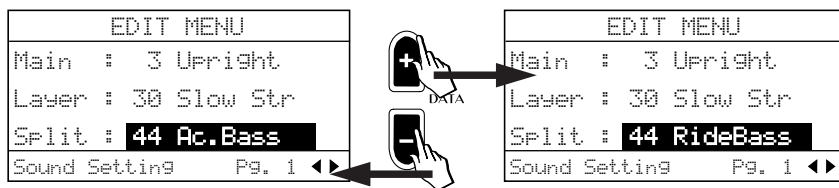
Modify the Split

The Split section of the current Preset can also be modified using the same method described for the Layer section.

Press the CURSOR Down button to select the Split section (negative):



Change the Sound Program of the Split section by using the DATA +/- buttons.



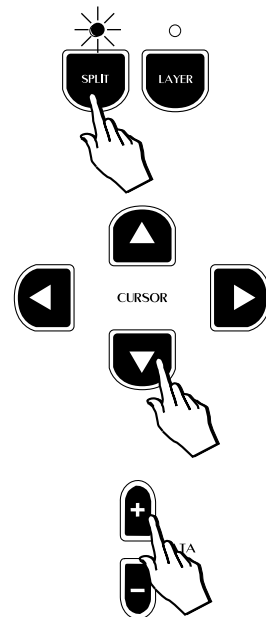
Clearly, it is possible to assign any sound from the Sound Program list to either the Layer or Split sections.

The Sound Program table

The following table lists the Sound Programs available, including the relative Program Change numbers. Note that the listed Sound Programs represent single Sounds that can be assigned to either the Single, Split or Layer sections of the Presets.

A Preset can recall either a single Sound Program, or a combination of two Sound Programs (in Layer or Split form). The Sound Programs are not to be confused with the Presets, which are listed in the Appendix.

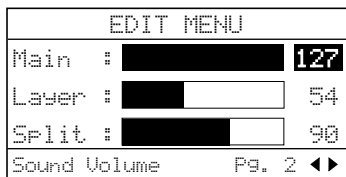
Pr.Ch	Sound	Pr.Ch	Sound	Pr.Ch	Sound
1.	Grand P1	22.	Vibes 2	43.	StratGtr
2.	Grand P2	23.	Marimba	44.	Ac.Bass
3.	Upright	24.	Pipe Org	45.	RideBass
4.	RockPian	25.	PopOrg1	46.	El.Bass
5.	Honky T.	26.	PopOrg2	47.	Fretless
6.	El.Grand1	27.	JazzOrg1	48.	SlapBass
7.	El.Grand2	28.	JazzOrg2	49.	Marcato
8.	Rhodex 1	29.	Strings	50.	SynChoir
9.	Rhodex 2	30.	Slow Str	51.	El.Grand3
10.	Wurlitz	31.	Mellow St	52.	Organ3
11.	SynWurli	32.	Choir	53.	RockPipe
12.	FM Piano1	33.	AtkChoir	54.	PercVox
13.	FM Piano2	34.	PadChoir	55.	Rhodex3
14.	Harpsi1	35.	TapPad	56.	SynWurli
15.	Harpsi2	36.	AtkPad	57.	Xilophon
16.	Clavinet	37.	DarkPad	58.	Analog
17.	SynClavi	38.	IceRain	59.	Pipe2
18.	Celesta 1	39.	ChimePad	60.	Clavin20
19.	Celesta 2	40.	NylonGtr	61.	E.Bass2
20.	Harp	41.	SteelGtr	62.	MuteSynt
21.	Vibes 1	42.	JazzGtr	63.	Marcato2
				64.	Rhodex4



Note: Whatever changes you make to the Split section of the current Preset can be heard only if the Split button is active (LED on).

2. Sound Volume

Press the CURSOR RIGHT button to pass to the second screen (Sound Volume). The negative highlight cursor is shown in correspondence with the main sound volume:

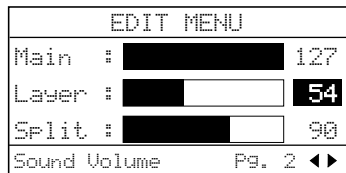


The volume of the main sound is represented by a bar graph and corresponding numerical value.

To change the volume setting, press the DATA +/- buttons.

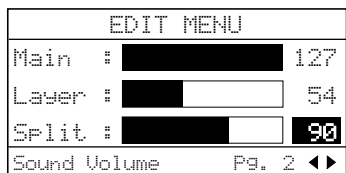
Holding down the DATA + or - button increases or decreases the volume setting rapidly and stops instantly after release.

Press the CURSOR Down button to change the Volume of the Layer section:



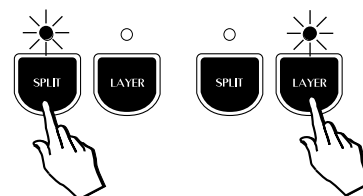
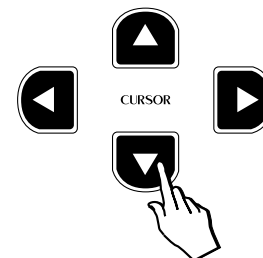
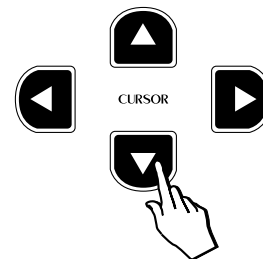
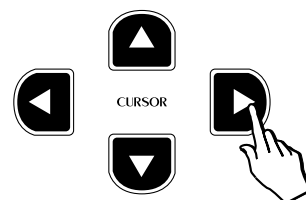
To change the Volume setting, use the DATA +/- buttons as described.

Press the CURSOR Down button again to change the Volume of the Split section:



To change the Volume setting, use the DATA +/- buttons as described.

Note: Remember that the Volume changes made to the Layer and/or Split sections will only be heard if the corresponding Layer and Split buttons are active (LEDs on).



3. Section Transpose

Press the CURSOR RIGHT button to pass to the Section Transpose function. This function is useful for “octave shifting” when using a Split or Layer Preset. An octave shift is obtained by setting the transpose value to - 12 (one octave lower than normal) or +12 (one octave higher than normal). A maximum Transposition of + 24 or - 24 semitones (2 octaves) can be obtained. A section transpose setting affects the individual Sound Programs of the current Preset, not the instrument as a whole (as with the Transpose buttons).

The pitch of the currently displayed sound can be transposed using the DATA + or - buttons. To raise the pitch, use the Data + button. To lower it, use the Data - button.

The display examples below show section transpose settings for the Main sound of one semitone below standard pitch (a) and one semitone above (b), indicated by the note symbols C=B and C=C#:

a)

EDIT MENU		
Main :	C=B	-1
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		

b)

EDIT MENU		
Main :	C=C#	1
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		

To change the pitch of the Layer or Split section, select the section with the Cursor Down button and use the Data +/- buttons as already described:

EDIT MENU		
Main :	C=B	-1
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		

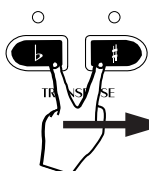
EDIT MENU		
Main :	C=B	-1
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		

Note: Remember that the Pitch changes made to the Layer and/or Split sections will only be heard if the corresponding Layer and Split buttons are active (LEDs on).

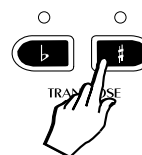
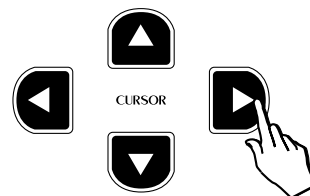
Reset Section Transpose

While you are still in the Section Transpose page, you can reset the pitch of the currently selected sound to the standard pitch (C=C) by pressing both TRANSPOSE # and b buttons together.

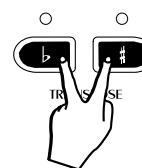
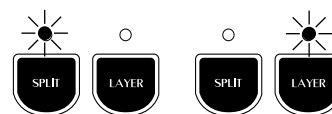
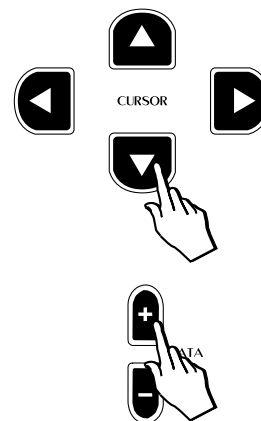
EDIT MENU		
Main :	C=C#	1
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		



EDIT MENU		
Main :	C=C	0
Layer :	C=C	0
Split :	C=C	0
Section Transpose Pg. 3 ◀▶		



Note: It is also possible to use the panel Transpose b/# buttons to change the pitch of the currently selected section.



4. Reverb Send (Rev. Send)

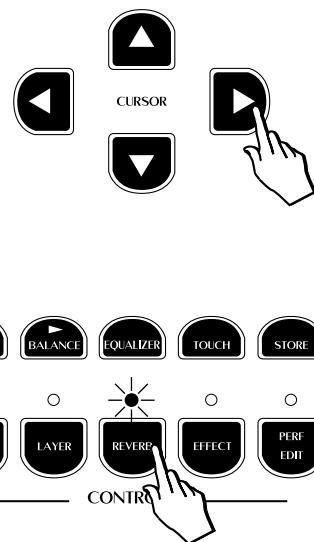
Press the CURSOR RIGHT button to access the Rev. Send function.

The Rev Send function can be used to independently control the amount of reverb applied to a section (Single, Split or Layer) of the current Preset.

For example, the single Preset GrandPiano recalls a reverb send of 64 (a moderate reverb amount), the Layer section (Strings) is programmed at 90 (to give more depth to the sound) and the Split section (Ac.Bass) plays with a Rev Send value of 0.

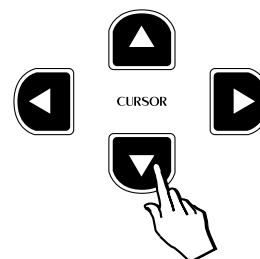
Note: the following examples can be heard on your instrument only if the Reverb button is selected (LED on).

The status of the Rev Send setting for the main sound is shown by the negative cursor:

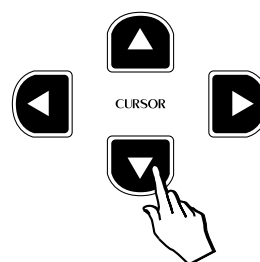


To apply more or less Rev Send to the currently displayed section, press the DATA + or – buttons. You can adjust the Rev. Send value within the range 0 ... 127. The “0” setting corresponds to no Reverb.

To modify the Layer section, press the Cursor Down button and change the value with the Data +/- buttons.

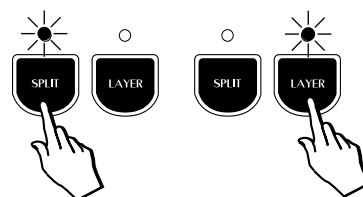


To modify the Split section, press the Cursor Down button and change the value with the Data +/- buttons.



Holding down the DATA + or – button increases or decreases the Rev Send value rapidly and stops instantly after release.

Note: Remember that changes made to the Rev. Send parameter for the Layer and/or Split sections will only be heard if the corresponding Layer or Split buttons are active (LEDs on).



5. Effect Send (EFX. Send)

Press the CURSOR RIGHT button to access the Efx. Send function.

This function works in exactly the same way as Reverb Send. The EFX. Send function can be used to control the amount of Effect applied to the various sections of the current Preset.

For example, the single Preset GrandPiano recalls an Effect Send of 64, the Layer section 100 and the Split section 0.

Note: the following examples can be heard on your instrument only if the Effect button is selected (LED on).

The status of the Efx. Send parameter for the main sound of the GrandPiano Preset is shown as follows:

EDIT MENU	
Main :	64
Layer :	100
Split :	0
Efx. Send	Pg. 5

To apply more or less Efx. Send to the currently displayed section, press the DATA + or – buttons. You can adjust the Efx. Send value within the range 0 ... 127. The “0” setting corresponds to no Effect.

To modify the Layer section, press the Cursor Down button and change the value with the Data +/- buttons.

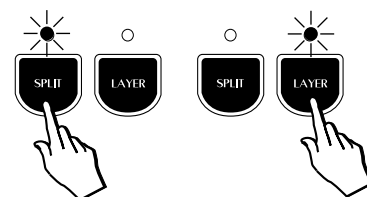
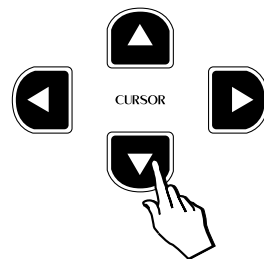
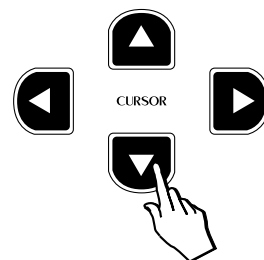
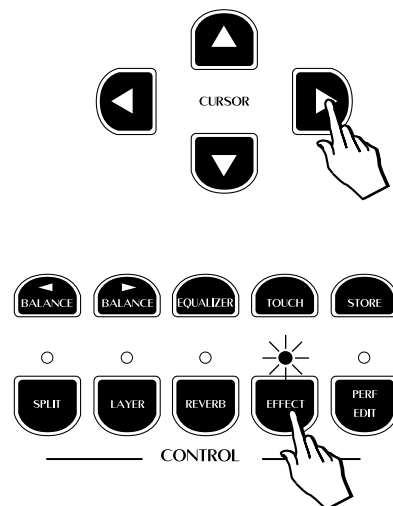
EDIT MENU	
Main :	64
Layer :	100
Split :	0
Efx. Send	Pg. 5

To modify the Split section, press the Cursor Down button and change the value with the Data +/- buttons.

EDIT MENU	
Main :	64
Layer :	100
Split :	0
Efx. Send	Pg. 5

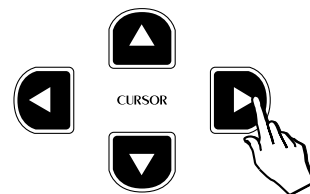
Holding down the DATA + or – button increases or decreases the EFX. Send value rapidly and stops instantly after release.

Note: Remember that changes made to the Efx. Send parameter for the Layer and/or Split sections will only be heard if the corresponding Layer or Split buttons are active (LEDs on).



6. DSP Parameter

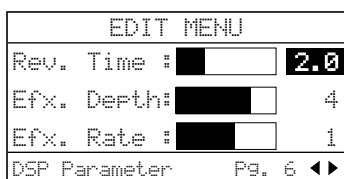
Press the CURSOR RIGHT button to access the DSP Parameter function. This page contains important DSP parameters which allow you to control the Reverb Decay time (Rev. Time), or the depth of action (Depth) and velocity (Rate) of a modulation effect (Chorus).



These parameters affect the instrument as a whole, therefore the relative Edit Menu is not divided into sections but varies according to the modulation effect recalled by the selected Preset.

Reverb Decay Time (Rev. Time)

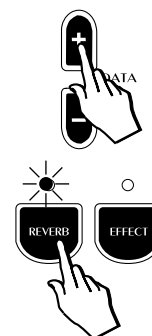
Entering the DSP Parameter page for the first time shows the Rev. Time parameter selected.



If a Reverb effect has been selected (Reverb button on), the Rev. Time function can be used to control the “reverb time”, or the delay amount for the particular reverb type selected for the current Preset. Basically, this allows you to proportionally increase or decrease the dimensions of the surroundings simulated by the DSP.

Holding down the DATA + or – button increases or decreases the Rev. Time value rapidly and stops instantly after release. The value obtained is expressed in seconds.

Note: To listen to the changes made, the Reverb button must be selected (LED on).



