Baldwin Pianovelle RPStudio

Introduction

Thanks for purchasing a Baldwin ***RPStudio***, a high quality product that employs the most advanced technology available to produce real Piano sounds.
Although ***RPStudio*** is very easy to use, you are recommended to consult this manual whenever you are not sure what to do. Of most importance is,of course, how you treat your ***RPStudio***. Do not forget, therefore, to read the General Safety Instructions below to guarantee a long and trouble free use of your instrument.

General safety instructions

Power source

- Be sure that your local AC mains 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.

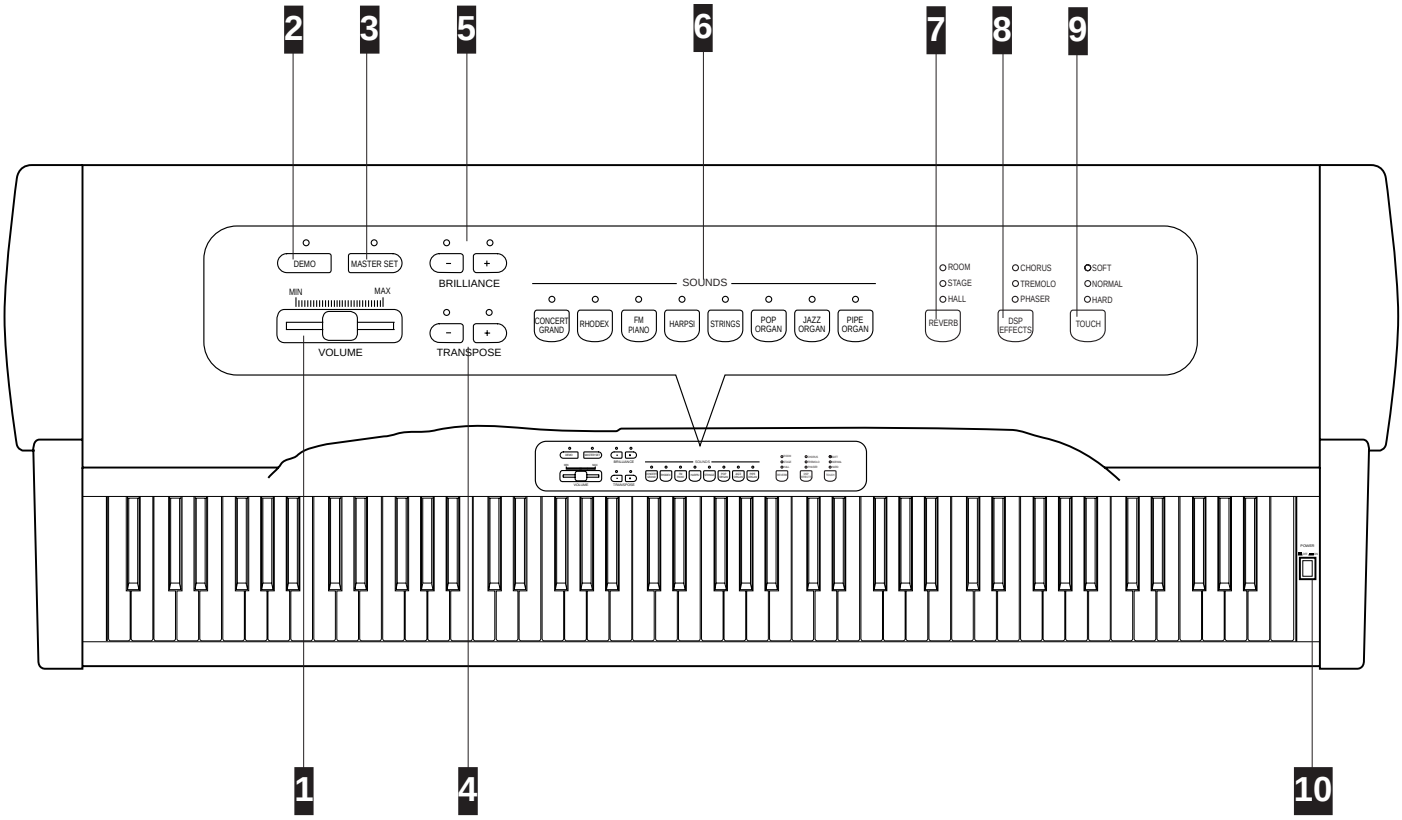
If the instrument plays in an abnormal way

- Turn off the power immediately, remove the power cord from the mains 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

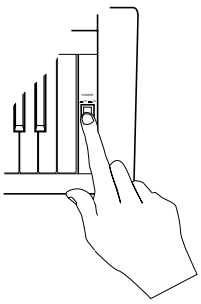
- Clean the cabinet and keys of your RPS using a soft, clean, slightly damp cloth and polish with a soft, dry cloth.
- Never use industrial cleaners, detergents, abrasive cleansers, waxes, solvents or polishes as they may damage the instrument finish.
- Always turn off the power supply after use and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

Instrument Overview



1 VOLUME	Controls the general volume of the instrument.
2 DEMO	Activates a demonstration song consisting of 8 songs chained together.
3 MASTER SET	Gains access to functions which control various aspects of the instrument: Tune, Temperaments, Layer Balance, MIDI Transmit, MIDI Receive, MIDI Local, MIDI Filters.
4 TRANSPOSE	Increases (+ button) or decreases (- button) the general pitch of the instrument within a range of ± 12 semitones.
5 BRILLIANCE	Provides three settings which affect the tonal quality of a Sound : Mellow, Normal, Bright.
6 SOUNDS BUTTONS	Select the Sounds. Press one button to play a single Sound across the entire keyboard (Single mode). Select two buttons to layer two sounds across the entire keyboard (Layer mode).
7 REVERB	Provides a selection of Reverb effects. A “bypass” is also available when all led indicators are off.
8 DSP EFFECTS	Provides a selection of modulation Effects. A “bypass” is also available when all led indicators are off.
9 TOUCH	Gains access to a selection of velocity curves which influence the keyboard sensitivity: Soft, Normal, Hard.
10 POWER SWITCH	Press to turn the instrument on and off.
MEMORY	**RPS** contains an EEPROM type memory which conserves some instrument settings even after turning off (e.g. Master Set parameters).

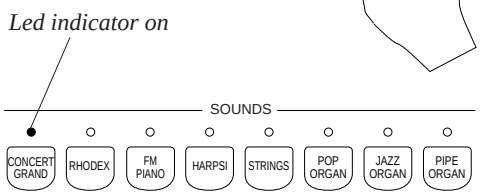
Getting Started



1. Insert the power cord into an appropriate wall outlet.

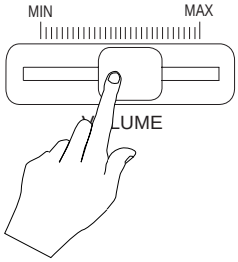
2. Press the POWER switch to turn on the instrument.