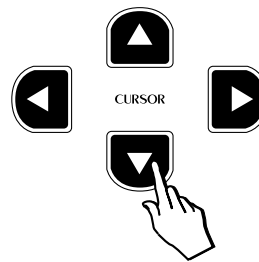
Parameter 1, Parameter 2

The two parameters which appear after the Rev. Send parameter will differ according to the Effect recalled by the current Preset. The following table lists the available Effect Types and the two associated parameters which can be modified:

Effect	Type	Parameter 1	Parameter 2
1. Chorus 1-2	Modulation	Depth (amount of modulation)	Rate (modulation velocity)
2. Tremolo 1-2	Modulation	Depth	Rate
3. Phaser 1-2	Modulation	Depth	Rate
4. Flanger	Modulation	Depth	Rate
5. PitchShift	Frequency	Coarse Tune (coarse tune in semitone steps)	Fine Tune (fine tune of the frequency in "cents")
6. Delay 1-2	Delay	Delay Time (the time it takes for a repeat to occur)	Feedback (the number of repeats heard before effect fade out)
7. Rotary	Modulation	Speed (the rotary speed)	L.P. Filter (0 = bypass)
8. ChorusTremo	Modulation	Depth	Rate
9. PhaserTremolo	Modulation	Depth	Rate
10. ChorusDelay	Modulation	Depth	Rate
11. Ensemble 1-2	Modulation	Depth	Rate

Press the Cursor Down button to select the next parameter, in this case, Effect Depth:

EDIT MENU	
Rev. Time :	2.0
Efx. Depth:	4
Efx. Rate :	1
DSP Parameter Pg. 6 ◀▶	



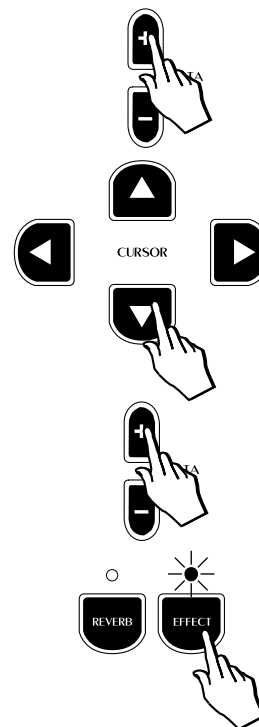
For example, the single Preset “GrandPiano” has been programmed to play with the Chorus Effect.

From the table shown above, you can see that the first parameter displayed for editing will be “Effect Depth” (the total amount of the available Chorus).

Modify the first parameter value by using the DATA +/- buttons.

Press the Cursor Down button again to pass to the second parameter, “Effect Rate”:

EDIT MENU	
Rev. Time :	2.0
Efx. Depth:	4
Efx. Rate :	1
DSP Parameter Pg. 6 ◀▶	



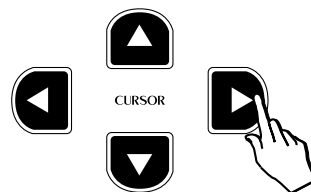
Modify the second parameter value by using the DATA +/- buttons.

Note: To listen to the changes made, the Effect button must be selected (LED on).

7. Microtuning

Press the CURSOR RIGHT button to access the Microtuning function.

This function allows you to select from a variety of alternative tunings, or Keyboard Scales (Temperaments). It is also possible to program a preferred scale (User).



The selection of available scales is shown in the following table:

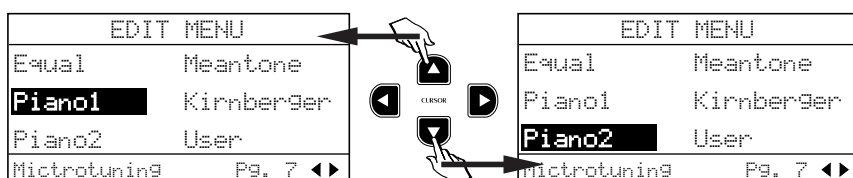
Microtuning	
1.	Equal
2.	Piano1
3.	Piano2
4.	Meantone
5.	Kirnberger
6.	User

As an example, the GrandPiano Preset is programmed to play with the Piano1 tuning which faithfully reproduces the tuning scale of a concert grand piano.

Entering the Microtuning page for the first time shows the selected Keyboard scale programmed for the GrandPiano sound, Piano1:

EDIT MENU	
Equal	Meantone
Piano1	Kirnberger
Piano2	User
Microtuning9	Pg. 7 ◀▶

Use the Cursor Up/Down buttons to select from the various tunings available. The selection procedure is cyclic as in other selection menus:



The tuning scale is independently programmable for all Presets.

User Microtuning

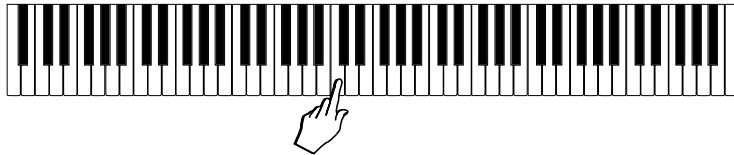
If you select the User scale, you can accurately retune every note of the instrument to create a personal tuning Preset.

EDIT MENU	
Equal	Meantone
Piano1	Kirnberger
Piano2	User
Microtuning9	Pg. 7 ◀▶

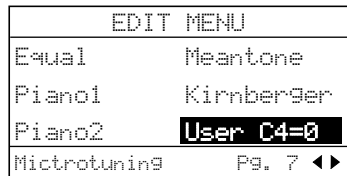
Each note of the keyboard can be fine tuned through the range ± 64 cents.

Programming a User scale is a very simple task.

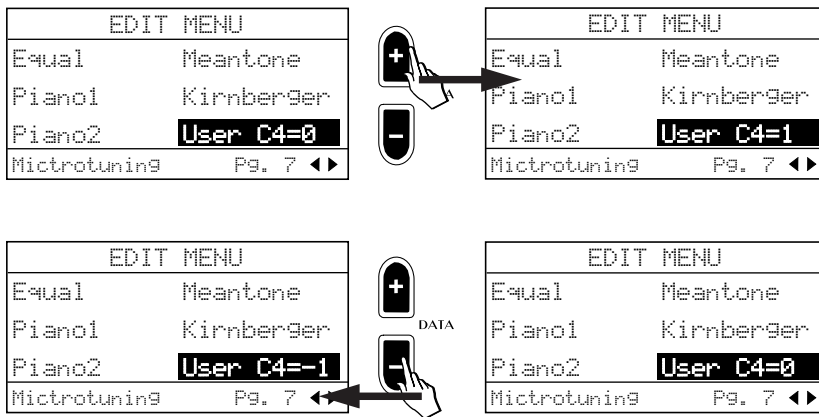
Once you have selected the User option, press a key on the keyboard corresponding to the note you wish to retune (in this example C4).



The display “captures” the key that you played:



You can now repeatedly play the same key and adjust its tuning with the DATA +/- buttons.



When you have tuned the note to your requirement, press another key and proceed as before.

When you have finished tuning all the notes you need of the scale, press the Perf. Edit button to escape the edit and store your User scale by using the Store function described further ahead.

Note: The User Microtuning scale is one only; it is not possible to program a different User scale for each Preset.

If you want to restore the user tuning to the factory setting (all note values = 0, corresponding to the Equal scale), you can use the Restore Tuning function under the General button. Refer to the General chapter of this manual for more details.

8. Damper Pedal Assign (Damp. Assign)

Press the CURSOR RIGHT button to access the Damper Assign function.

This function allows you to change the Damper pedal assignments of the various Preset sections (Single, Layer or Split).

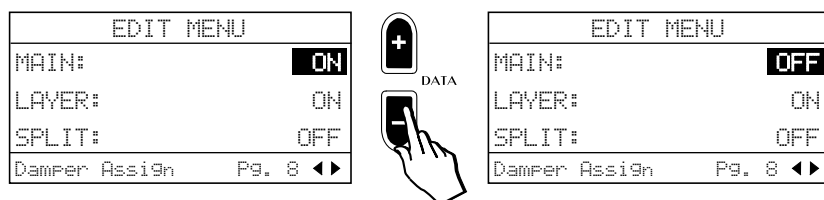
For example, if you mixed a main Piano and secondary Strings sound (layered combination) and you wanted the damper pedal to sustain the piano but not to affect the strings, you would set the Damper Assign On to the main sound and Off to the Layer sound.

The default setting for this parameter is shown in the following table:

Main	Split	Layer
On	Off	On

You can modify the default status for the current Preset section to suit your needs.

Entering this page for the first time shows the Damper Assignment corresponding to the main sound. Using the Data – button, the assignment can be set to OFF:



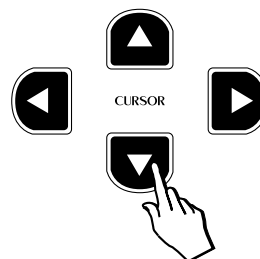
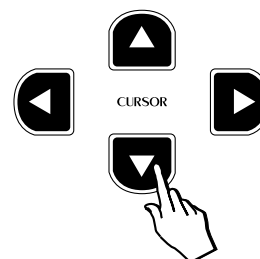
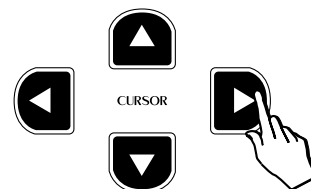
To change the setting of the Layer section, press the Cursor Down button and change the value with the Data +/- buttons.



To change the setting of the Split section, press the Cursor Down button and change the value with the Data +/- buttons.



Note: Remember that changes made to the Damper Assign parameter for the Layer and/or Split sections will only be heard if the corresponding Layer or Split buttons are active (LEDs on).



9. Auto Wha-Wha Assign

Press the CURSOR RIGHT button to access the Auto Wha-Wha function.

Auto Wha Wha is a classic effect from the vintage keyboard era, which the RP220 allows you to control according to the velocity you apply to the keyboard. This effect is independently assignable to the Preset sections (Single, Split, Layer).

The default setting of this parameter is Off for all sections, as shown in the following display:

EDIT MENU	
MAIN:	OFF
LAYER:	OFF
SPLIT:	OFF
Auto WhaWha Assign Pg. 9 ◀▶	

Use the DATA +/- buttons to switch the setting to On as required for the current section:

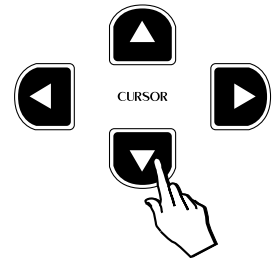
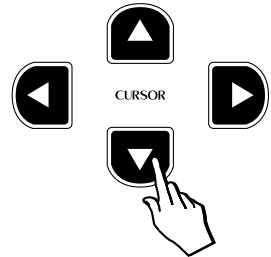
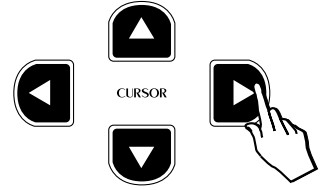
EDIT MENU	
MAIN:	ON
LAYER:	OFF
SPLIT:	OFF
Auto WhaWha Assign Pg. 9 ◀▶	

To change the setting of the Layer section, press the Cursor Down button and change the value with the Data +/- buttons.

EDIT MENU	
MAIN:	ON
LAYER:	ON
SPLIT:	OFF
Auto WhaWha Assign Pg. 9 ◀▶	

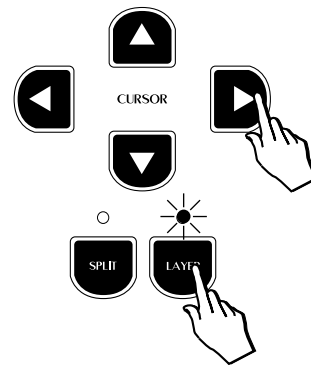
To change the setting of the Split section, press the Cursor Down button and change the value with the Data +/- buttons.

EDIT MENU	
MAIN:	ON
LAYER:	ON
SPLIT:	ON
Auto WhaWha Assign Pg. 9 ◀▶	



10. Detune and Delay

Press the CURSOR RIGHT button to access the next page where you can modify two parameters exclusive to the Layer section of the Presets: Detune and Delay.



Note: To listen to the changes made to these two parameters, the Layer button must be active (LED on).

Detune

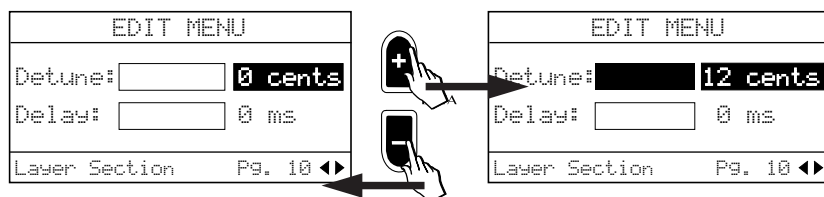
This function allows a fine frequency adjustment (Detune) between the main Sound Program of a Preset and its Layer.

Delay

This function allows you delay the emission of the Sound Program of the Layer section of a Preset with respect to the main section.

Modifying the Detune parameter

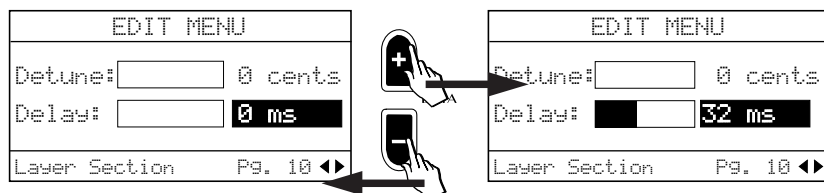
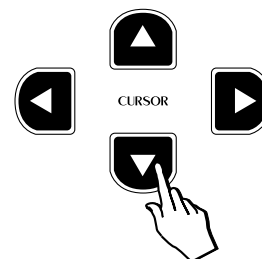
Entering this page for the first time shows the Detune parameter selected. You can now repeatedly play a note on the keyboard and adjust the Detune value with the DATA +/- buttons.



You can detune the main sound by up to +12 Cents. Lower values are useful for creating a natural chorus effect between two sounds. At higher values a “Honky Tonk” effect can be obtained.

Modifying the Delay parameter

To modify the Delay parameter, press the Cursor Down button to select Delay and adjust the Delay value with the DATA +/- buttons.



The value shown represents the number of milliseconds which will elapse before the second sound is heard.

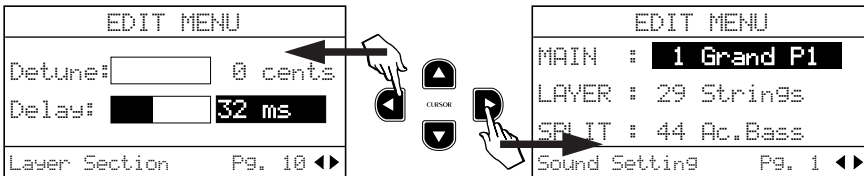
The values available range from 8 to 800 ms in steps of 8 ms at a time. The higher the value, the greater the delay of the Layer section.

Saving your modifications

At this point, when you have finished all the Perf Edit tasks, bear in mind that the changes made remain in memory temporarily. If you change the Preset before saving your changes, all modifications made will be lost. See Store Preset further ahead.

Cyclic selection

From the last Edit Menu page (Detune/Delay), it is possible to return to Page 1 (Sound Program) by pressing the Cursor Right button, because the selection procedure is cyclic. The last page selected is memorized.



The Store Preset command

The Store command allows you to save your new Preset to memory. After you have spent some time adjusting the various Edit functions, you will have created a USER PRESET. Refer to the explanations regarding the Preset in the Quick Guide for more information.