The instrument will be set to play the Concert Grand Sound across the entire keyboard. The relative led indicator of the Sound in the Sounds section will be on.



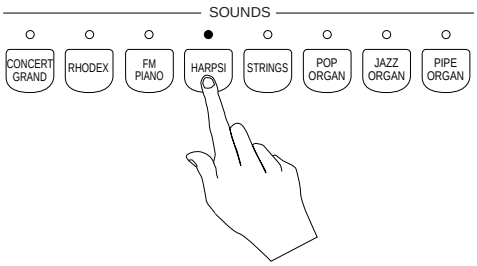
3. Play on the keyboard and regulate the Volume.

• Set the general volume of the instrument to an appropriate level by regulating the VOLUME slider to about the half way mark.
• **Note**: No sound will be heard when the VOLUME slider is set to the MIN position.



4. Select and play single RPS Sounds

The RPS Sounds are presets permanently resident in the instrument's ROM and recalled by pressing the relative Sound buttons.
• Press the Sound buttons one after the other to listen to the individual Sounds.
• Each newly selected Sound cancels the previous one.
Playing one Sound only corresponds to **SINGLE MODE** playing.
Pianovelle presets include the following type of Sounds:
• Concert Grand, Rhodex, FM Piano, Harpsichord, Strings, Pop Organ, Jazz Organ and Pipe Organ.
Note on the Polyphony: The Sound you are playing in Single mode has a minimum of 32 note polyphony [meaning that you can play at least 32 notes at the same time]. Some RPS Sounds are 64 note polyphonic.
See "Layer Mode" afterwards to find out what happens to the polyphony.

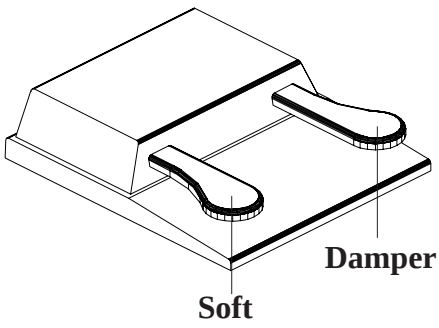


5. Play using the pedals

Pianovelle is equipped with two pedals: Soft and Damper.

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

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. In the case of Organ and Strings sounds, the notes will be held for as long as the Damper is depressed.
• **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.



***Important**: Before using the pedals, make sure that the pedal cable is correctly inserted in the appropriate socket (PEDAL SWITCH) at the back of the instrument. If you want to use a single pedal, insert the jack into the DAMPER socket.*

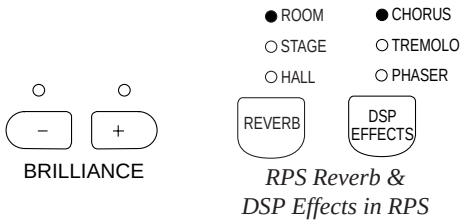
Damper Reproduction

Thanks to the research carried out by Baldwin in physical modelling and its applications to the Damper Pedal, it is possible to obtain a full-bodied sound, typical of acoustic pianos which produce a sympathetic strings resonance when all the dampers are raised from the strings.
• **Note**: Research in Damper Physical Modelling and its applications is the result of collaboration between Baldwin and the CSC department of the University of Padova.

6. Set the Brilliance and add Reverb and/or DSP Effects as required

You can change the tone (BRILLIANCE) of your Sounds and render them more realistic by adding various effects (REVERB, DSP EFFECTS). These functions are discussed separately further ahead.

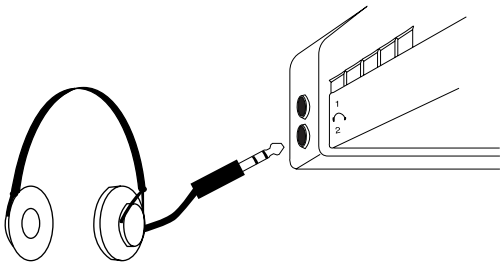
• **Note**: Brilliance does not affect all RPS Sounds: e.g. Organ Sounds.



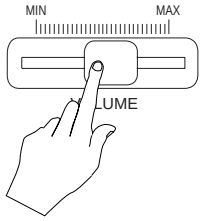
RPS Reverb & DSP Effects in RPS

7. Playing with Headphones

You can play in total silence without disturbing others in the same room by plugging a set of headphones into one of the appropriate sockets, located directly under the keyboard on the left side of the instrument. Two sets of headphones can be used.



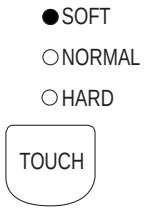
Regulating the Volume when playing with Headphones
• Use the VOLUME slider.



• **Note**: Inserting a headphone jack into the **upper** Phones socket disconnects the internal speaker system. Inserting a headphone jack into the **lower** Phone socket does not affect the internal amplification.
External amplification, if connected, is not affected by inserting headphones into the phones sockets.

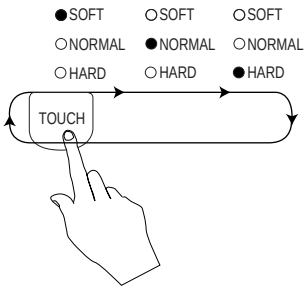
8. Adjust the Keyboard Sensitivity with the Touch function

You can choose from three different keyboard sensitivity settings, commonly known as velocity or dynamic curves, to suit your style of playing.
The choices are: **SOFT**, **NORMAL** and **HARD**.



The Touch button has three settings which are selected in a cycle by pressing the button repeatedly.

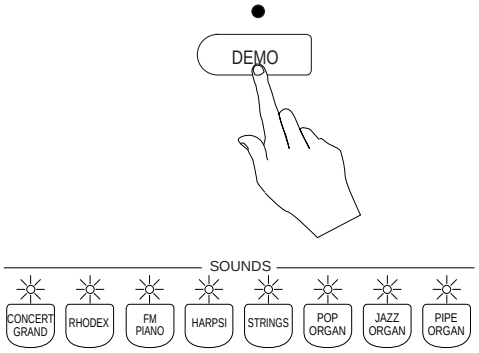
SOFT	The most sensitive keyboard response which permits maximum sound levels with a light touch.
NORMAL	An intermediate response suitable for most styles of music.
HARD	A not so sensitive keyboard response which requires a heavier touch to obtain maximum sound levels.



Listen to the demonstration songs

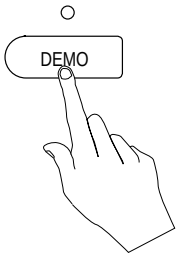
Pianovelle has 8 demonstration songs permanently resident in memory which demonstrate the instrument's capabilities. The songs are composed of 8 well known pieces (classic and modern).
In Demo Song mode, the Sound section activates as a source of demo songs where each piece resides in a Sound button. The songs are chained automatically or they can be played individually by selecting the relative sound button.