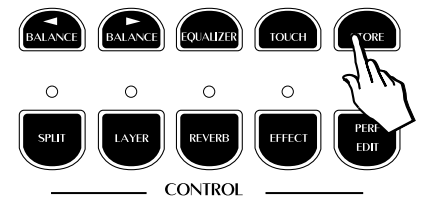
You can choose to store the User Preset with its original name, or write a different one.

If the changes you have made up to this point are not saved before you select another Preset, they will be instantly lost as soon as you select a new one. Therefore, if you have spent a long time adjusting your sound combination, don't forget this very important step.

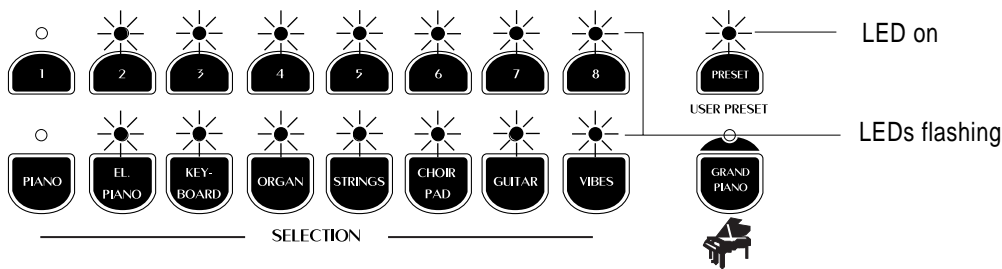
How to store your modifications

1. After creating a Preset which you want to store, press the Store button.

The display will show the following message with the first letter flashing in negative highlight.



At the same time, the LEDs of all the Selection buttons, except those corresponding to the current Preset, start to flash. This will help you decide where to store your new User Preset. The LED of the User Preset button remains on.



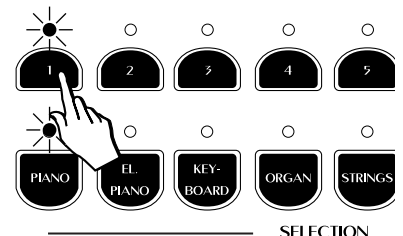
At this point, you can decide to overwrite to the current User Preset or to a different one.

Store the modified Preset to the same location with the same name

2. Press the corresponding selection button (the one shown with the LED off). Button 1 in this case.

Shortly after, the LEDs of all the other buttons stop flashing and the display shows the modified sound ready to play. The Preset currently occupying the location saved to will be overwritten by the new one.

Note: remember that you can modify the sounds of the Preset and User Preset memory locations but, when you store the new result, it will always be stored to the User Preset locations. Therefore, if



you make some changes to a Preset, the modified version will be stored to the equivalent location of the User Preset memory location (as in the example explained above).

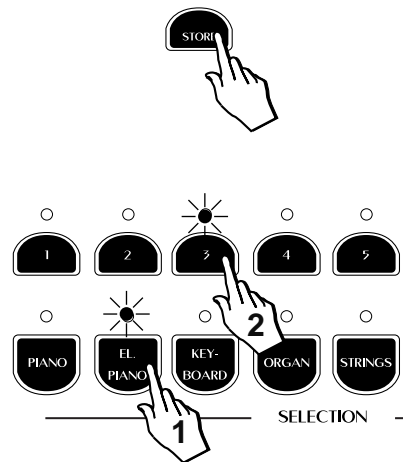
Store the modified Preset to a different location with the same name

- After pressing Store, simply press any button corresponding to a different location.



You can choose to select either;
 a different Preset button (store to the same Group location), or;
 a different Group button (store to the same Preset location of a different Group button); or;
 a different Group button and Preset button (as in the example opposite).

If you want to cancel the Store operation without saving, simply press STORE again while the LEDs are still flashing.



Change the name of the Preset

It is possible to store your new Preset with a different name.

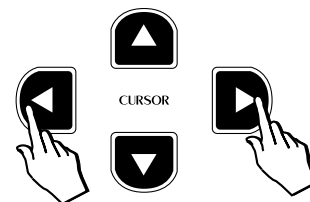
- After making your changes, press the STORE button.

The Store Preset display is shown:



- Now, using the Cursor Left/Right buttons and the DATA +/- buttons, you can change the name of the displayed Preset.

In this condition, the first character of the Preset name is active for a change. The Cursor Right button moves the cursor to the next character position on the right, while Cursor Left moves it to the left. The DATA + button selects the letters of the alphabet at the cursor position in increasing order (A, B, ... Y, Z) while the DATA - button selects in reverse order.



- Once you have written a new name for the User Preset, select its location in the User Preset memory slots as described above.

Related subjects: General menu: Restore Preset, Midi Dump menu.

Section 5

General functions

The General button contains both the MIDI controls of the instrument and a number of important General Control features.

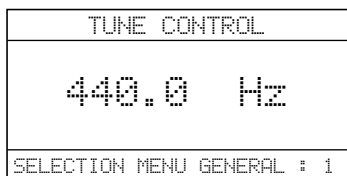
General Functions

The General button contains a number of Master control features as well as MIDI controls.

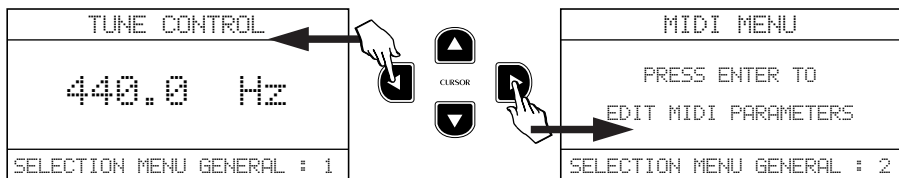
The functions available are summarized as follows:

- Tune Control :** Controls the tuning of the instrument.
- MIDI Parameter :** Gains access to several functions relating to the MIDI and Serial Interface.
- Piano Frame Level :** Controls the Natural String Resonance Physical Model.
- Display Contrast :** Regulates the display contrast.
- Restore Preset :** Restores the 64 User Presets to the original factory settings.
- Restore Microtune :** Restores the User Microtuning scale to the original factory settings.

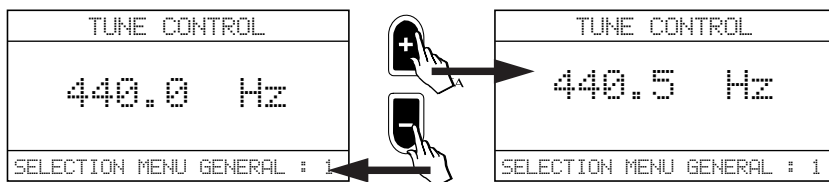
To gain access to the General function, press the GENERAL button. Entering the General menu for the first time shows the Tune Control page:



Use the Cursor Left/Right buttons to navigate through the pages of the General menu.

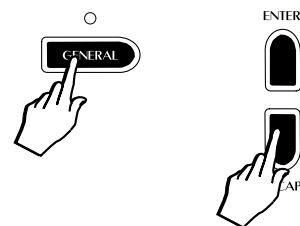
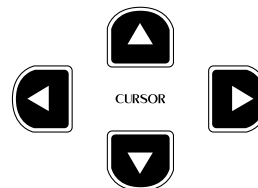


Use the DATA +/- buttons to change the status or value of the selected parameter:



Press the General or Escape button to leave the General Menu at any time.

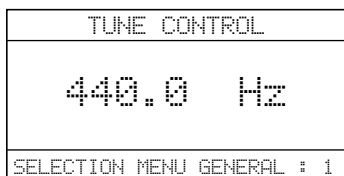
The last page selected is memorized, allowing you to leave the menu and return at any time to the most frequently used General function.



1. Tune Control

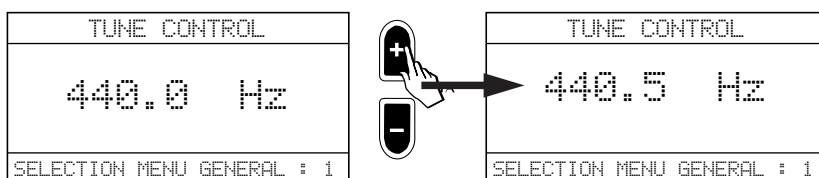
This function allows the entire instrument to be tuned to match another instrument which may be slightly out of tune.

Pressing the GENERAL button for the first time activates the Tune Control display:

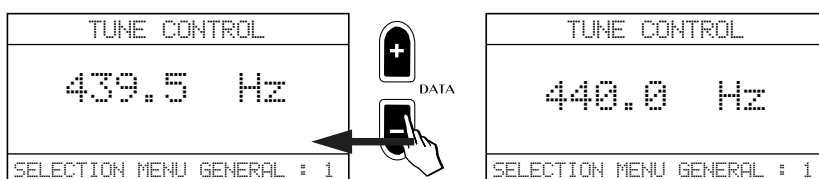


The display refers to a standard reference for the pitch of concert A = 440 Hz. The available Tuning range is from 427.5 Hz to 452.5 Hz in steps of 0.5 Hertz at a time.

Use the DATA + button to raise the tuning value:



Use the DATA – button to lower it:



Holding down either the DATA + or – button changes the value continually until you release the button.

The Tune Control value remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the Tune Control value will return to the standard value (A = 440).

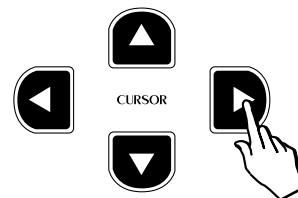
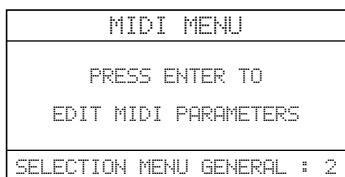
Reset Tune

To restore the Tune Control value to the standard setting in a single step without turning off the instrument, press both DATA + and – buttons together.

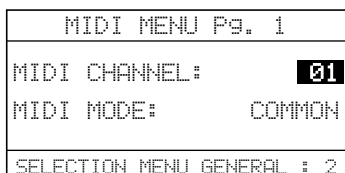


2. MIDI Menu

Press the CURSOR RIGHT button to pass to the MIDI Menu page.



To gain access to the parameters of this menu, press ENTER.



The parameters available under this menu are:

Midi Channel, Midi Mode (Common and Dual), Local Control, Midi Transpose, Midi Clock, Midi In/Out Filters, Computer Interface and Midi Dump.

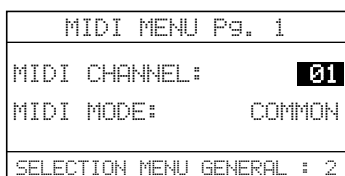
The Midi Settings remain in memory even after turning off the instrument.

Midi Menu Page 1

Once you gain access to the MIDI Menu with the Enter button, the first page activated shows two MIDI functions: Midi Channel and Midi Mode.

Midi Channel

The first function, Midi Channel, is shown selected (negative highlight):

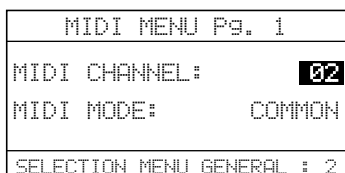


This function allows you to change the Midi transmission and reception channel of the instrument

The value display corresponds to the MIDI channel of the main section across the entire keyboard.

The Midi Channels of the secondary sections (Layer and Split) are set using the Midi Mode function explained afterwards.

The Midi Channel can be changed from 1 to 16 using the DATA +/- buttons:



The selection procedure is cyclic, therefore, pressing Data + at the channel 16 setting (or Data – at channel 1) selects the OFF setting; this disables the instrument for MIDI transmission and reception:

MIDI MENU Pg. 1	
MIDI CHANNEL:	OFF
MIDI MODE:	COMMON
SELECTION MENU GENERAL : 2	

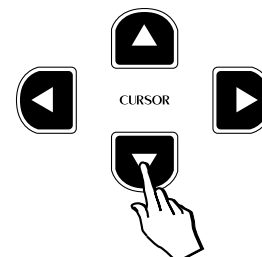


The last MIDI Channel selected is memorized, even after turning the instrument off.

MIDI Mode

Move down to the next function (Midi Mode) with the Cursor Down button.

This function provides two different modes of operation for the MIDI interface: Common Channel or Dual channel.



Common Channel

The Common Channel setting for the Midi Mode function is selected by default:

MIDI MENU Pg. 1	
MIDI CHANNEL:	02
MIDI MODE:	COMMON
SELECTION MENU GENERAL : 2	

With this setting the RP220 receives and sends Midi data on a single channel only (set on the previous page), regardless of the current keyboard mode of the Preset (single, split, layer). The Common Mode is best used when you connect the RP220 to an expander. In this case, changing the Presets will send Program Change messages from 1 to 64 to the expander, while changing the User Presets will send Program Change messages from 65 to 127, allowing you, therefore, to change the sounds of the external generator from the RP220.

A Program Change message received by RP220 on the Common Channel will not change one of the individual sound programs of a Preset. Instead, it will be interpreted as a Preset Change message.

Dual Channel

Pressing the DATA + or – button selects the second MIDI Mode function, Dual Channel:

MIDI MENU Pg. 1	
MIDI CHANNEL:	02
MIDI MODE:	DUAL
SELECTION MENU GENERAL : 2	



The Dual channel mode allows RP220 to transmit and receive Midi data across to separate channels, one for the main section, the other for the secondary section (Layer or Split) of a Preset.

Selecting Dual Channel mode automatically disables Common channel mode.

The MIDI channel of the main section is selected from the Midi Channel page, as already explained. The MIDI Channel of the secondary section (Layer or Split) is automatically assigned according to formula "N + 1" where N = the MIDI channel of the main section.

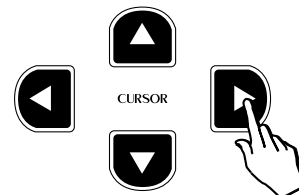
For example, if you have assigned MIDI channel 1 to the main sound, the Layer or Split will have MIDI channel 2. This channel will be both the send and receive channel for the second section.

In Dual channel mode, the MIDI messages transmitted and received will be separate for each section. The Program Change and Control Change messages will depend on the Sound Program of the selected Preset (refer to the MIDI Implementation chart in the Appendix).

The last MIDI Mode selected is memorized even after turning the instrument off.

Midi Menu Page 2

Press the CURSOR RIGHT button to pass to the second page of the Midi Menu which contains three Midi functions: Local Control, Midi Transpose and Midi Clock.



Local Control

The first function, Local Control, is shown selected (negative highlight), shown ON by default:

MIDI MENU Pg. 2	
LOCAL CONTROL :	ON
MIDI TRANSPOSE :	ON
MIDI CLOCLK :	INT
SELECTION MENU GENERAL : 2	

This function, if OFF, isolates the RP220 from its internal sound engine allowing it to be used as a MIDI controller. When ON, RP220's keyboard data is directed to the internal sound engine as well as the MIDI OUT port.

Press the DATA – button to set Local Control Off.

MIDI MENU Pg. 2	
LOCAL CONTROL :	OFF
MIDI TRANSPOSE :	ON
MIDI CLOCLK :	INT
SELECTION MENU GENERAL : 2	



Return to the On setting with the DATA + button.

The Local Control Off setting simplifies the connection of the RP220 with an external sequencer or computer, allowing the keyboard to be used as a controlling device and the internal sound engine as an expander when connecting to a sequencer/computer.

A typical example of the use of the Local control is when the RP220 MIDI IN port is connected to the sequencer/computer MIDI OUT port, and the RP220 MIDI OUT port to the sequencer/computer MIDI IN port (MIDI Loop

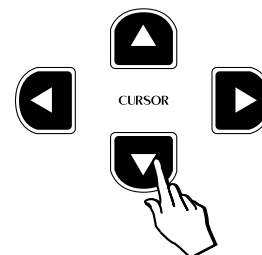
connection). Set the sequencer/computer to operate in MIDI Thru mode (in other words, set it to return the data it receives from the RP220 keyboard back to the RP220 MIDI IN).

With Local Off, all messages generated by the RP220 keyboard are excluded from the internal sound engine and sent via the MIDI OUT to the sequencer/computer, which then returns the data to the RP220 sound engine via MIDI IN.

Note: The last Local setting remains memorized until changed again, or until the instrument is turned off. Turning the instrument on again automatically sets to Local Control On.

MIDI Transpose

Press the Cursor Down button to select the second Midi function of page 2, Midi Transpose:



MIDI MENU Pg. 2	
LOCAL CONTROL :	ON
MIDI TRANPOSE :	ON
MIDI CLOCK :	INT
SELECTION MENU GENERAL : 2	

This function allows you to enable/disable the transmission via MIDI of a transposition that you may apply to the instrument, so that an external MIDI device receives or doesn't receive transposed note messages.

MIDI Transpose ON is the default setting.

For example, if you connect an external expander to RP220's MIDI Out, with MIDI Transpose ON and you transpose RP220 by 1/2 semitone, the external expander will also play 1/2 semitone higher.

To disable MIDI Transpose (Off), use the DATA – button:



MIDI MENU Pg. 2	
LOCAL CONTROL :	ON
MIDI TRANPOSE :	OFF
MIDI CLOCK :	INT
SELECTION MENU GENERAL : 2	

The last setting remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the MIDI Transpose will automatically return to ON.

MIDI Clock

Press the Cursor Down button to select the third Midi function of page 2, Midi Clock:

MIDI MENU Pg. 2	
LOCAL CONTROL :	ON
MIDI TRANPOSE :	ON
MIDI CLOCK :	INT
SELECTION MENU GENERAL : 2	

This function allows you to select the timing clock for the Recording Studio (sequencer).

The two options available are:

Internal: the internal metronome controls the sequencer timing.

External: the MIDI IN clock signal transmitted by the external device controls the sequencer timing.

With External selected, the internal sequencer waits for a start message from the external clock device.

Use the DATA – button to select the External option.

MIDI MENU Pg. 2	
LOCAL CONTROL :	ON
MIDI TRANSPOSE :	ON
MIDI CLOCK :	EXT
SELECTION MENU GENERAL : 2	

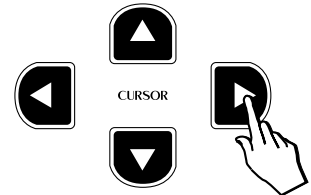


Return to Internal with the DATA + button.

The last setting remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the MIDI Clock will return automatically to Internal.

Midi Menu Page 3

Press the CURSOR RIGHT button to pass to the third page of the Midi Menu which contains three Midi functions: Midi In Filter, Midi Out Filter and Computer Interface.



MIDI In Filter

The first of the three Midi functions shown selected (in negative highlight) is the Midi In Filter:

MIDI MENU Pg. 3	
MIDI IN FILTER :	OFF
MIDI OUT FILTER:	OFF
COMPUTER INT. :	OFF
SELECTION MENU GENERAL : 2	

This function allows you to block the reception of certain MIDI messages which might be unwanted on some occasions.

The table shown opposite lists the Filter In messages available:

Use the DATA +/- buttons to select the message that can be filtered out of the MIDI IN data stream.

The default setting for the MIDI IN Filter is OFF.

For example, if you were playing a MIDI file from an external sequencer using the El.Grand Preset, you might find that the Preset you have selected changes every time you start playback of the sequence. This happens because the sequence includes a Program Change at the beginning of the song.

To overcome this problem, you would select the MIDI IN FILTER “PROGRAMS”. This means that the RP220 would then ignore any Program Change messages that it receives from the external device.

Midi In filter message	
OFF	no filter
Programs	program change
All Contr	All midi controllers
Prog + Vol	prog.chng & volumes
Volume	Midi volume
Pedals	Hold,sustain,soft
Pitch	pitch bend

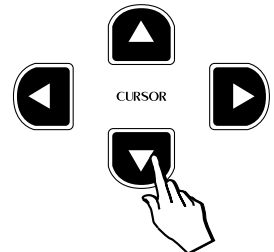


MIDI MENU Pg. 3	
MIDI IN FILTER :	PROGRAMS
MIDI OUT FILTER:	OFF
COMPUTER INT. :	OFF
SELECTION MENU GENERAL :	2

The last MIDI In Filter selected is memorized even after turning the instrument off.

MIDI Out Filter

Press the Cursor Down button to select the Midi Out Filter function:



MIDI MENU Pg. 3	
MIDI IN FILTER :	PROGRAMS
MIDI OUT FILTER:	OFF
COMPUTER INT. :	OFF
SELECTION MENU GENERAL :	2

This function is used to stop the instrument from transmitting certain MIDI messages which might be unwanted on some occasions.

The table shown opposite lists the Filter Out messages available:

Use the DATA +/- buttons to select the message that can be filtered out of the MIDI OUT data stream.

The default setting for the MIDI OUT Filter is OFF.

For example, if you were to connect the instrument to an external MIDI sound module, when you reduce the section volume of the RP220, a "MIDI Volume" message is sent which also changes the volume of the sound module. Furthermore, when you select a new sound on the RP220, a "Program Change" message would also be sent to the sound module, causing its sound to be changed too.

In situations where changes to the external device are not required, these could be avoided by selecting the MIDI OUT FILTER "PROG + VOL": This means that the RP220 would no longer send out these unwanted messages:

Midi OUT Filter message	
OFF	no filter
Programs	program change
All Contr	All midi controllers
Prog + Vol	prog.chng & volumes
Volume	Midi volume
Pedals	Hold,sustain,soft

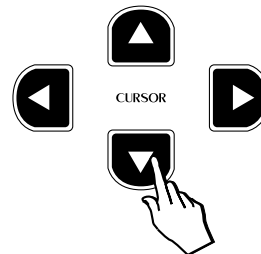
MIDI MENU Pg. 3	
MIDI IN FILTER :	PROGRAMS
MIDI OUT FILTER:	PROG+VOL
COMPUTER INT. :	OFF
SELECTION MENU GENERAL :	2



The last MIDI Out Filter selected is memorized even after turning the instrument off.

Computer Interface

Press the Cursor Down button to select the last function of page 2, Computer Interface:



MIDI MENU Pg. 3
MIDI IN FILTER : PROGRAMS
MIDI OUT FILTER: PROG+UOL
COMPUTER INT. : OFF
SELECTION MENU GENERAL : 2

This function allows you to set the operating mode for the computer serial port on the instrument's back panel. This port allows two-way communication between the RP220 and a PC without the need for a MIDI interface. A cable to connect the instrument to your PC or Macintosh can be obtained from your dealer.

There are four modes which can be selected, as listed in the table shown opposite.

Selections
OFF (default)
PC_1 (Slow)
PC_2 (Fast)
Apple

Use the DATA +/- buttons to select the options available.

OFF : (default) all MIDI data is directed to the MIDI interface.

MIDI MENU Pg. 3
MIDI IN FILTER : PROGRAMS
MIDI OUT FILTER: PROG+UOL
COMPUTER INT. : OFF
SELECTION MENU GENERAL : 2



PC-1 : suitable for connection to a PC with 80386, or earlier processor.

MIDI MENU Pg. 3
MIDI IN FILTER : PROGRAMS
MIDI OUT FILTER: PROG+UOL
COMPUTER INT. : PC1(Slow)
SELECTION MENU GENERAL : 2

PC-2 : suitable for connection to a PC with 80486, Pentium or faster processor.

MIDI MENU Pg. 3
MIDI IN FILTER : PROGRAMS
MIDI OUT FILTER: PROG+UOL
COMPUTER INT. : PC2(Fast)
SELECTION MENU GENERAL : 2

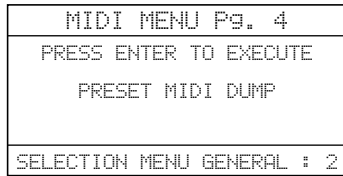
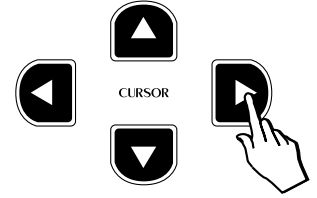
Apple : suitable for any Macintosh computer.

MIDI MENU Pg. 3
MIDI IN FILTER : PROGRAMS
MIDI OUT FILTER: PROG+UOL
COMPUTER INT. : APPLE
SELECTION MENU GENERAL : 2

When you enable the Computer port for one of the transmission/reception options, the instrument's MIDI interface will be automatically disabled for transmission/reception. The last Computer setting selected is memorized even after turning the instrument off.

Midi Menu Page 4

Press the CURSOR RIGHT button to pass to the fourth page of the Midi Menu: Midi Dump:



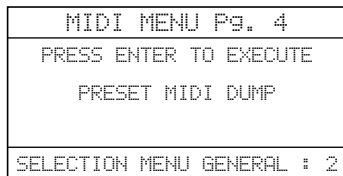
MIDI Dump

Using the MIDI Dump feature, you can send all of the information currently held in the instrument’s User Preset section to an external storage device such as a MIDI sequencer, data filer, etc.. Refer to the owner’s manual of your MIDI software, sequencer or data filer for instructions on how to receive MIDI dumps from other equipment.

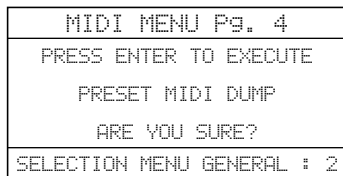
The display will guide you through all the operations required to carry out a Dump.

Here’s the procedure for sending a MIDI dump:

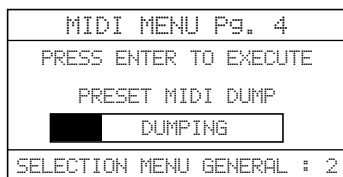
1. Connect a MIDI cable between the RP220 MIDI OUT and the storage device’s MIDI IN.
2. Access the MIDI DUMP function as already explained:



3. Press the ENTER button to activate the first phase of the dump. The display shows a message requesting confirmation of the procedure:



4. Prepare the storage device to receive a MIDI Dump.
5. Respond with ENTER to start the Dump procedure:



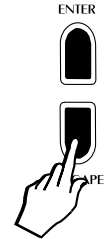
You will see the dump progress screen until the dump is complete. The time taken for a MIDI dump depends on the amount of data being transferred.

When the Dump progress bar disappears from the screen, the MIDI dump has finished:

MIDI MENU Pg. 4
PRESS ENTER TO EXECUTE PRESET MIDI DUMP
SELECTION MENU GENERAL : 2

To escape the Midi Menu page and proceed with the selection of other General parameters, press ESCAPE.

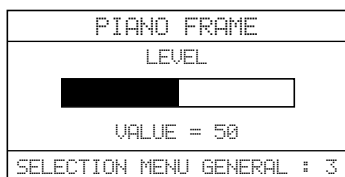
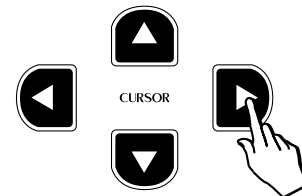
MIDI MENU
PRESS ENTER TO EDIT MIDI PARAMETERS
SELECTION MENU GENERAL : 2



This returns to the starting page of the Midi Menu, from where you can proceed with the selection of the next General function.

3. Piano Frame Level

Press the CURSOR RIGHT button to pass to the third page of the General Menu: Piano Frame Level:

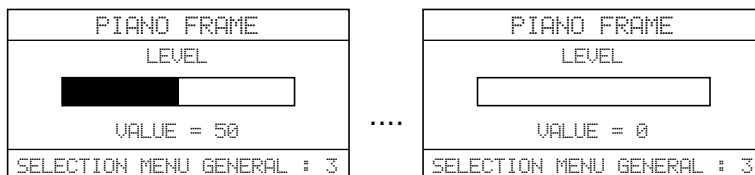


The display shows the default setting of 50.

This function controls the volume of the string vibration that is conducted through the plate of the piano from the undamped strings in the upper register of the piano. The default value is 50 (a good simulated grand piano plate size). Increasing the value increases these harmonics to simulate a plate size beyond even a concert grand piano at a value of 127! Decreasing the value softens the harmonics to faithfully reproduce the plate size of a smaller console type piano.

Use the DATA +/- buttons to adjust the value to a level to suit your playing.

Although characteristic of an acoustic piano, some players may prefer to reduce the level of the Piano Frame effect or disable it completely (0 level).



The recommended level to simulate a 9 ft. grand piano is 50.

The setting programmed in this display remains memorized even after turning off the instrument.

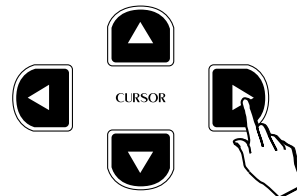
4. Display Contrast

Press the CURSOR RIGHT button to pass to the fourth page of the General Menu: Display Contrast.

The display shown will be the last one set.

Use this function to improve the visibility of the display under different lighting conditions.

Use the DATA +/- buttons to adjust the Display Contrast value within the range - 6, ... 0, ... 6.

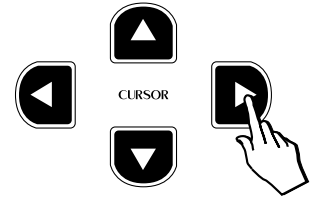


A higher value will give a stronger contrast.

The setting remains memorized even after turning off the instrument.

5. Restore Presets

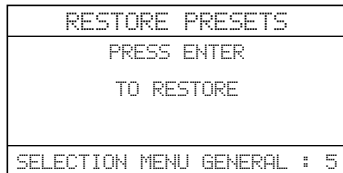
Press the CURSOR RIGHT button to pass to the fifth General Menu page: Restore Presets.



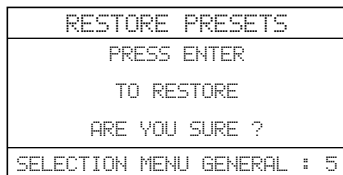
This function allows you to restore all of the factory-programmed User Presets that you may have memorized to the User Preset locations.

Note: doing this will destroy any User Presets which you have saved into the instrument yourself.

Entering the Restore Presets page with Cursor Right shows the following display:

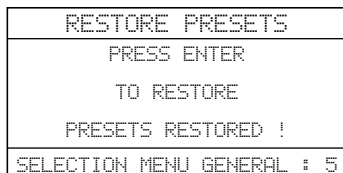


1. Follow the prompted instructions by pressing the ENTER button:



A confirmation request is shown to avoid accidental activation of the function and, therefore, total loss of important data.

2. Press the Enter button once more to complete the restore operation. After a few seconds, the display shows the “Done!” message marking the end of the Restore Preset operation:

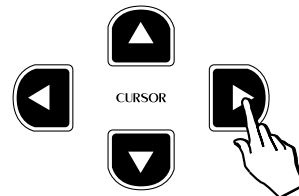


From here, you can proceed with the selection of another General function.

Note: before confirming the Restore Preset operation, be sure that you have saved your User Presets to an external storage device by using the MIDI Dump feature.

6. Restore Microtune

Press the CURSOR RIGHT button to pass to the sixth (and last) General Menu page: Restore Microtune.



This function allows you to reset the User Microtuning temperament (Perf Edit page n. 7).

This is a useful feature if you have been trying to create a user tuning scale unsuccessfully and wish to start from the beginning again.

Entering the Restore Microtune function with the Cursor Right button shows the Restore Microtune display:

RESTORE MICROTUNING
PRESS ENTER TO RESTORE
SELECTION MENU GENERAL : 6

1. Follow the prompted instructions by pressing the ENTER button:

RESTORE MICROTUNING
PRESS ENTER TO RESTORE ARE YOU SURE ?
SELECTION MENU GENERAL : 6



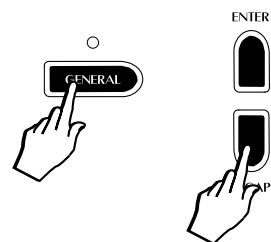
A confirmation request is shown to avoid accidental activation of the function and, therefore, total loss of important data.