How to listen to the demo chain song



1. Press the DEMO button to start the Demo Songs.

• The led above the Demo button turns on and all the leds of the Sounds section start to flash for a few seconds.
• If no Sound button is pressed while the leds are flashing, the demo Song starts automatically and plays all 8 songs in order, starting from the Song stored in the Concert Grand slot.
• While the song plays, the Volume can be regulated.
Note: No other button (other than the Sound buttons) is active during demo song playback mode.
• When the chained song reaches the end, it starts from the beginning automatically and continues to repeat until stopped.



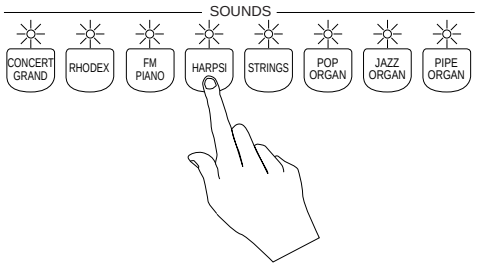
2. To stop the Demo song at any point, press the DEMO button.

• The led above the button turns off and the instrument returns to the SINGLE mode, with CONCERT GRAND selected.

How to select a single Demo song

1. Press the DEMO button.

2. Press one of the Sound buttons (e.g. Harpsi).



• A Demo song is triggered while the leds are still flashing.
While the song plays, the Volume can be regulated.
• When the song reaches the end, the next song in order starts after a short pause.
• You can change song by pressing another Sound button.

3. To stop the Demo song at any point, press the DEMO button.

• The led above the button turns off and the instrument returns to the SINGLE mode, with CONCERT GRAND selected.

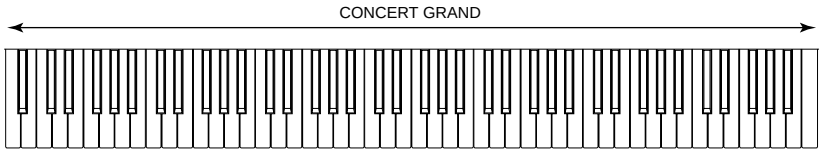
Play Modes

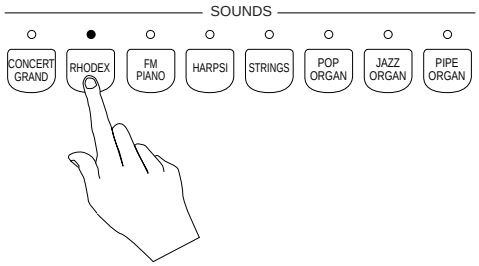
The **Pianovelle** Sounds can be selected to play in two different ways, called Play Modes: SINGLE, LAYER.

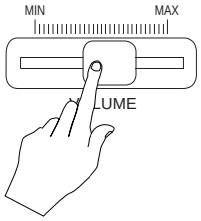
Single Mode

Press a Sound button to select Single mode

This playing mode corresponds to the situation when a single Sound plays across the entire keyboard range (described on page 4). Each time you select a different Sound, the previous one is cancelled.



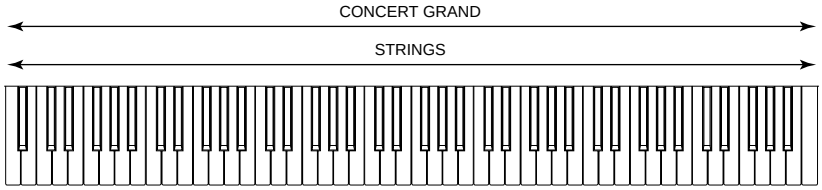




- Press any other Sound button to change Sound.
- Use the VOLUME slider to regulate the overall volume.

Layer Mode

This playing mode allows you to combine two Sounds to play at the same time (superimposed) across the entire keyboard range.

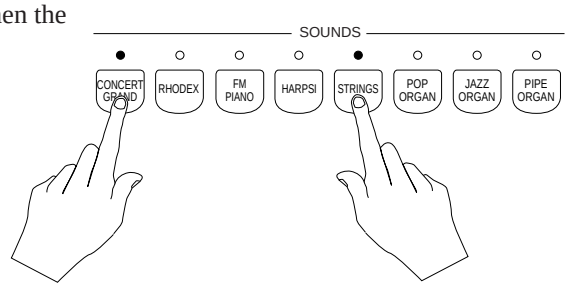


***Note on the Polyphony**: The overall polyphony in Layer mode is halved, the minimum number depending on the selected sounds. If you play along with a demo song the overall polyphony is reduced even further, depending on whether you play along with one or two Sounds in real time.*

To select LAYER mode, press two Sound buttons at the same time

Example:

- Press CONCERT GRAND and STRINGS at the same time (or one then the other while holding the first).
- The leds of the Preset selectors light up to show which sounds have been selected.
- Use the VOLUME slider to regulate the overall volume.

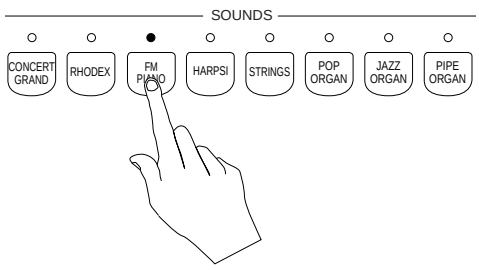


Balancing layered Sounds

LAYERED Sounds are factory set to provide a correct balance but the setting can adjusted to suit your needs by using the **LAYER BALANCE** function of the MASTER SET section explained in detail on page 10.

Returning to Single mode from Layer mode

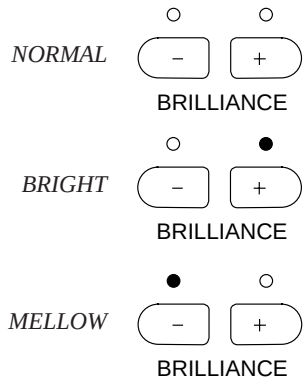
To return to Single mode, press the button corresponding to the Sound you wish to play. This cancels the other Sound and its corresponding led indicator of turns off, leaving the single Sound.



Brilliance

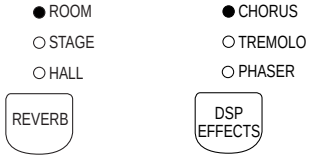
This function affects the timbric quality of the Sound by regulating the Cutoff frequency of a Lowpass filter incorporated in the preset's "sample header" (refer to the Glossary at the back of this manual for an explanation).
You can select from three different "Brilliance" settings: **MELLOW**, **NORMAL** and **BRIGHT**.

- When both leds are off, the Brilliance setting corresponds to **NORMAL**.
- Press the + button to select **BRIGHT** (led turns on).
- Press the – button to return to Normal (both leds off) and again to select **MELLOW**.
- Return to the Normal Brilliance by pressing the + button.