2. Press the Enter button once more to complete the restore operation. After a few seconds, the display shows the “Done!” message marking the end of the Restore Microtune operation.

RESTORE MICROTUNING
PRESS ENTER TO RESTORE MICROTUNING RESTORED !
SELECTION MENU GENERAL : 6



3. Press GENERAL or ESCAPE to exit from the GENERAL MENU.



Section 6

Recording Studio/Sequencer

The **RP220** features a simple but powerful two-track sequencer which allows you to accurately record your playing or create simple songs. This section takes a closer look at the controls and related functions.

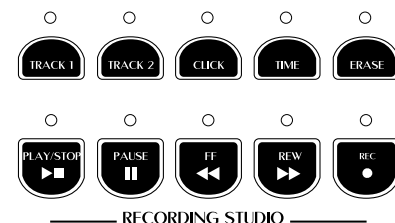
Recording Studio Controls

How to record a simple Song using RP220's on-board sequencer (Recording Studio) is explained in the Quick Guide (page 17). This section takes a close look at the sequencer controls and how to use them.

The sequencer is able to record a two-track song (one at a time) with a maximum capacity of 60.000 events. During playback, it is possible to play along with the song using up to two sounds

The Recording Studio is located on the right of the instrument's control panel. The buttons which control all the sequencer operations are:

- Play/Stop :** Starts and stops either playback or recording.
- Pause :** Stops a playback or recording midway. Pressing this button a second time will continue playback from the stop point.
- Rewind :** "Rewinds" the sequence one bar at a time. You can rewind faster if you hold the button down.
- FF (Fast Forward) :** Advances the sequence one bar at a time. You can scroll forward much faster if you hold the button down.
- Rec (Record) :** Activates "Record pending" mode. Recording actually starts when you press the Play or Pause buttons.
- Track 1, Track 2 :** Buttons that activate the sequencer tracks for recording or playback. The status of the track is indicated by the state of the LED:
- LED off - track is empty or switched off.
 - LED on - track contains data and is ready for playback.
 - LED flashing - track is ready to record or to be overdubbed.
- Click :** Activates/deactivates the Metronome (click) and also lets you adjust the record/playback tempo.
- Time :** Offers a selection of Time signatures and also lets you adjust the metronome speed (Tempo), the metronome volume (Click Volume) and the count-down on/off switch.
- Erase :** Cancels the events recorded in the sequencer tracks.



Events recorded by the RP220 sequencer

The RP220 Recording Studio is able to record all the real time operations carried out during the recording. The relative events captured are:

- Keyboard and pedal data;
- Preset change data;
- Changes of the Preset balance settings;
- Activation/deactivation of the Layer and Split buttons;

The recorded events remain in memory even after turning off the instrument.

Multi Timbral Operation

Track 1 can record a Single, Layer or Split Preset.

Track 2 can record a Preset (Single, Split, Layer) independent from Track 1.

During playback, it is possible to play along with the song using another Preset (Single, Split, Layer).

Therefore, RP220 achieves 6 part multitimbral capability, 4 parts played by the sequencer and 2 in real time on the keyboard.

The DSP parameters recalled (Reverb & Effect) are always those of the last Preset selected, while the section send levels remain independent.

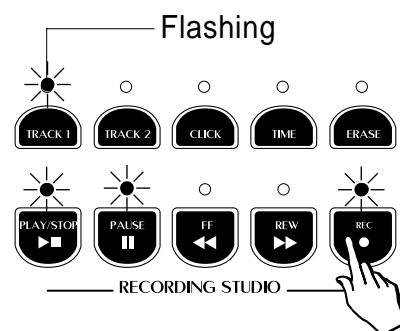
Selecting the tracks for recording

Record Track 1

1. Press the REC button.

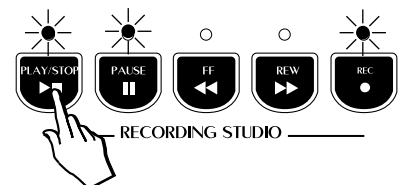
The sequencer activates automatically to record Track 1 (Track 1 LED flashing, Play/Stop, Pause and Rec LED on).

At the same time the Recording Studio display also activates showing the status of the recording parameters:



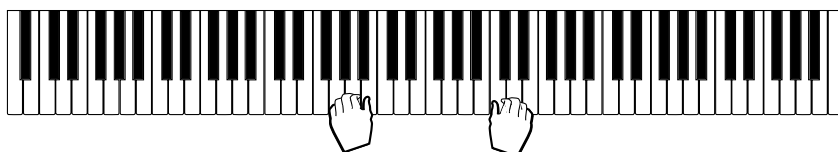
2. Press Play/Stop (or Pause) to start the recording.

A one measure countdown into the recording starts, monitored by the Measure counter.



During this stage, anything you play will not be recorded.

3. As soon as the countdown measure ends, start to play on the keyboard.



The sequencer records the song just as you play it. Any Preset changes you make will also be recorded.

While you are playing, the Measure counter (also called the Song Pointer) monitors the measures and beats.



- To stop the recording, press Play/Stop or Pause.

Pause stops the recording at a precise point and the sequencer remains “on stand-by” with the LED of the Track 1 button still flashing. The Measure counter shows the exact point at which the recording was interrupted.

Pressing Pause again starts the recording from the stop point and continues until you press Play/Stop.

Stop stops the recording of Track 1. The corresponding LED remains on to show that the track contains recorded data.

Record Track 2

- Continuing from point 4 above, press the Track 2 button and proceed as already described in the points 2, 3 and 4.

Before starting the actual recording, you can select a different Preset to record with.

When you press Play to start recording Track 2, the previously recorded Track 1 starts to playback after the countdown measure.

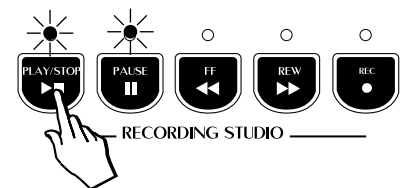
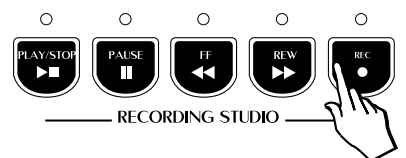
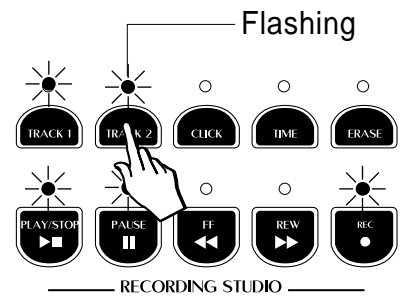
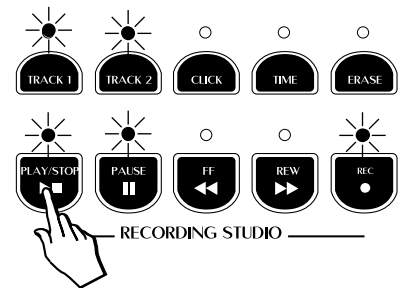
When you stop the recording with Play/Stop, the LED of both tracks 1 and 2 will be on.

- Press REC to escape the sequencer.

Playback

- Press the Play/Stop button to start the song playback.

You can play along with the playback using another Preset, change the status of the Reverb and Effect buttons, mute a Track etc..



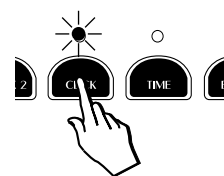
Overdubbing

The RP220 allows you to record in Overdub mode, letting you add additional events to those already recorded.

- After recording a track, press PAUSE to stop the recording.
- Press the REW button to take the track to the beginning (or any point before the stop point).
- Press PAUSE again to start the recording from your “cue point”. Anything you now play will be merged with the previously recorded events.

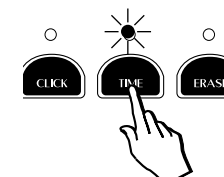
The Click button

Press the CLICK button to activate/deactivate the Metronome, either during the recording, or in playback when practising. The LED turns on after pressing the button.



The Time button

If you want to change the values of one or more of the starting parameters of your recording, press this button to gain access to the Time Setting parameters.



Time Signature

The first parameter shown selected (negative highlight) is the Time Signature:

TIME SETTING	
TIME SIGNATURE:	4/4
TEMPO:	120
CLICK VALUE:	100
COUNTDOWN	ON

Time Sign.	
	2\4
	3\4
	4\4
	5\4
	6\8
	9\8
	12\8

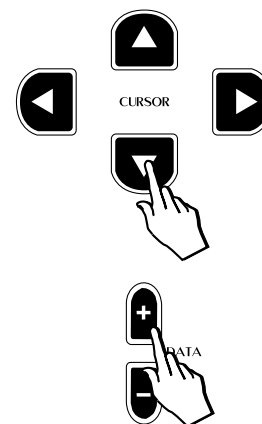
The default setting is 4/4, but with the DATA +/- buttons, you can select one of the settings listed in the table shown opposite.



Tempo

Press the Cursor Down button to select the Tempo parameter which determines the recording and playback speed of the song:

TIME SETTING	
TIME SIGNATURE:	4/4
TEMPO:	120
CLICK VALUE:	100
COUNTDOWN	ON

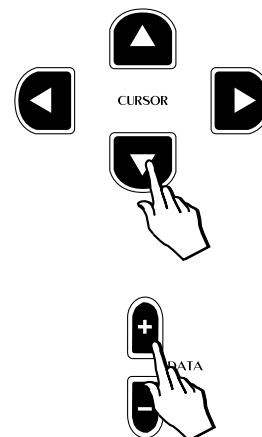


Use the Data +/- buttons to change the value. This parameter can also be changed in the main Recording Studio display (see page 65).

Click Volume

Press the Cursor Down button to select the Click volume parameter if you want to change the volume of the Metronome click:

TIME SETTING	
TIME SIGNATURE:	4/4
TEMPO:	120
CLICK VALUE:	100
COUNTDOWN	ON

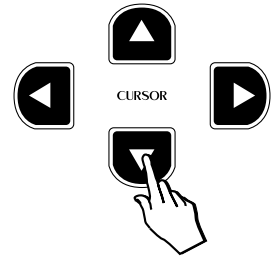


The default value is 100, the maximum setting.
Use the Data +/- buttons to change the value of the parameter.

Countdown

Press the Cursor Down button to select the Countdown parameter.

TIME SETTING	
TIME SIGNATURE:	4/4
TEMPO:	120
CLICK VALUE:	100
COUNTDOWN	ON



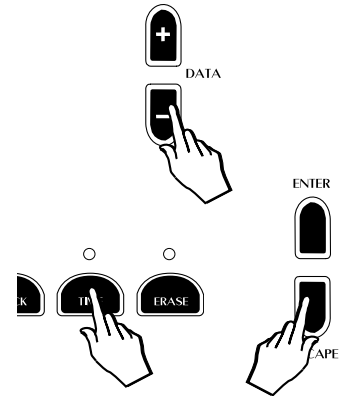
Here you can activate/deactivate the countdown measure.

When you press Play (or Pause) to start your recording after activating the sequencer, the Countdown measure gives you a one measure lead into the recording. No events are captured by the sequencer if you play during the one measure countdown.

If you prefer to record without the countdown measure (ON by default), press the DATA – button to deactivate the setting (Off).

If you record your tracks with the Countdown measure off, start playing as soon as you press Play (or Pause).

The display deactivates automatically after about 5 seconds, but you can close it by pressing the Tempo or Escape buttons.

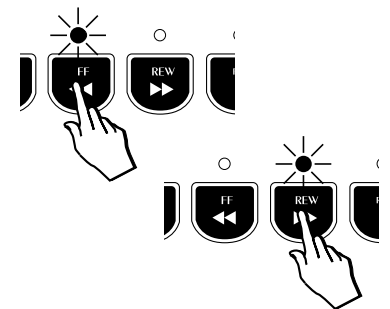


The FF and REW buttons

These two buttons allow you to “move” through a sequence from measure to measure. The REW button “rewinds” the sequence one bar at a time and the FF button advances at the same rate.

Holding either button down scroll forwards or backwards at a faster speed.

The REW and FF buttons can be used in the record and playback modes.

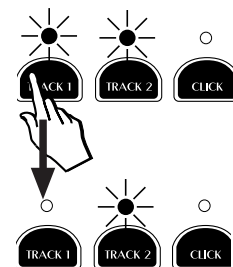


Muting the Tracks

While listening to a sequence, you can mute a Track by deactivating the corresponding button. In Playback mode, the LED of the tracks that contains data is shown on.

To mute a track, press the corresponding button. The LED turns off to show the muted status.

To reactivate the Track, simply press the button again (LED on).

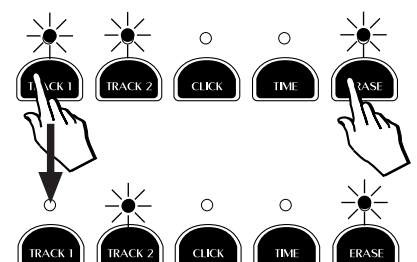


The Erase button

The Erase button allows you to cancel the events recorded in the sequencer tracks.

Press the Erase button then press the button of the track you wish to erase.

The LED of the button pressed goes off to indicate that the track is now empty.



Song Library

RP220 contains a large library of well known compositions taken from the vast repertoire of classical and traditional music.

The songs contained in the Song Library have been recorded with the scope of being used as study pieces; they contain little or no expression. These pieces are ideal for the student who can listen to and follow each composition, slowing down the tempo, muting tracks and activating the metronome.

Select a sequence from the Song Library

1. Press the Song Library button to access the main Song Library display.

The LED of the button turns on and the display cursor is shown positioned on the first parameter: Folder:

SONG LIBRARY	
FOLDER:	TEACHING
GROUP :	CESI_MARCIANO
TITLE :	CESI_0001
REPEAT:	OFF

2. With the Data +/- buttons you can scroll through the various categories within the folder (e.g. a composer's name, a collection, etc.).

At the same time, the Group and Title fields of the display update continually according to the Folder selected.

3. Once you have selected a category, pass down to the next parameter with the Cursor Down button: Group. This corresponds to a sub-directory of the selected folder.

SONG LIBRARY	
FOLDER:	TEACHING
GROUP :	CESI_MARCIANO
TITLE :	CESI_0001
REPEAT:	OFF

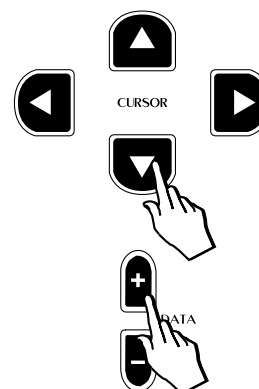
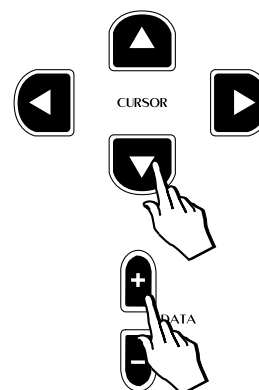
4. Use the Data +/- buttons to scroll through the various groups available inside the selected folder.

At the same time, the Title zone updates with every change of the Group category.

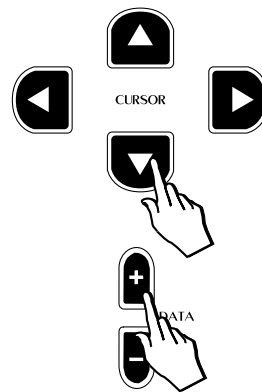
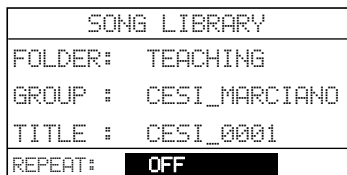
5. To select a different title within the selected group, move down to the Title field with the Cursor Down button and use the Data +/- buttons to scroll the various pieces available.

SONG LIBRARY	
FOLDER:	TEACHING
GROUP :	CESI_MARCIANO
TITLE :	CESI_0001
REPEAT:	OFF

For a complete list of the pieces contained in the Sound Library, refer to the Appendix.



6. With the Cursor Down button, select the last item of the display if you want to activate one of the three Repeat options available:



The default setting of Repeat is Off.

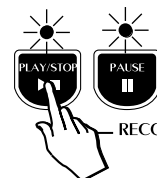
7. Use the Data +/- buttons to select the repeat option desired. The options available are:

- SINGLE:** the selected pieces repeats after playback;
- ALL:** All the sequences within the selected group repeat after playback;
- RANDOM:** the sequences available in the Library playback in random order.

The last selection made is memorized even after turning the instrument off.

To listen to a sequence from the Song Library

8. Once you have selected a sequence, press the Play/Stop button to start the playback. The display will change to the standard sequencer display showing the title of the sequence, the time signature, tempo and measure counter:



All the sequences available are two-track recordings, divided into left and right hand sequences.

While the sequence is playing, you can mute either left (Track1) or right hand (Track2) as required and play along with any Preset you wish.

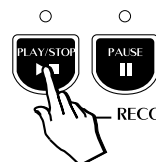


You can activate the Metronome, change the Tempo, use the REW/FF buttons and also Transpose (Transpose *b/#* buttons) the piece according to your requirements.

Playback continues till it reaches the end. If Repeat is off, the sequence stops and the display returns to the Song Library situation where you can select another piece.

If you have selected one of the Repeat options, playback continues depending on the option selected.

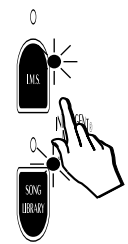
9. To stop the playback of the sequence playing, press the Play/Stop button.



Note: You'll find a list of Songs contained in the Song Library in Section 7 "Reference".

I.M.S.[®] Intelligent Music Search

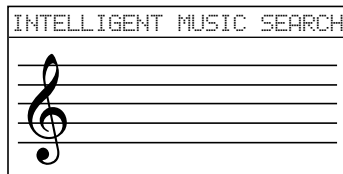
The Intelligent Music Search[®] function permits the automatic selection of the musical pieces stored in the Song Library by playing a short sequence of introductory notes at any playing speed and any key.



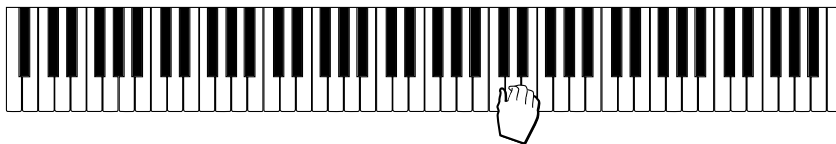
Select a piece with I.M.S.[®]

- 1 Press the I.M.S.[®] button.

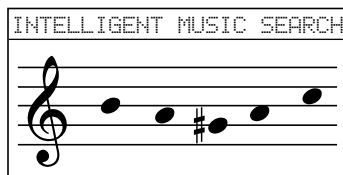
The display shows an empty musical staff:



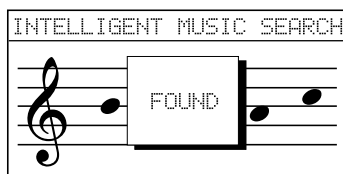
- 2 Play the first few notes of the piece you wish to hear.



Up to 8 notes can be played. Each note played is captured in the staff:



As soon as a musical piece has been recognized, even before playing all the 8 notes, the display shows the message "FOUND":

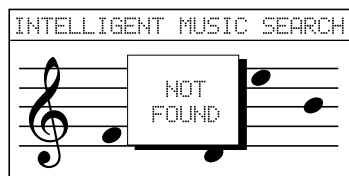


Shortly after, the display shows the corresponding Song Library display of the selected piece:



- 3 Press Play/Stop to start the playback of the selected piece.

The piece recalled using the I.M.S.[®] method will be recognized only if the sequence of notes is correct. If you make a mistake, the computer will search until it finds a piece corresponding to the notes played, or it will notify a failure with the message “NOT FOUND”.



In this case the empty staff is shown again in order that you may repeat the operation.

Note: You'll find a list of Songs contained in the Song Library in Section 7 "Reference".

Section 7

Reference

Songs contained in the Song Library

GROUP: 1. TEACHING

SUB-GROUP: 1.1 CESI MARCIANO

Title (*)	Time Sign	Note Pattern
CCESI 0001	4/4	E-G-F-D-C-E-D-C
CESI 0002	4/4	G-F-E-E-E-E-G-F
CESI 0003	4/4	G-G-D-D-E-F#-G-E
CESI 0004	4/4	G-A-B-C-B-A-G-G
CESI 0005	4/4	C-B-C-D-E-D-C-B
CESI 0006	3/4	G-C-E-G-E-D-A-B
CESI 0007	4/4	C-C-C-B-C-C-C#-D
CESI 0008	4/4	C-E-G-G-F-F-E-G
CESI 0009	4/4	C-E-C-E-G-E-C-G
CESI 0010	4/4	G-A-B-C-D-B-G-D
CESI 0011	4/4	A-Bb-A-G-A-G-F-A
CESI 0012	4/4	B-C-D-B-C-D-G-G
CESI 0013	4/4	G-F#-G-A-B-A-G-D
CESI 0014	4/4	B-C-A-G-A-B-D-C
CESI 0015	3/4	G-C-C-C-G-G-D-D
CESI 0016	4/4	G-G-F#-G-A-G-G-E
CESI 0017	3/4	C-C-C-C-B-A-A-A
CESI 0018	4/4	C-D-E-F-D-G-A-B
CESI 0019	4/4	E-D-C-D-E-F-G-F
CESI 0020	2/4	E-F-G-A-D-E-F-C
CESI 0021	4/4	G-B-A-G-A-B-G-G
CESI 0022	4/4	C-G-E-C-B-D-C-G
CESI 0023	6/8	G-G-G-A-D-C-B-G
CESI 0024	4/4	C-E-C-G-G-C-E-C
CESI 0025	3/4	G-F#-G-G-F#-G-G-F#
CESI 0026	3/4	C-D-C-F-C-C-C-C
CESI 0027	4/4	A-C-E-F-A-C-E-A

SUB-GROUP:1.2 LEBERT STARK

Title (*)	Time Sign	Note Pattern
LEBERT 0001	4/4	C-D-E-G-F-E-D-C
LEBERT 0002	4/4	G-E-E-F-G-B-B-A
LEBERT 0003	4/4	B-C-D-G-C-B-A-G
LEBERT 0004	4/4	D-G-G-C-G-F#-E-D
LEBERT 0005	4/4	C-B-C-A-E-B-E-B
LEBERT 0006	4/4	B-G-A-B-C-B-C-G
LEBERT 0007	4/4	D-F-E-G-F-E-D-E
LEBERT 0008	4/4	B-C-B-A-G-G-F#-C
LEBERT 0008	4/4	B-C-B-A-G-G-F#-C
LEBERT 0009	4/4	E-F-G-F-E-D-C-D
LEBERT 0010	4/4	G-E-D-C-B-F-E-D
LEBERT 0011	4/4	E-C-B-G#-B-A-G-F
LEBERT 0012	3/4	E-D-F-E-G-C-D-E
LEBERT 0013	4/4	E-E-F-E-D-C-C-B
LEBERT 0014	4/4	G-C-C-B-G-D-D-C
LEBERT 0015	4/4	B-D-F#-A-G-B-A-G
LEBERT 0016	4/4	E-D-C-B-C-D-F-E
LEBERT 0017	4/4	G-C-B-D-C-G-E-C
LEBERT 0018	4/4	A-B-C#-D-F-E-D-C#
LEBERT 0019	4/4	A-Bb-B-D-C-F-A-G
LEBERT 0020	3/4	G-B-A-C-B-D-C-B
LEBERT 0021	3/4	B-C-D-D#-E-F#-E-A
LEBERT 0022	4/4	A-B-A-B-C-D-C-A
LEBERT 0023	4/4	G-C-C-B-G-C-D-E
LEBERT 0024	4/4	B-C-D-C-B-C-A-B
LEBERT 0025	4/4	F-G-F-E-F-E-D-E
LEBERT 0026	3/4	E-G-E-A-E-F-A-F
LEBERT 0027	3/4	A-B-C-B-A-B-C-D
LEBERT 0028	4/4	D-E-F-E-G-F-E-D
LEBERT 0029	4/4	G-C-G-A-B-C-D-C
LEBERT 0030	6/8	G-E-G-E-D-E-D-C
LEBERT 0031	3/4	D-C-B-C-B-A-B-C
LEBERT 0032	4/4	E-B-A-G-F#-G-E-G

Title (*)	Time Sign	Note Pattern
LEBERT 0033	3/4	F#-A-F#-D-E-F#-A-F#
LEBERT 0034	4/4	F-G-A-Bb-C-Bb-A-G
LEBERT 0035	6/8	Eb-E-F-F#-G#-C#-D#-E
LEBERT 0036	3/4	C#-C-Bb-C#-C-F-C#-C
LEBERT 0037	4/4	E-A-G-A-B-C-B-E
LEBERT 0038	4/4	D-G-F#-G-A-D-A-G
LEBERT 0039	2/4	D-E-F-G-E-F-G-A
LEBERT 0040	3/4	G-E-C-F-B-D-G-C
LEBERT 0041	2/4	C-Bb-A-A-G-F-E-D
LEBERT 0042	6/8	C-E-F-A-G-F-E-D

SUB-GROUP:1.2 LEBERT STARK

Title (*)	Time Sign	Note Pattern
LEBERT 0043	4/4	E-A-A-G#-G#-A-B-B
LEBERT 0044	4/4	G-C-B-A-G-E-F-A
LEBERT 0045	3/4	D-G-F#-G-A-G-D-F#
LEBERT 0046	2/4	D-F-E-F-G-A-Bb-A
LEBERT 0047	3/4	E-B-D-C-B-A-E-B
LEBERT 0048	6/8	C-E-G#-A-F#-G-G-F
LEBERT 0049	6/8	D-E-D-C-B-C-B-A
LEBERT 0050	2/4	C-Bb-G-E-G-F-C-A
LEBERT 0051	4/4	G-F#-G-E-D-C-B-A
LEBERT 0052	6/8	E-C-B-A-D-C-B-A
LEBERT 0053	3/4	G-E-D-C-D-E-F-G
LEBERT 0054	2/4	E-C-B-B-Bb-B-E-D
LEBERT 0055	3/8	D-A-B-A-D-B-A-C
LEBERT 0056	3/8	C-A-C-F-C-D-Bb-D
LEBERT 0057	2/4	F#-G-B-F#-G-D-F#-G
LEBERT 0058	3/4	A-G-F-E-G-F-E-F
LEBERT 0059	4/4	G-E-C-G-A-G-E-C
LEBERT 0060	4/4	G-A-G-E-F-G-F-E
LEBERT 0061	3/4	G-E-C-E-F#-A-G-E
LEBERT 0062	3/4	A-G#-B-C-A-A-G#-B
LEBERT 0063	3/4	A-B-C-B-C-D-E-A
LEBERT 0064	3/4	C-E-D-C-Bb-A-C-Bb
LEBERT 0065	12/8	G-C-E-C-G-C-D-C
LEBERT 0066	6/8	C-E-G-D-E-C-G-A
LEBERT 0067	4/4	C-G-C-B-A-B-G-A

SUB-GROUP:1.3BARTOK

Title (*)	Time Sign	Note Pattern
MICROKOSMOS 01	4/4	C-D-E-F-E-D-E-F
MICROKOSMOS 02	4/4	C-D-E-D-E-F-G-F
MICROKOSMOS 03	4/4	A-G-F-E-F-G-A-G
MICROKOSMOS 04	4/4	B-C-D-C-D-E-D-C
MICROKOSMOS 05	4/4	A-B-C-D-C-B-A-B
MICROKOSMOS 06	4/4	G-A-B-C-B-A-B-A
MICROKOSMOS 07	4/4	B-A-G-A-G-F-E-B
MICROKOSMOS 08	4/4	E-E-E-F#-G-G-G-A
MICROKOSMOS 09	4/4	C-D-C-D-E-F-G-F
MICROKOSMOS 10	4/4	D-E-F-G-F-E-D-E
MICROKOSMOS 11	4/4	F-G-A-B-A-G-F-G
MICROKOSMOS 12	2/4	A-B-C-D-C-D-C-B
MICROKOSMOS 13	3/4	C-D-E-F-G-F-E-D
MICROKOSMOS 14	4/4	A-G-A-G-A-G-F-E
MICROKOSMOS 15	4/4	G-F#-E-D-C-D-D-C#
MICROKOSMOS 16	4/4	F-G-F-E-D-E-D-C
MICROKOSMOS 17	3/4	C-B-A-G-F#-G-A-B
MICROKOSMOS 18	4/4	A-G-A-G-D-E-F-G
MICROKOSMOS 19	4/4	D-E-C-E-D-E-C-D
MICROKOSMOS 20	4/4	G-A-D-D-C-G-G-A
MICROKOSMOS 21	3/4	A-B-C-B-C-D-C-A
MICROKOSMOS 22	4/4	B-C-D-E-D-C-D-E
MICROKOSMOS 23	4/4	D-E-F-G-A-G-F-E

Title (*)	Time Sign	Note Pattern
MICROKOSMOS 24	3/4	F#-E-D-E-D-E-D-E
MICROKOSMOS 25	2/4	B-C#-D-E-F-E-D-C#
MICROKOSMOS 26	4/4	D-E-F#-G-G-G-F#-E
MICROKOSMOS 27	4/4	C-B-A-B-A-B-C-D
MICROKOSMOS 28	4/4	B-A-G-A-G-F-E-B
MICROKOSMOS 29	4/4	E-F#-E-F#-G#-F#-E-F#
MICROKOSMOS 30	4/4	C-D-F-E-D-C-F-E
MICROKOSMOS 31	4/4	D-C-D-E-F-E-D-D
MICROKOSMOS 32	3/4	D-C-B-A-B-C-G-A
MICROKOSMOS 33	3/4	B-A-B-A-B-C-B-A
MICROKOSMOS 34	2/4	C-B-D-B-E-B-D-E
MICROKOSMOS 35	4/4	C-D-F-E-G-C-F-E
MICROKOSMOS 36	3/4	A-C-A-D-C-A-C-A
MICROKOSMOS 37	2/4	F-C-B-A-B-G-F-A
MICROKOSMOS 38	3/4	D-E-F#-F#-F#-F#-F#-E
MICROKOSMOS 39	4/4	A-A-A-A-G-F-G
MICROKOSMOS 40	2/4	E-B-E-B-E-B-E-B
MICROKOSMOS 41	6/8	D-E-F-E-D-B-C-E
MICROKOSMOS 42	4/4	A-C-E-C-A-B-E-B
MICROKOSMOS 43	4/4	D-F-E-G-F-A-G-E
MICROKOSMOS 44	2/4	G#-F#-G#-B-G#-F#-G#-B
MICROKOSMOS 45	2/4	G#-F-G#-F-G#-F-G#-C