Reverb & DSP Effects

The Reverb and DSP Effects functions respectively apply a Reverberation effect and a DSP Effect to the Sounds, permitting a choice of three effect types from each function. The effect types available are selected in a cyclic procedure and include a Bypass stage when all led indicators are off (see below).

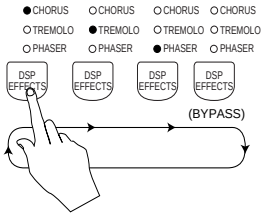


Reverb & DSP Effects

How to select a Reverb or DSP Effect type

1. Press the relative button repeatedly until you obtain the effect required.

- The Reverb or DSP Effect type selected is shown by the relative led indicator which turns on.
- You can choose from three Reverb types (Room, Stage, Hall) and three DSP Effect types (Chorus, Tremolo, Phaser).



DSP Effect selection procedure

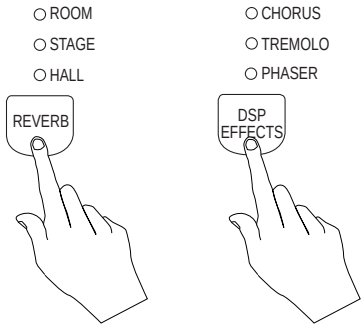
2. Assign a preferred effect to each Sound

You can assign a different Reverb and/or DSP Effect type to each Sound. This permits you to recall your Sounds with the preferred effects every time.

- Simply select the effect(s) required after selecting the Sound. The assigned effect(s) will remain memorised after turning off the instrument.
- In Layer mode, the effect(s) recalled will correspond to the first Sound button pressed. The second Sound does not recall its memorised DSP Effect.

3. Select the Bypass status

Press the Reverb button or DSP Effect button repeatedly until all leds are off. In this status, the Sound to which the Bypass status has been assigned plays without effects.



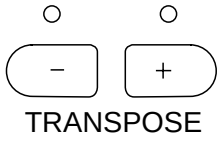
Natural String Resonance

The Concert Grand Sound is influenced by the **Natural String Resonance** effect which simulates the string resonance heard in acoustic pianos when struck strings produce a sympathetic resonance of unstruck strings. This effect is obtained playing new notes when one or more notes of the keyboard are already pressed.

• **Note**: Research in physical modelling technology and its applications to produce Natural String Resonance is a result of the collaboration between Generalmusic and the CSC department of the University of Padova.

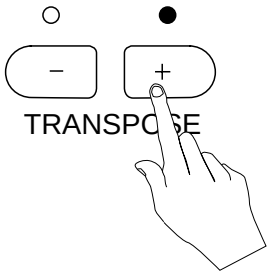
Transpose

Pianovelle incorporates a real time **Transpose** function which allows you to change the playing key of the instrument as a whole by acting on the **TRANSPOSE** panel buttons (+ / –).



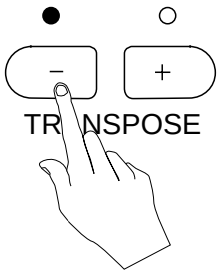
• The + (sharp) button raises the pitch in semitone steps (+ 12 semitones = positive transposition).
• The – (flat) button lowers the pitch in semitone steps (– 12 semitones = negative transposition).

1. To raise the pitch, press the + Transpose button repeatedly until the required transposition is obtained.



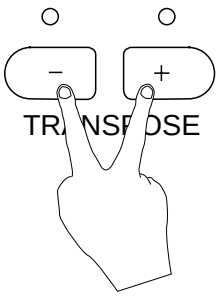
• The led indicator above the + button turns on to confirm that the instrument is in a positive transposed status.
Play, for example, a note C each time you press the + button to listen to the change of key. If you press the + button while holding a key, the transposition takes effect only after releasing the key.

2. To lower the pitch, press the – button repeatedly until the required transposition is obtained.



• If the instrument is currently in a positive transpose status, press the – button repeatedly until the led indicator above the + button goes off and the one above the – button turns on.
Play a note C, for example, each time you press the – button to listen to the change of key.
• The selected Transposition remains in memory after turning off the instrument. You can also restore the default Transpose status by using the Master Restore function which restores all default values to all programmed functions (see page 11).

Transpose Cancel



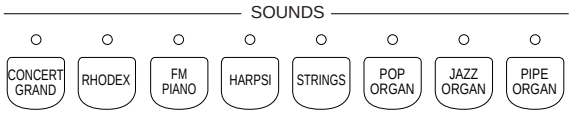
• Press both + and – Transpose buttons at the same time to cancel the current transpose setting. The led above the + or – Transpose button goes off to indicate the return to standard pitch.

Master Set

The Master Set function gains access to a menu consisting of a series of functions which intervene on several aspects of your instrument.
The functions are: Tune, Temperament, Layer Balance, MIDI Transmit, MIDI Receive, MIDI Local, MIDI In Filter, MIDI Out Filter.
The programmed settings for all the above functions remain in memory after turning off the instrument. The settings can be restored to their default values using the Master Reset function. See page 11 for more details.

Master Set menu

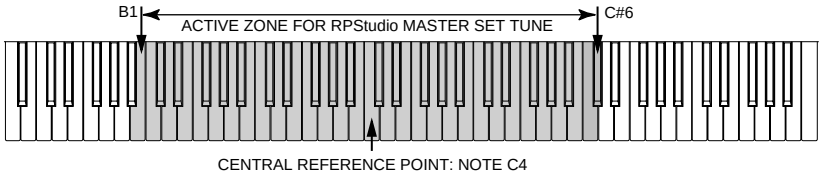
Owing to the fact that RPS does not have a display, the Master Set functions are accessed by means of 8 Sound selection buttons after activating Master Set.



Each Sound button activates a Master Set function.
Each function has a value which can be regulated by using a particular range of keys on the keyboard. The range differs according to the function selected. In most cases, the note C4 is equivalent to the value 0 and a set of notes above the zero point provide positive values while those below provide negative ones. In other cases, C4 corresponds to the lowest point of a set of values or settings that differ according to the function selected.
The diagram below shows the extreme case for the Tune function. The keys exploited to regulate the values of the RPS Master Set functions emit an acoustic sound (a bell) together with the currently selected preset Sound. Those not involved in the Master Set operation do not emit acoustic sounds other than the Sound of the currently selected preset.