SUB-GROUP:1.3 BARTOK

Title (*)	Time Sign	Note Pattern
MICROKOSMOS 46	4/4	E-F-E-E-F-E-E-A
MICROKOSMOS 47	2/4	A-E-G-D-E-A-D-G
MICROKOSMOS 48	5/4	G-B-D-C-A-G-B-D
MICROKOSMOS 49	6/8	G-A-B-C-A-B-C#-D
MICROKOSMOS 50	3/4	A-B-C#-D#-E-D-C#-B
MICROKOSMOS 51	6/8	D#-C#-A#-G#-A#-C#-D#-C#
MICROKOSMOS 52	4/4	D-B-D-G-A-B-F-G
MICROKOSMOS 53	2/4	A-B-C-G-F-E-D-C
MICROKOSMOS 54	6/8	E-F-F#-G-F#-F-F#-G
MICROKOSMOS 55	2/4	F-A-G-B-F-F-G-A
MICROKOSMOS 56	3/4	C-D-E-D-C-D-E-C
MICROKOSMOS 57	2/4	A-D-C#-B-A-D-D-C#
MICROKOSMOS 58	6/8	G-A#-G-C#-A-G-A#-C#
MICROKOSMOS 59	3/4	F-G-G#-A#-C-F-G-F
MICROKOSMOS 60	2/4	A-B-C#-D#-E-C#-E-D#
MICROKOSMOS 61	2/4	C-F#-G-D-C-F#-G-D
MICROKOSMOS 62	2/4	G-A#-G-A#-G-A#-G-A
MICROKOSMOS 63	4/4	F#-G-G-G-G-G-F#-G
MICROKOSMOS 64	2/4	E-F#-G-A-B-A-G-A
MICROKOSMOS 65	2/4	A-B-A-B-A-B-A-B

GROUP: 2. HARPSICHORD

SUB-GROUP: 2.1 SCARLATTI

Title (*)	Time Sign	Note Pattern
SONATA in Bmin	2/4	F#-D-B-B-A#-B-F#-B
SONATA in Emag	3/4	B-A-G#-A-D#-E-B-G#

SUB-GROUP: 2.2 PARADISI

Title (*)	Time Sign	Note Pattern
TOCCATA	2/4	A-E-C#-A-B-E-D-B

GROUP: 3. J.S. BACH

SUB-GROUP: 3.1 INVENZ 2 VOCI

Title (*)	Time Sign	Note Pattern
INVENZIONE01	4/4	C-D-E-F-D-E-C-G
INVENZIONE02	4/4	C-B-C-D-Eb-G-Ab-Bb
INVENZIONE03	3/8	D-E-F#-E-G-F#-E-D
INVENZIONE04	3/8	D-E-F-G-A-Bb-C#-Bb
INVENZIONE05	4/4	Eb-D-Eb-F-G-F-G-Ab
INVENZIONE06	3/8	E-D#-D-C#-B-A-G#-F#
INVENZIONE07	4/4	B-A-G-F#-G-E-B-A
INVENZIONE08	3/4	F-A-F-C-F-F-E-D-C

Title (*)	Time Sign	Note Pattern
INVENZIONE09	3/4	C-Bb-Ab-G-Ab-F-Db-C
INVENZIONE10	9/8	G-B-D-B-G-D-B-G
INVENZIONE11	4/4	D-E-F#-G-A-Bb-G-A
INVENZIONE12	12/8	A-G#-A-A-A-G#-A-A
INVENZIONE13	4/4	E-A-C-B-E-B-D-C
INVENZIONE14	4/4	Bb-C-D-C-Bb-F-D-Bb
INVENZIONE15	4/4	B-A#-B-F#-G-A-G-F#

SUB-GROUP: 3.2 WOHLTEMP KLAV

Title (*)	Time Sign	Note Pattern
PRAELUDIUM I	4/4	C-E-G-C-E-G-C-E
FUGE I	4/4	C-D-E-F-G-F-E-A
PRAELUDIUM II	4/4	C-Eb-D-Eb-C-Eb-D-Eb
FUGE II	4/4	C-B-C-G-Ab-C-B-C
PRAELUDIUM III	3/8	F-C#-G#-C#-F-C#-F#-C#
FUGE III	4/4	Ab-Bb-Ab-Gb-Ab-F-Db-Ab
PRAELUDIUM IV	3/4	G#-F#-E-D#-E-C#-C#-B
FUGE IV	4/4	C#-C-E-D#-C#-D#-E-D#
PRAELUDIUM V	4/4	D-E-F#-A-F#-E-D-A
FUGE V	4/4	D-E-F#-G-F#-E-F#-D
PRAELUDIUM VI	4/4	A-F-D-A-F-D-D-Bb
FUGE VI	3/4	D-E-F-G-E-F-D-C#
PRAELUDIUM VII	4/4	G-Ab-Bb-Ab-G-F-Eb-Db
FUGE VII	4/4	Bb-G-F-G-Eb-Ab-G-Ab
PRAELUDIUM VIII	3/4	Bb-Bb-Eb-Gb-B-Eb-Ab-B
PRAELUDIUM VIII	3/4	Bb-Bb-Eb-Gb-B-Eb-Ab-B
FUGE VIII	4/4	Eb-Bb-B-Bb-Ab-Gb-Ab-Bb
PRAELUDIUM IX	12/8	E-G#-B-E-D#-E-C#-D#
FUGE IX	4/4	E-F#-B-C#-D#-E-D#-E
PRAELUDIUM X	4/4	E-F#-E-D#-E-F#-E-F#
FUGE X	3/4	E-G-B-E-D#-E-D-E
PRAELUDIUM XI	12/8	F-C-A-G-A-C-F-A
FUGE XI	3/8	C-D-C-Bb-C-E-F-G
PRAELUDIUM XII	4/4	F-Ab-C-F-G-F-E-G
FUGE XII	4/4	C-Db-C-B-E-F-Bb-A
PRAELUDIUM XIII	12/8	F#-A#-C#-A#-F#-C#-C#-A#
FUGE XIII	4/4	C#-F#-F#-F#-D#-C#-D#
PRAELUDIUM XIV	4/4	C#-D-C#-B-D-C#-B-A
FUGE XIV	3/4	F#-G#-A-G#-A#-B-A#-G#
PRAELUDIUM XV	4/4	G-B-D-G-D-B-D-B
FUGE XV	6/8	G-A-G-F#-G-A-B-A
PRAELUDIUM XVI	4/4	Bb-D-C-Eb-Bb-D-A-C
FUGE XVI	4/4	D-Eb-G-F#-G-A-Bb-C
PRAELUDIUM XVII	3/4	Ab-G-Ab-C-Eb-Ab-Bb-Ab
FUGE XVII	4/4	Ab-Eb-C-Ab-F-Db-Eb-Db
PRAELUD-XVIII	6/8	G#-A#-B-G#-A#-C#-E-D#
FUGE XVIII	4/4	G#-G-G#-A#-B-A#-G#-D
PRAELUDIUM XIX	4/4	A-B-C#-A-F#-F#-F#-D#
FUGE XIX	9/8	A-G#-C#-A-D-B-E-C#
PRAELUDIUM XX	9/8	A-B-C-E-C-A-E-A
FUGE XX	4/4	A-G#-A-B-C-C-B-C
PRAELUDIUM XXI	4/4	Bb-F-D-F-A-F-C-F
FUGE XXI	3/4	F-G-F-Bb-D-C-A-G
PRAELUDIUM XXII	4/4	Bb-C-Db-Db-Db-C-Db-Eb
FUGE XXII	4/4	Bb-F-Gb-F-Eb-Db-C-Db
PRAELUD-XXIII	4/4	B-A#-B-C#-A#-B-C#-D#
FUGE XXIII	4/4	B-A#-B-C#-F#-G#-A#-B
PRAELUDIUM XXIV	4/4	F#-B-C#-F#-E-D-C#-B
FUGE XXIV	4/4	F#-D-B-G-F#-B-A#-E

GROUP: 4. W.A. MOZART

SUB-GROUP: 4.1 SONATA N.1

Title (*)	Time Sign	Note Pattern
ALLEGRO 1	4/4	E-G-C-C-B-D-C-E
ANDANTE 2	3/4	F-C-B-C-B-C-D-C
ALLEGRO 3	2/4	G-C-F-E-G-F-E-A

SUB-GROUP: 4.2 SONATA N.5

Title (*)	Time Sign	Note Pattern
ALLEGRO 1	3/4	D-B-D-G-F#-A-F#-A
ANDANTE 2	4/4	C-C-C-C-B-F-F-E
PRESTO 3	3/8	B-C-D-C-B-C-D-D

SUB-GROUP: 4.3 SONATA N.11

Title (*)	Time Sign	Note Pattern
ANDANTE 1	6/8	C#-D-C#-E-E-B-C#-B
MINUETTO	3/4	C#-E-A-E-C#-D-B-A
MINUETTO	3/4	C#-E-A-E-C#-D-B-A
ALLA-TURCA	2/4	B-A-G#-A-C-D-C-B

SUB-GROUP: 4.4 SONATA N.16

Title (*)	Time Sign	Note Pattern
ALLEGRO 1	4/4	C-E-G-B-C-D-C-A
ANDANTE 2	3/4	B-D-C-B-C-D-B-G
RONDO'	2/4	G-G-E-F-F-D-C-D

GROUP: 5. F. CHOPIN**SUB-GROUP: 5.1 ETUDES**

Title (*)	Time Sign	Note Pattern
ETUDE n.4	4/4	G#-F#-E-D#-C#-D#-C-C#
ETUDE n.5	2/4	F#-A#-C#-F#-D#-F#-C#-F#
ETUDE n.12	4/4	C-D-Eb-Eb-G-G-G-Ab

SUB-GROUP: 5.2 VARI

Title (*)	Time Sign	Note Pattern
FANTASIA IMPROM	4/4	G#-A-G#-G-G#-C#-E-D#
PRELUDE n.4	4/4	B-B-B-C-B-C-B-C

GROUP: 6. F. LISZT**SUB-GROUP: 6.1 LISZT**

Title (*)	Time Sign	Note Pattern
FRISKA	2/4	G-C-G-G#-G-A#-G#-G
LASSAN	2/4	C-C-C-Bb-C-Bb-C-Eb

SUB-GROUP: 6.2 ETUDES

Title (*)	Time Sign	Note Pattern
ETUDE 3	6/8	D#-D#-C#-B-B-A#-G#-G
ETUDE 4	2/4	E-G#-B-E-E-B-G#-E
ETUDE 5	2/4	B-A-G#-G#-F#-E-B-A

GROUP: 7. COLLECTION**SUB-GROUP: 7.1 BACH**

Title (*)	Time Sign	Note Pattern
MINUETTO	3/4	D-G-A-B-C-D-G-G

SUB-GROUP: 7.2 KUHLAU

Title (*)	Time Sign	Note Pattern
SONATINA IIMOV	3/8	E-C-G-G-E-C-G-G

SUB-GROUP: 7.3 BIZET

Title (*)	Time Sign	Note Pattern
OVERTURE	2/4	A-A-A-A-E-D-E-A
HABANERA	2/4	D-C#-C-C-C-B-Bb-A
FARANDOLE	4/4	D-A-D-E-F-E-F-D

SUB-GROUP: 7.4 SAINSSAENS

Title (*)	Time Sign	Note Pattern
DANZA MACABRA	3/4	G-Bb-G-A-Bb-A-Bb-G

SUB-GROUP: 7.5 VERDI

Title (*)	Time Sign	Note Pattern
DANZA dei MORETTI	4/4	G-G-D-F-C-Eb-Bb-D
LE ZINGARELLE	4/4	A#-B-G-A#-B-G-E-E
DONNA MOBILE	3/8	Eb-Eb-Eb-Gb-E-Db-Db-Db
MARCIA TRIONF	4/4	Eb-Ab-Bb-Eb-Bb-C-C-C

SUB-GROUP: 7.6 BRAHMS

Title (*)	Time Sign	Note Pattern
DANZA HUNG n.5	2/4	C#-F#-A-F#-F#-G#-F#
DANZA HUNG n.6	2/4	C#-G#-G#-A#-G#-G-A#-G#

SUB-GROUP: 7.7 CIAJKOWSKI

Title (*)	Time Sign	Note Pattern
DANZA della FATA	2/4	G-E-G-F#-D#-E-D-D

SUB-GROUP: 7.8 DELIBES

Title (*)	Time Sign	Note Pattern
VALZER COPPELIA	3/4	G-Bb-Eb-F-D-C-D-Bb

SUB-GROUP: 7.9 MARENCO

Title (*)	Time Sign	Note Pattern
GALOP	2/4	Bb-Bb-Bb-Eb-Bb-G-Bb-C

SUB-GROUP: 7.10 SUPPE'

Title (*)	Time Sign	Note Pattern
IL POETA	4/4	F#-F#-F#-F#-A-A-A-D
IL CONTADINO	4/4	Bb-D-C-Bb-A-G-F-Eb

SUB-GROUP: 7.11 SHUBERT

Title (*)	Time Sign	Note Pattern
IMPROMP op.90	3/4	A#-G-A#-G#-G-F-D#-D

SUB-GROUP: 7.12 HAENDEL

Title (*)	Time Sign	Note Pattern
PASSACAGLIA	4/4	D-Eb-C-D-Eb-Eb-D-Eb

SUB-GROUP: 7.13 BEETHOVEN

Title (*)	Time Sign	Note Pattern
FUR ELISE	3/8	E-D#-E-D#-E-B-D-C
MOONLIGHT SONAT	4/4	G#-C#-E-G#-C#-E-G#-C#

SUB-GROUP: 7.14 MENDELLSOHN

Title (*)	Time Sign	Note Pattern
RONDO' CAPRIC	4/4	G#-E-B-B-C#-D#-C#-C

SUB-GROUP: 7.15 MUSSORGSKY

Title (*)	Time Sign	Note Pattern
PROMENADE	5/4	G-F-Bb-C-F-D-C-F

SUB-GROUP: 7.16 BOCCHERINI

Title (*)	Time Sign	Note Pattern
MINUETTO	3/4	A-B-A-G#-A-B-A-A

GROUP: 8. XX CENTURY**SUB-GROUP: 8.1 SATIE**

Title (*)	Time Sign	Note Pattern
GYMNOPIEDIE n.1	3/4	F#-A-G-F#-C#-B-C#-D
GYMNOPIEDIE n.2	3/4	G-A-G-F-E-F-G-D
GYMNOPIEDIE n.3	3/4	A-G-F-E-D-E-F-E

SUB-GROUP: 8.2 C. DEBUSSY

Title (*)	Time Sign	Note Pattern
CATHEDRAL	6/4	D-D-E-B-D-E-D-D
LE VENT DANS	4/4	A#-B-A#-B-A#-B-A#-B
CORTEGE	4/4	G#-A-G#-F#-E-F#-G#-A#

ENGLISH**SUB-GROUP: 8.3 RAVEL**

Title (*)	Time Sign	Note Pattern
BOLERO	3/4	C-B-C-D-C-B-A-C
PAGODE	2/4	F#-D#-C#-D#-A#-F#-C#-D#

SUB-GROUP: 8.4 KHACATURIAN

Title (*)	Time Sign	Note Pattern
DANZAdelleSPADE	4/4	F#-F#-F#-F#-F#-F#-F#-F#

SUB-GROUP: 8.5 DEFALLA

Title (*)	Time Sign	Note Pattern
EL AMOR BRUJO	4/4	Bb-Bb-C-C#-D#-C#-C-Bb

SUB-GROUP: 8.6 JOPLIN

Title (*)	Time Sign	Note Pattern
MAPLE LEAF RAG	2/4	Ab-Eb-Ab-C-Eb-G-Eb-G
THE ENTERTAINER	2/4	D-D#-E-C-E-C-E-C

GROUP: 9. U.S.A.**SUB-GROUP: 9.1 TRADITION**

Title (*)	Time Sign	Note Pattern
SILENT NIGHT	3/4	G-A-G-E-G-A-G-E
TWINKLE TWINKLE	2/4	C-C-G-G-A-A-G-F
BRAHMS LULLABY	3/4	E-E-G-E-E-G-E-G
AMAZING GRACE	3/4	G-C-E-C-E-D-C-G
WHEN THE SAINTS	2/4	C-E-F-G-C-E-F-G
O CANADA	4/4	E-G-G-C-D-E-F-G
BLUES	4/4	D-E-G-G-E-B-D-E
BLSD ASSURANCE	3/4	C#-B-A-E-E-D-E-F#
MY OLD KY HOME	4/4	G-A-B-B-G-A-B-C
NEARER MY GOD	3/4	G#-F#-E-E-C#-C#-B-E
O HOLY NIGHT	6/8	E-E-E-G-G-A-A-F
POWER IN THE BLD	4/4	C-C-D-C-C-C-D-D
AMERICA	3/4	G-G-E-E-G-G-D-D
ROCK A BYE BABY	3/4	E-G-E-D-C-E-G-C
GOD REST YE	4/4	E-E-B-B-A-G-F#-E

Technology

The **RP220** features five unique applications of sound design technology including “physical models” to simulate the internal characteristics of a piano soundboard.