Master Set table

SOUND	MASTER SET FUNCTION	NOTE RANGE ACTIVATED
Concert Grand	Tune	B1…C4…C#6
	Standard Pitch	C4
	Positive tuning	C#4...C#6
	Negative tuning	B3...B1
Rhodex	Temperaments	C4…D#4
	Equal	C4
	Meantone	C#4
	Kirnberger	D4
	Tartini-Vallotti	D#4
FM Piano	Layer Balance	F#3…C4…F#4
	Centre	C4
	First Sound	C#4...F#4
	Second Sound	B3...F#3
Harpsi	Midi Transmit	C4…E5
	Channels 1-16	C4...D#5
	Off	E5
Strings	Midi Receive	C4…F#5
	Channels 1-16	C4...D#5
	Off	E5
	Omni mode	F5
	Multi mode	F#5
Pop Organ	Midi Local	C4…D#4
	Local On	C4
	Local Off	C#4
Jazz Organ	Midi In Filter	C4…D#4
	Off	C4
	Program	C#4
	Control	D4
	Panel	D#4
Pipe Organ	Midi Out Filter	C4…D#4
	Off	C4
	Program	C#4
	Control	D4
	Panel	D#4



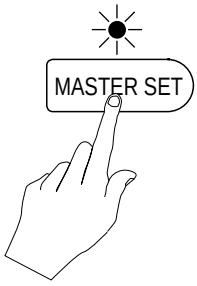
The table on this page shows the functions assigned to the Sound buttons and the relative notes ranges used to regulate the function values.

Tune

The Tune function is used to tune the instrument as a whole. The tuning resolution is 0.5 Hz and RPS can be tuned within a range of 452.5 … 440 … 428.5 Hz.

Press the MASTER SET button.

Referring to the table, press the CONCERT GRAND selector to activate the Tune function.
Using note C4 as the central reference point, equivalent to “440 Hz” (standard pitch), the notes from C#4 - C#6 provide Pitch increments in steps of 0.5 Hz, up to 452.5 Hz. The notes from B3-B1 provide Pitch decrements in steps of 0.5 Hz, down to 428.5 Hz.



Temperaments

The Temperaments function provides a selection of preset historic scales, as well as the standard Equal scale in use today. The scales available are:

- Equal
- Meantone
- Kirnberger
- Tartini/Vallotti

Press the MASTER SET button.

Referring to the RPS Master Set table, select the Temperaments function by pressing the RHODEX Sound selector. The scales are selected using the notes from C4 - D#4.

- Select the required Scale (Temperament) by playing the relative key.

Layer Balance

This function permits the balancing of the levels of two Sounds in Layer Mode.

Press the MASTER SET button.

Referring to the RPS Master Set table, select the Layer Balance function by pressing the FM PIANO Sound selector.

- Use the note range C#4-F4 to increase the volume of one Sound with respect to the other.
- Use the note range B3-F#3 to increase the volume of the other Sound with respect to the first.
- Generally, the level of the first Sound selected in the Layer Mode selection procedure is affected by the notes above C4.

MIDI Transmit

This function permits the selection of the MIDI Channel used by RPS to transmit MIDI data to an external MIDI device.

Press the MASTER SET button.

Referring to the RPS Master Set table, select the MIDI Transmit function by pressing the HARPSI Sound selector.
Using the note range C4-D#5, you can select MIDI channels from 1-16 respectively. MIDI Off corresponds to note E5.

MIDI Receive

This function permits the selection of the MIDI Channel (from 1-16 and off) used by RPS to receive MIDI data from an external controlling device. Also available are two options that enable RPS for the reception of MIDI data on 16 channels (Omni) or on 8 channels (Multi).

OMNI	enables RPS to receive on all MIDI channels.
MULTI	enables the multi-timbral mode which permits the simultaneous use of the 8 RPS Presets across 8 MIDI channels.

Press the MASTER SET button.

Referring to the RPS Master Set table, select the MIDI Receive function by pressing the STRINGS Sound selector.

- Using the note range C4-D#5, select the MIDI receive channel from 1-16 respectively. MIDI Off corresponds to note E5.
- Use note F5 to select Omni mode.
- Use note F#5 to select Multi mode.

See the section on MIDI Applications for detailed information about the practical uses of these two options.

MIDI Local

This function permits you to determine whether the keyboard data will control RPS's internal sound generator, or whether the data will control an external slave device. The options available are:

LOCAL ON	The RPS keyboard controls the internal generator;
LOCAL OFF	The RPS keyboard does not control the internal generator;

Press the MASTER SET button.

Referring to the RPS Master Set table, select the MIDI Local function by pressing the POP ORGAN Sound selector.

- Select the required Local setting using the notes listed as follows:

C4 Local On;
C#4 Local Off;

MIDI Filter In

This function contains several parameters which permit the filtration of data received at the RPS MIDI In port. The four parameters available are:

OFF	Filter disabled;
PROGRAM	Filter enabled for Program Change filtering;
CONTROL	Filter enabled for Control Change filtering;
PANEL	Filter enabled for the filtering of all data relating to the control of the entire RPS panel (see Midi Implementation chart and Generalmusic Special Control Changes in the Appendix).

Press the MASTER SET button.

Referring to the RPS Master Set table, select the MIDI In Filter function by pressing the JAZZ ORGAN Sound selector.
Activate the required MIDI In Filter by referring to the following list:

C4	Off;
C#4	Program;
D4	Control;
D#4	Panel.

MIDI Filter Out

This function contains several parameters which permit the filtration of data transmitted from the RPS MIDI Out port. The four parameters available are:

OFF	Filter disabled;
PROGRAM	Filter enabled for Program Change filtering;
CONTROL	Filter enabled for Control Change filtering;
PANEL	Filter enabled for the filtering of all data relating to the control of the entire RPS panel (see Midi Implementation chart and Generalmusic Special Control Changes in the Appendix).

Press the MASTER SET button.

Referring to the RPS Master Set table, select the MIDI Out Filter function by pressing the PIPE ORGAN Sound selector.
• Activate the required MIDI Out Filter by referring to the following list:

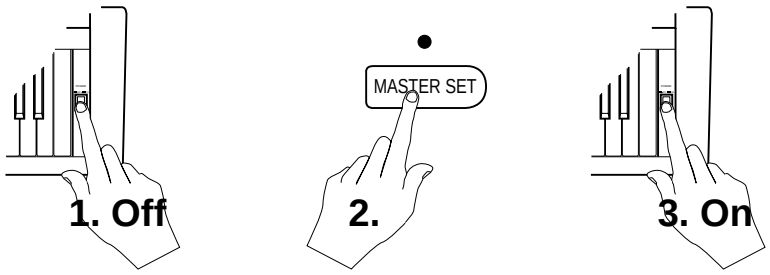
C4	Off;
C#4	Program;
D4	Control;
D#4	Panel.

Master Reset function

The default status of all RPS models can be restored by means of a simple, single-action resetting operation. This reset restores all original factory settings to all the programmable functions of the instrument (Master Set functions, Transpose, Reverb and DSP Effect assignments, current Panel status).

How to reset the instrument

1. Turn off the instrument,
2. Wait a few seconds, hold the MASTER SET button and turn on again.

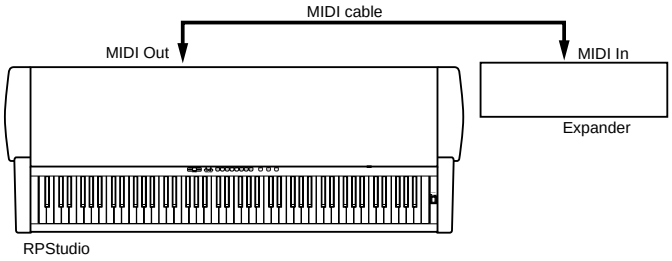


MIDI Applications

Your **Pianovelle** can be connected in MIDI setups and used as a MIDI controlling device (Master), or as a tone generator (a unit with an internal sound engine) connected to an external MIDI controlling device (in other words, used as a Slave).
The following section details how your **Pianovelle** can be used in various MIDI setups and explains the MIDI options that are available, selected from the Master Set menu.

About MIDI

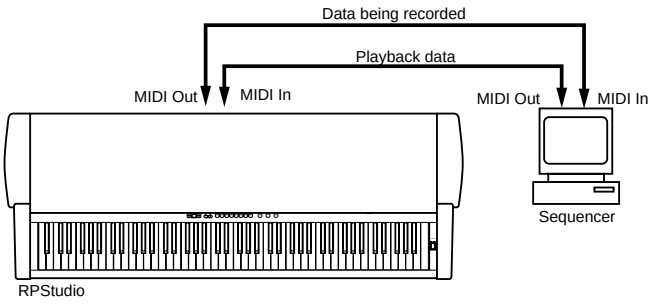
MIDI is an abbreviation for "Musical Instrument Digital Interface". This is a world standard interface that allows MIDI compatible instruments and other equipment to communicate with each other in order to exchange data and control one another. MIDI is now a very common feature and a great deal of literature is available which explains all the standards implemented by MIDI. You are recommended to consult other specialised literature if you wish to know more about the standards implemented and how to apply them.
The transfer of data from one instrument to another is via "MIDI Channels" (see *MIDI Channels afterwards*), using the MIDI interface as the common element between two instruments. For example, the diagram shows how to connect two instruments in a typical MIDI setup. The instrument transferring data (**Pianovelle**) transmits from the MIDI Out port while the receiving unit receives the data at the MIDI In port.



For example, **Pianovelle**, like most instruments, transmits note data and velocity information (touch response) whenever notes are played on the keyboard. If the receiving unit incorporates a sound generator, it will respond precisely to the notes played on the transmitting keyboard (**Pianovelle**). The result is quite obvious: such a setup allows the player to play two instruments at the same time, using one as the controlling device (Master) and the other as the device being controlled (Slave).

Midi Sequencer recording

The type of data transfer described above can be exploited very efficiently for MIDI sequence recording. The connection, shown in the diagram, where the **Pianovelle** MIDI Out is connected to the Sequencer MIDI In and the Sequencer MIDI Out is connected to the **Pianovelle** MIDI In. Any instrument with a sequencer, or a Computer running sequencer software, can be used to capture (record) the MIDI data transmitted by the **Pianovelle**.
When the recorded data is played back, the **Pianovelle** reproduces the recorded sequence in exactly the same manner as it was recorded.



*• **Important user info on MIDI cables**: always use high quality MIDI cables for your MIDI connections and avoid using cables longer than approx. 15 feet: cables which exceed this length tend to pick up unwanted noises and can cause data errors.*

MIDI messages transmitted by Pianovelle

Pianovelle transmits and receives the following type of MIDI information.

NOTE AND VELOCITY DATA This is information pertaining to the note played and relative dynamic value. The receiving device recognises the note because it is defined by the "MIDI note number", and the dynamic value is defined by the "MIDI velocity value". Whenever a key on the **Pianovelle** is pressed, the note and velocity information is transmitted from the instrument's MIDI Out port to the receiving device. Conversely, **Pianovelle** will play the corresponding notes whenever note and velocity data is received at the instrument's MIDI In port.

PROGRAM CHANGE NUMBERS This type of information relates to data which identifies the sounds contained in the **Pianovelle** memory. **Pianovelle** transmits MIDI Program Change numbers from 0 - 7, corresponding to the 8 Sounds shown on the command panel. Whenever a Sound button is pressed, the corresponding MIDI Program Change number is transmitted to the receiving device, causing the correspondingly numbered voice to be selected in the external MIDI unit. Conversely, whenever **Pianovelle** receives a Program Change number from an external MIDI device, the correspondingly numbered **Pianovelle** Sound will be automatically selected.

• **Note**: Program Change messages can be filtered from the MIDI data received at the **Pianovelle** MIDI In port and/or from the MIDI data transmitted from the **Pianovelle** MIDI Out port. (*See MIDI Filter In/Out in Master Set*).

CONTROL CHANGE NUMBERS

The Soft and Damper pedals of **Pianovelle** generate Control Change data which is transmitted from the instrument's MIDI Out port whenever the pedals are operated. The internal tone generator of the receiving device will respond to the pedal solicitations in the same way as the **Pianovelle** Sound engine. Whenever the same type of Control Change data is received by **Pianovelle**, it will respond appropriately.

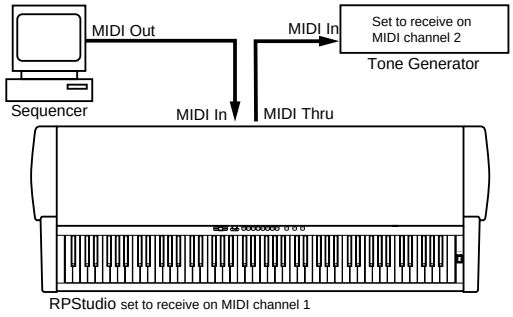
• **Note**: Control Change messages can be filtered from the MIDI data received at the **Pianovelle** MIDI In port and/or from the MIDI data transmitted from the **Pianovelle** MIDI Out port. (*See MIDI Filter In/Out in Master Set*).

Midi Channels

The "MIDI channels" used in the MIDI communication system is similar to television broadcasting. Each channel can receive a different stream of data with respect to all the others. Exactly as in the case of television broadcasting, in order to exchange data, the receiving and transmitting devices must be tuned correctly. In other words, the MIDI controlling device and the MIDI receiving device must both be set to the same channel (or channels). MIDI, as a standard, foresees 16 MIDI channels for the transmission and reception of MIDI messages. Multiple channel instruments, otherwise called Multi-timbral units, allow selective control in setups consisting of several different instruments connected in series. An example of how this is done is explained below.

The MIDI Thru port

By default, **Pianovelle** responds to MIDI data received on a single channel and can transmit MIDI messages on a single channel (*see How to assign the Transmit channel and Receive channel in Master Set*). If **Pianovelle** receives MIDI data from a Multi-timbral controlling device, it will only respond to the data which travels on the same channel as the Receive channel, say channel 1; all other data travelling on the remaining 15 channels will be ignored.
If another receiving device, set to receive on a different receive channel, say channel 2, is connected to the **Pianovelle** MIDI Thru port, it will receive exactly the same data that is transmitted to the **Pianovelle** MIDI In port. In this case, it will respond to data travelling on MIDI channel 2 and ignore the rest.