Natural String Resonance

This physical model technology, patented by Generalmusic as “*Natural String Resonance*”, allows all of the complex harmonics normally produced by the piano soundboard to be faithfully reproduced. This means that a note’s individual sound will always be slightly different depending upon which other notes are currently being held, (and consequently which strings are un-damped and free to resonate in sympathy). If you hold a low “C” and let the note decay, the strings for that note are still un-damped for as long as the key remains depressed. If you now strike another “C” higher up the keyboard, (staccato), you will hear the sympathetic resonance of the low “C” strings in response to the new note played. This natural effect replicates exactly what happens on a grand piano. If you experiment with different combinations of notes you will hear harmonic colours particular to each. Because this effect is produced by physical models and not by samples or DSP effects, the result is a musically and technically accurate simulation of a piano’s soundboard and virtually infinite combinations of harmonics can be produced.

Soundboard Simulation

This new and revolutionary Physical Model, patented by Generalmusic as “Soundboard Simulation”, allows real time simulation of a grand piano’s soundboard, giving the digital piano sound of the RP220 a warm and natural aspect never before possible to reproduce in a digital piano.

3D DSP

A new and exclusive spatializing algorithm, created by Generalmusic in collaboration with the C.S.C. laboratory of Padua University. Thanks to this new complex algorithm, RP220 breaks the standard concept of left and right channels, opening the stereo panorama so that the general sound speaks with greater definition and clarity, while thanks to the dynamic pan, the sound of each note changes position as occurs in an acoustic grand piano.

Damper Physical Model

This technology is patented by Generalmusic as “*Damper Physical Model*”. When the damper pedal is depressed, the damper physical model will simulate the effect of sympathetic resonances being produced by the un-damped strings. You can hear the effect of the Damper Physical Model by comparing the sounds of notes played in the highest octave of the instrument with and without the damper pedal depressed.

Advanced Release Technology

This technology, applied to the piano sounds in the RP220, is called “*Advanced Release Technology*”, (patent pending). Sample based electronic pianos traditionally use envelope generators to control what happens when a key is released. This simply allows the sample loop to continue for a set period of time until its amplitude is reduced to zero by the envelope generator. In an acoustic piano, vibrating strings are silenced by the action of a damper making contact with the string. When this happens, depending on the velocity with which the key was struck and the length of the string itself, certain frequencies are damped earlier than others producing a distinctive harmonic “ring” as the different frequencies in the string’s tone dissipate throughout the piano soundboard. The ART in the RP220 simulates this feature with precise accuracy throughout the 88 note range.

RP220 Technical Specifications

Keyboard	88 keys with dynamic hammer action and escapement
Polyphony	128 Voices
Sounds	64 Preset + 64 programmable User Preset,
Operating Modes	Single - Split - Layer
General Controls	Volume, Transpose, Master EQ, 3D, Touch Sensitivity, Balance, Demo, Preset Equalizer.
Edit	Sound Program, Sound Volume, Section Transpose, Rev.Parameter, Reverb Send A\B sounds, EFX Send A\B Sounds, EFX Parameter 1, EFX Parameter 2, Microtuning, Auto-Wha, Detune, Delay, Damper Assign.
Display	128 x 64 pixel, graphic (backlit).
Digital Effects	2 separate Digital Effects : 16 Reverb, 16 Modulation with separate Send Level, 4-Band EQ
Physical Models	Damper Physical Model, Sound Board simulation, 3D DSP, Natural String Resonance, Advanced Release Technology
Recording Studio	1 song, 60.000 events, Play/Stop, Pause, REW/FF, Rec, Click, Time, Erase I.M.S. (Intelligent Music Search), Song Library
MIDI	16 channels, Midi Mode, Dump.
Connectors	2 Headphones, Damper, Soft, Sostenuto, Computer (PC1, PC2, Apple), MIDI In/Out/Thru, Stereo input, Stereo output.
Amplification	70 W + 70 W
Speakers	3 Way speaker system - 2 Woofers, 2 Full Range, 2 Tweeters
Accessories	Optional Bench
Notes	Operating system in Flash ROM memory

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RP220

RealPiano DIGITAL

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 **GEM**
by GENERALMUSIC

RP220 PRESETS/USER PRESETS TABLE

N.	Internal Preset	N	User Preset
	GROUP PIANO		GROUP PIANO
1	GRAND PIANO	65	GRAND PIANO 2
2	ELECT.GRAND	66	CUSTOM GRAND
3	UPRIGHT PIANO	67	ROCK PIANO
4	HONKY TONKY	68	HONKY TONKY 2
5	CHORUS PIANO	69	EFX PIANO
6	STRING PIANO	70	POP PIANO
7	JAZZ PIANO	71	JAZZ PIANO 2
8	ELECTRIC DUO	62	ELECTRIC SPLIT
	GROUP EL. PIANO		GROUP E. PIANO
9	RHODEX 1	73	RHODEX 4
10	WURLIE	74	SYNT WURLIE
11	RHODEX 2	75	HARD RHODEX
12	RHODEX 3	76	FM PIANO 2
13	RHODEX PAD	77	MIX RHDEX
14	MIXED FM	78	MIXED FM 2
15	RHODEX BASS	79	RHODEX BASS 2
16	SHUFFLE DUO	80	WURLIE RHODEX
	GROUP KEYBOARD		GROUP KEYBOARD
17	HARPSICHORD	81	HARPSICHORD 2
18	CLAVINET	82	SUPER CLAVI
19	CELESTA	83	CELESTA DROPS
20	GRAND HARP	84	GRAND HARP 2
21	MIXED CELESTA	85	MIXED HARP 2
22	PIANO HARP	86	MIXED CELESTA 2
23	CONTINUM	87	PIANO HARP 2
24	SPLIT HARP	88	HYBRID PIANO 2
	GROUP ORGAN		GROUP ORGAN
25	JAZZ ORGAN	89	POP ORGAN 2
26	POP ORGAN	90	JAZZ ORGAN 2
27	THEATRE ORGAN	91	ROCK ORGAN
28	PIPE ORGAN	92	PIPE 2
29	DRAWBARS	93	DRAWBARS 2
30	PIANORGAN	94	PIANORGAN 2
31	ORGAN COMBO 1	95	ORGAN COMBO 3
32	ORGAN COMBO 2	96	ROCK COMBO
	GROUP STRINGS		GROUP STRINGS
33	STRINGS	97	CONCERTO GROSSO
34	MARCATO STRING	98	SYNT STRING
35	SLOW STRING	99	STRINGTHIN
36	SLOW STRING 2	100	STRINGHARP
37	STRINGBELL 1	101	STRINGRHODEX
38	STRINGBELL 2	102	STRINGBELL 3
39	SIMPHONIC	103	SIMPHONIC 2
40	CONCERTO	104	CONCERTO 2
	GROUP CHOIR/PAD		GROUP CHOIR/PAD
41	CHOIR 1	105	CHOIR PAD
42	SLOWCHOIR	106	CHOIR BELL
43	ATTACK PAD	107	SINT HORN
44	TAP PAD	108	CLAIRE DE LUNE
45	MIXPAD 1	109	MIXPAD 3
46	MIXPAD 2	110	MIXPAD 4
47	RAIN PAD	111	RAIN PAD 2
48	BARCIME PAD	112	BARCIME PAD 2
	GROUP GUITAR		GROUP GUITAR
49	NYLON GUITAR	113	NYLONPAD
50	STEEL GUITAR	114	12 STRING 2
51	JAZZ GUITAR	115	JAZZ DUO
52	STRATO GUITAR	116	STRATO PAD
53	HARPTAR	117	GUITAR DROPS
54	12 STRING 1	118	MIX GUITAR 2
55	WES COMBO	119	GUITAR COMBO 3
56	COUNTRY DUO	120	ACOUSTIC DUO
	GROUP VIBES		GROUP VIBES
57	VIBES 1	121	VIBES DROPS
58	VIBES 2	122	VIBES RHODEX
59	MARIMBA	123	VIBRIMBA
60	XYLOPHONE	124	WURLIMBA
61	VIBES HARP	125	VIBESTHARP 2
62	VIBES PIANO	126	VIBES PAD 2
63	VIBES COMBO 1	127	VIBES DUO 1
64	VIBES COMBO 2	128	VIBES DUO 2

MIDI IMPLEMENTATION CHART

MANUFACTURER

Date 03/07/2000

GENERALMUSIC S.p.A.

MODEL: RP220

Version 1:00

FUNCTION		Transmitted	Recognized	Remarks
Basic	Default	1	1	
Channel	Changed	1-16	1-16	
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	*****	X	
Note		9-120	9-120	
Number	True Voice	*****	9-120	
Velocity	Note ON	o	o	
	Note OFF	o	o	
After	Key's	x	x	
Touch	Ch's	x	x	
Pitch Bender		x	x	
Control		0 Bank select MSB		
Change		7 Volume	7 Volume	
		64 Damper pedal	64 Damper pedal	
		66 Sostenuato	66 Sostenuato	
		67 Soft pedal	67 Soft pedal	
			91 Reverb send	
			93 Effect send	
			117 (key on)	(1)
			118 (key off)	(1)
			120 All sound off	
		121 Reset all controllers	121 Reset all controllers	
Program		0-127	0-127	(2)
Change	True number	*****	0-127	
System Exclusive		o	o	
System	Song Position	x	x	
	Song Select	x	x	
Common	Tune	x	x	
System	Clock	o	o	
Real Time	Commands	o	o	
Aux	Local On/Off	x	x	
Messages	All Notes Off	o	o	
	Active Sensing	o	o	
	Reset	x	x	

NOTES (1) On Common channel, these messages are interpreted as Generalmusic Special Control messages. See table on the next page.
 (2) Cn xx (0 ≤ 'xx' ≤ 64 select Single sounds when MIDI MODE is DUAL Channel.
 Cn xx (0 ≤ 'xx' ≤ 127 select preset combinations when MIDI MODE is Common Channel.

o = YES; x = NO

Special Control Change messages

Special Control Changes

RP 220 KEYS selection

Bn 75 00	Push key DEMO	Bn 76 00	Release key DEMO
Bn 75 01	Push key GENERAL	Bn 76 01	Release key GENERAL
Bn 75 02	Push key TRANSPOSE b	Bn 76 02	Release key TRANSPOSE b
Bn 75 03	Push key MASTER EQ	Bn 76 03	Release key MASTER EQ
Bn 75 04	Push key TRANSPOSE #	Bn 76 04	Release key TRANSPOSE #
Bn 75 05	Push key 3D DSP	Bn 76 05	Release key 3D DSP
Bn 75 06	Push key PIANO 1	Bn 76 06	Release key PIANO 1
Bn 75 07	Push key 1	Bn 76 07	Release key 1
Bn 75 08	Push key EL PINAO	Bn 76 08	Release key EL PINAO
Bn 75 09	Push key 2	Bn 76 09	Release key 2
Bn 75 0A	Push key KEYBOARD	Bn 76 0A	Release key KEYBOARD
Bn 75 0B	Push key 3	Bn 76 0B	Release key 3
Bn 75 0C	Push key ORGAN	Bn 76 0C	Release key ORGAN
Bn 75 0D	Push key 4	Bn 76 0D	Release key 4
Bn 75 0E	Push key STRINGS	Bn 76 0E	Release key STRINGS
Bn 75 0F	Push key 5	Bn 76 0F	Release key 5
Bn 75 10	Push key CHOIR	Bn 76 10	Release key CHOIR
Bn 75 11	Push key 6	Bn 76 11	Release key 6
Bn 75 12	Push key GUITAR	Bn 76 12	Release key GUITAR
Bn 75 13	Push key 7	Bn 76 13	Release key 7
Bn 75 14	Push key VIBES	Bn 76 14	Release key VIBES
Bn 75 15	Push key 8	Bn 76 15	Release key 8
Bn 75 16	Push key GRANDPIANO	Bn 76 16	Release key GRANDPIANO
Bn 75 17	Push key PRESET	Bn 76 17	Release key PRESET
Bn 75 18	Push key ESCAPE"	Bn 76 18	Release key ESCAPE"
Bn 75 19	Push key ENTER!	Bn 76 19	Release key ENTER!
Bn 75 1A	Push key DATA -	Bn 76 1A	Release key DATA -
Bn 75 1B	Push key DATA +	Bn 76 1B	Release key DATA +
Bn 75 1C	Push key UP!	Bn 76 1C	Release key UP!
Bn 75 1D	Push key LEFT\$	Bn 76 1D	Release key LEFT\$
Bn 75 1E	Push key DOWN "	Bn 76 1E	Release key DOWN "
Bn 75 1F	Push key RIGHT #	Bn 76 1F	Release key RIGHT #
Bn 75 20	Push key SPLIT	Bn 76 20	Release key SPLIT
Bn 75 21	Push key BALANCE -	Bn 76 21	Release key BALANCE -
Bn 75 22	Push key LAYER	Bn 76 22	Release key LAYER
Bn 75 23	Push key BALANCE +	Bn 76 23	Release key BALANCE +
Bn 75 24	Push key REVERB	Bn 76 24	Release key REVERB
Bn 75 25	Push key EQUALIZER	Bn 76 25	Release key EQUALIZER
Bn 75 26	Push key EFFECT	Bn 76 26	Release key EFFECT
Bn 75 27	Push key TOUCH	Bn 76 27	Release key TOUCH
Bn 75 28	Push key PERF EDIT	Bn 76 28	Release key PERF EDIT
Bn 75 29	Push key STORE	Bn 76 29	Release key STORE
Bn 75 2A	Push key PLAY/STOP	Bn 76 2A	Release key PLAY/STOP
Bn 75 2B	Push key RECORD	Bn 76 2B	Release key RECORD
Bn 75 2C	Push key SONG LIBRARY	Bn 76 2C	Release key SONG LIBRARY
Bn 75 2D	Push key I.M.S.	Bn 76 2D	Release key I.M.S.

FEDERAL COMMUNICATIONS COMMISSION

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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 instrument does cause harmful interference to radio or television reception, which can be determined by turning the instrument 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 the 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.

CAUTION: Changes or modifications to this product not expressly approved by the manufacturer could void the user's authority to operate this product.

GENERALMUSIC Code 271310

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Specifiche soggette a cambiamento senza preavviso.
Änderungen -auch ohne Vorankündigung- sind vorbehalten.
Les spécifications sont sujettes à modifications sans préavis.

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