MIDI functions

The MIDI functions available in **Pianovelle** allow for a broader use in MIDI applications. How to select the functions is detailed in the Master Set section of the manual. Below follows full details about each function with some examples of their uses.

MIDI Local

This function provides two different operating modes: Local On, Local Off.

LOCAL CONTROL ON/OFF

When you play your **Pianovelle** normally without being connected via MIDI, technically the keyboard is controlling the internal Sound generator. This type of control is otherwise known as "*Local keyboard control*".
In MIDI setups, if you want to exploit the full size 88-note **Pianovelle** keyboard as a controller, you may not want to hear the **Pianovelle** Sounds together with the sound being controlled in the connected external device. It is possible to "switch off" the keyboard messages directed to the internal sound engine and direct the generated messages to the external device only. This condition is known as **Local Off**. The internal **Pianovelle** Sounds can still be controlled by an external MIDI device transmitting to **Pianovelle**.

Receive channel

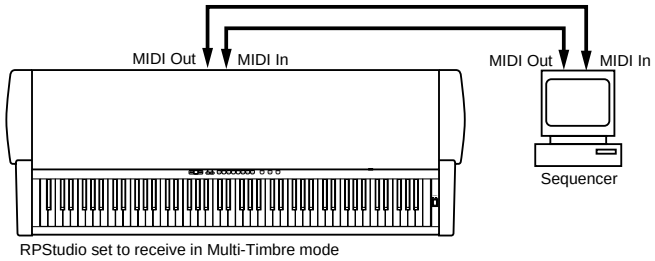
As already explained, **Pianovelle**, in normal default conditions, receives MIDI Messages on a single channel which can be set to any number from 1 to 16. Two other receive modes are available which allow **Pianovelle** to be recognised by external devices that transmit data on multiple MIDI channels.

OMNI RECEIVE MODE

This mode allows MIDI reception on all 16 MIDI channels (*see OMNI in the Receive channel selection procedure - Master Set*). When set for OMNI reception, is it not necessary to match the receive channel of the receiving device with the transmit channel of the transmitting device. You can, therefore, connect the MIDI Out port of an external multi-timbral device to the MIDI In port of the **Pianovelle** and transmit to the RPS unit without the need of matching its receive channel to one of the transmitting devices channels. In other words, regardless of which channel is set on the **Pianovelle** to receive MIDI data, in OMNI receive mode, the **Pianovelle** adapts itself and operates as if the data were being transmitted by the external device on a single channel only.

MULTI-TIMBRAL RECEIVE MODE

This special mode allows **Pianovelle** to receive MIDI data on 8 MIDI channels for the exclusive purpose of independently controlling 8 preset Sounds on different MIDI channels (from 1 - 8). This mode can be exploited for sequencer recording as shown in the following example:



Here you can use the Multi-timbral mode to record two or more parts on a sequencer that will play different RPS sounds when played back.

- Connect the **Pianovelle** to the sequencer as shown.
- Activate Multi-timbral mode.
- Set the sequencer track 1 for recording.
- Select a Sound and record the first part on the sequencer.
- Set the sequencer to record track 2.
- Select a Sound and record the second part on the sequencer.
- While still in Multi-timbral mode, play back the recorded song. The parts recorded will play back using the individual Sounds selected during the recording, providing a full ensemble sound.

MIDI Filter In/Out

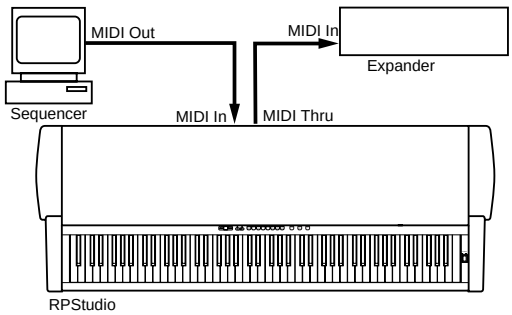
This function allows you to exclude "unwanted" messages from the MIDI In data stream received by the **Pianovelle**, or from the MIDI Out data stream transmitted by **Pianovelle**.

PROGRAM CHANGE ON/OFF

Normally, if **Pianovelle** is being used as a slave device, it will respond to Program Change messages transmitted by the external controlling device, causing the correspondingly numbered **RPS** Sound to be selected. As a controlling device, **Pianovelle** normally sends a Program Change message to an external slave device, causing the correspondingly numbered voice (or program) to be selected. The Program Change On/Off function allows you to exclude this type of message from a stream of MIDI data, by filtering off the unwanted message.
In the example shown below, a sequencer is connected to the MIDI In port of the **Pianovelle** which is itself connected in series via the Thru port to an external MIDI tone generator. Setting this filter to Off allows the Program Change messages to pass.

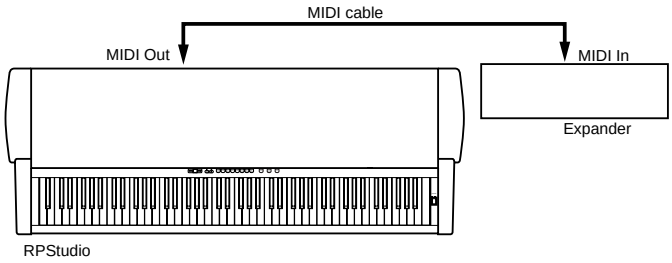
Example 1

Your particular requirements could be that you wish to record using the same **Pianovelle** Sound but using different voices from the external device. Normally, when you send Program Change messages from the sequencer, both the connected devices will respond accordingly. If you want the **Pianovelle** not to respond to Program Change data, set the Filter In Program Change to ON (filter active).
This will filter all Program Change messages from the MIDI In stream directed to the **Pianovelle** internal sound engine while the data directed via the Thru port to the external device will rest intact, causing the external device to respond to the transmitted Program Change messages.



Example 2

In a simple MIDI situation with a **Pianovelle** connected to a slaved expander, you may want to change Sounds on the **Pianovelle** without changing the voice in the connected external device. In this case, activate the **Pianovelle** Filter Out Program Change to ON. This will filter off the Program Change data from the MIDI Out stream, leaving you free to change **Pianovelle** Sounds without influencing the external sound engine.



CONTROL CHANGE ON/OFF

Control Change messages are generated by "physical controllers" that are generally found on MIDI keyboards. Physical controllers include Wheels, Pedals, Sliders, etc..
Normally, **Pianovelle** will respond to Control Change data received from an external device, causing it to respond accordingly to the data received. **Pianovelle** also transmits Control Change data when one of its pedals (Soft, Damper) are operated.
This function allows you to filter off Control Change data from the incoming MIDI data stream so that **Pianovelle** is not affected by the data. You can also exclude Control Change data (generated by the **Pianovelle** pedals) from the MIDI Out data stream so that the connected external device is not affected. Setting this filter to Off allows the Control Change messages to pass.

PANEL MESSAGES ON/OFF

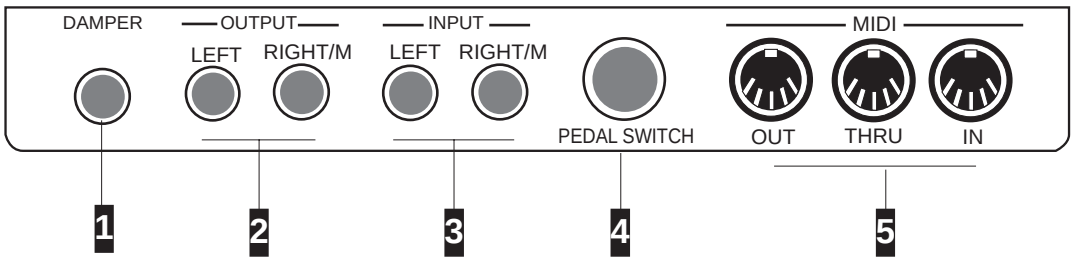
Normally, selecting the **Pianovelle** panel buttons generated a MIDI message which correspond to the button selected. These messages can be transmitted to a receiving device. This can be useful when using a sequencer to record a song using the **Pianovelle** Sounds to control the **Pianovelle** on playback. During the recording, all panel interventions are recorded to the sequencer. When the song is played back, the **Pianovelle** is automatically set to the same settings. In this case, the Panel Filter should be set to OFF.
If Panel messages are not required, they can be filtered off from the MIDI data stream, both from outgoing data as well as incoming. In this case, the Panel Filter should be set to ON.

MIDI Technical Information

All information relating to MIDI technical data, including the MIDI Implementation Chart can be found in the Appendix.

Connections

Panel for external connections



1. Damper

Socket for a DAMPER pedal.

2. Output Left - Right/M

Left-Right stereo outputs for amplified speakers, amplifiers or domestic Hi-Fi units. For a Mono signal, connect the Right/M output.

3. Input Left - Right/M

Auxiliary inputs L/R for sound sources (tape recorders, other musical instruments). For a Mono signal, connect the Right/M input.

4. Pedal Switch socket

Connect the cable from the double pedal assembly (Soft, Damper) to this socket. Refer to the assembly instructions in the Appendix.

5. Midi In-Out-Thru

Midi ports for MIDI connections.

Pianovelle Glossary

BYPASS: To ignore, "go around". When the Bypass Reverb or DSP Effect stage is selected, the RPS Sounds are not affected by the effects processors. The Effect Bypass stage corresponds to the situation when all leds of the Reverb and/or DSP Effects sections are off.

CUTOFF FREQUENCY: Central frequency of the intervention band of a Filter. Around the vicinity of the Cutoff Frequency, the action of a filter gradually becomes less marked, creating a "bell" in the audio band.

DAMPER: Also known as "Sustain"; the equivalent of the "Loud" pedal found on acoustic pianos. The **Pianovelle** Damper pedal is a continuous controller - its effect is gradual, covering a range of 8 steps. The Damper generates data which can also be transmitted via MIDI.

DYNAMIC: The keystrike velocity, generated as a MIDI message and expressed as a number ranging from 0-127. The keyboard of an acoustic Piano has a natural dynamic sensitivity: the harder you play, the louder the sound. **Pianovelle** has a velocity-sensitive keyboard with a choice of 3 different Dynamic curves: Soft, Normal, Hard.

EDIT: Modify. **Pianovelle** permits minor editing tasks in the Master Set functions.

EFFECTS: Devices which enhance a sound's characteristics, rendering it more realistic or more complex.
Pianovelle has two types of effects: Reverb and DSP Effects.
The Reverb effects are all simulations of natural environments having the same name: Room, Stage, Hall.
The DSP Effects are all artificial effects created to render a sound more complex: Chorus, Tremolo, Phaser.

EEPROM Non-volatile memory which contains some parameter settings of the instrument (it contains data when the instrument is off).

EXPANDER: A modular sound generating unit which operates as a MIDI slave device which requires to be controlled by a controlling device such as a Master keyboard, Midi Accordion, Wind Controller, etc..

FILTER: A device which modifies a sound by altering its harmonic content. **Pianovelle** sounds incorporate a "sample header" with a filter which is regulated by the Brilliance control. The Brilliance control settings (Mellow, Normal, Bright) are none other than three different filter regulations. (*See also "sample header"*)

FOOTSWITCH: A physical switch action controlling device operated with a foot. **Pianovelle** has two footswitch pedals: Soft and Damper.

HEAPHONES: A set of "head-speakers" which can be used for private listening. **Pianovelle** provides for the connection of two headphones.

MASTER: A device (keyboard, sequencer, etc.) which can control another instrument or Slave. (*See also "Slave"*).

MIDI: Abbreviation for "Musical Instrument Digital Interface". A system of communication between different digital musical instruments. The MIDI In port receives data from the MIDI Out port of an external MIDI device. The MIDI Out port transmits data to the MIDI In port of an external MIDI device. The MIDI Thru port outputs all the data received at the MIDI In port.

MIDI CONTROLLERS: MIDI messages which transmit information relating to performance parameters (Damper, Main Volume, etc.).

MIDI FILTER: A device which prevents unwanted MIDI messages (Program Change, MIDI Controllers, etc.) from being transmitted via MIDI Out to an external MIDI device or from being received by an external transmitting device. When a MIDI Filter is ON, it intervenes on the MIDI data stream, filtering off the data not required.

PITCH: Intonation, Frequency.

POLYPHONY The simultaneous combination of two or more notes. RPS is 32-note polyphonic (minimum). Some RPS sounds provide 64 note polyphony.

PROGRAM CHANGE: A MIDI message which changes a Sound. Selecting a **Pianovelle** Sound generates a Program Change message which recalls the corresponding Sound from the RPS internal sound generator, and which can be transmitted via MIDI OUT to an external device connected to the RPS. It can also be recorded in a Song.

RAM: Random Access Memory. A part of the instrument's memory which retains modified (edited) data (control panel selections, master set values, song, etc.).

ROM: Read Only Memory. A part of the **Pianovelle** memory which cannot be modified and in which factory programmed data is conserved.

SAMPLE HEADER: The initial portion of a sound which defines it's principal characteristics. All RPS Sounds are "sample-based" sounds.

SLAVE: An instrument which can be controlled via MIDI by a Master controlling device.

TEMPERAMENT: Intonation scale. **Pianovelle** offers three historic scales as well as the standard in use today based on the diapason A=440Hz (Equal).

TRANSPOSE: Control panel command that allows the raising or lowering of the pitch (key) of the instrument in real time, up to a maximum of ± 1 octave.

TUNE: The fine regulation of the pitch in fractions of a semitone.

Contents