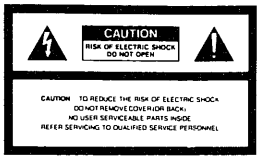
Roland Harpsichord

Classic 50/20



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS

WARNING When using electric products, basic precautions should always be followed, including the following;

1. Read all the instructions before using the product.
2. To reduce the risk of injury, close supervision is necessary when a product is used near children.
3. Do not use this product near water- for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
4. This product should be used only with a cart or stand that is recommended by the manufacture.
5. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss.
   Do not operate for a long period of time at a high volume level or at level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
6. The product should be located so that its location or position does not interfere with its proper ventilation.
7. The product should be located away from heat sources such as radiators, heat registers or other products that produce heat.
8. The product should avoid using in where it may be effected by dust.
9. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
10. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
11. Do not tread on the power-supply cord.
12. Do not pull the cord but hold the plug when unplugging.
13. When setting up with any other instruments, the procedure should be followed in accordance with instruction manual.
14. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
15. The product should be serviced by qualified service personnel when:
    A: The power-supply cord or the plug has been damaged; or
    B: Objects have fallen, or liquid has been spilled into the product; or
    C: The product has been exposed to rain; or
    D: The product does not appear to operate normally or exhibits a marked change in performance: or
    E: The product has been dropped, or the enclosure damaged.
16. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS

WARNING

THIS APPARATUS MUST BE EARTH GROUNDED.

The three conductors of the mains lead attached to this apparatus are identified with color as shown in the table below, together with the matching terminal on the UK type power plug. When connecting the mains lead to a plug, be sure to connect each conductor to the correct terminal, as indicated.
"This instruction applies to the product for United Kingdom."

MAINS LEADS		PLUG
Conductor	Color	Mark on the matching terminal
Live	Brown	Red or letter L
Neutral	Blue	Black or letter N
Grounding	Green-Yellow	Green, Green-Yellow, letter E or symbol

Bescheinigung des Herstellers /Importeurs

Hiermit wird bescheinigt, daß der/die/das
Roland Harpsichord Classic 50/20
(Gerat, Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der
Amtsbl. Vfg 1046 / 1984
(Amtsblattverfugung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Roland Corporation Osaka / Japan
Name des Herstellers/Importeurs

RADIO AND TELEVISION INTERFERENCE

"Warning – This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception."

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such a interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable.
  These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interferences stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:
"How to Identify and Resolve Radio-TV Interference Problems"
This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

Please read the separate volume "MIDI", before reading this owner's manual.

Roland Harpsichord

Classic 50/20

OWNER'S MANUAL

Roland

Please read this owner's manual carefully to make the best use of the Roland Harpsichord.

Features of the Roland Harpsichord

The Roland Harpsichord includes 9 instrument voices;
5 Harpsichords (8'I, 8'II, 8'+8', 8'+4, and Lute), Strings and Pipe Organs I and II.

You can play a Harpsichord voice together with the Strings or Pipe Organ.

A Digital Reverberation is built-in, allowing two types of reverbs, Room and Hall.

Various ancient temperaments are optional by using buttons on the panel.

Each of the timbres of the Roland Harpsichord can be controlled via its own keyboard or through MIDI.

CONTENTS

IMPORTANT NOTES

Power Supply

Do not use the same socket that is used for any noise generating device or large power consuming unit.

This unit might not work properly if you plug in the power cable with the unit turned on. If this happens, simply turn the unit off, and turn it on again in a few seconds.

The appropriate voltage to be used is shown on the name plate on the rear panel. Be sure that the voltage system in your country meets the requirement.

Power Cord

When disconnecting the power cord from the socket, do not pull the cord but hold the plug.

Location

Avoid operating this unit under the following conditions.

- In extreme heat, such as near a heater, or where the unit is affected by direct sunlight.
- In extreme humidity.
- Where the unit is affected by dust or vibration.

Cleaning

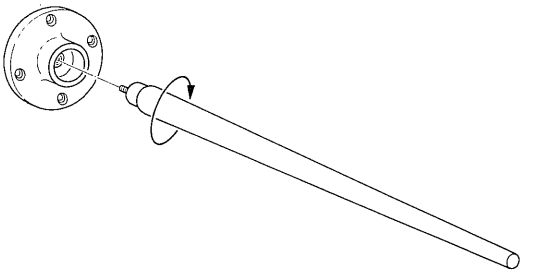
Clean the unit with a soft cloth and a mild detergent.

Do not use solvents such as thinner or alcohol.

For C-50's User

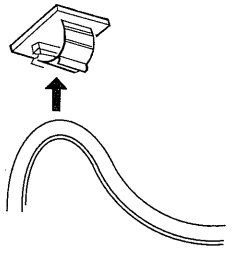
C-50
How to attach legs :

Attach a leg to the bottom of the unit as shown below



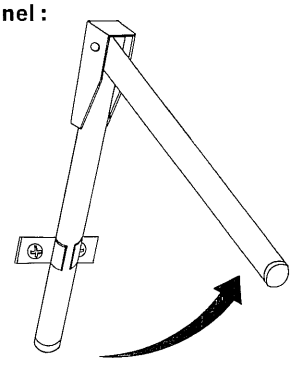
Power Cord :

Put the cord through the adjusting cramp at the bottom of the unit, then connect the plug to the socket.

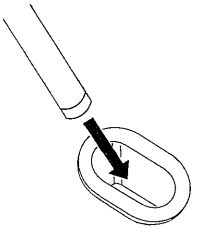


C-50
How to open the top panel :

Lift the top panel, and unlock the supporting pole to the ➡ direction.



Lower the top panel so that the pole is fixed at the hole.

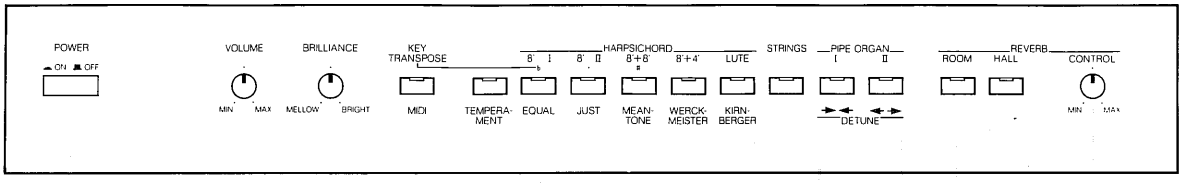


PANEL DESCRIPTIONS

Outline of the Roland Harpsichord

The Roland Harpsichords, C-20 and C-50, are completely new type of devices, utilizing Roland's original digital signal processing technology to reproduce the timbres and characteristics of harpsichords, allowing you to enjoy a variety of music styles, including baroque music, with ease.
The Roland Harpsichord includes harpsichord voices of the upper and lower keyboards played separately, and simultaneously. In other words, it can be played just like a double keyboard harpsichord.
When you release a key, the sound of "re-touching" the string will be heard, creating very realistic effects.
Other voices in this instrument are Strings, and Pipe Organs I and II.

■ Front Panel



Power Switch

Temperament Selectors

Detune Buttons

Reverb Buttons

Reverb Control Knob

Tone Selectors

Temperament Button

Key Transpose/MIDI Button

Brilliance Knob

Volume Knob

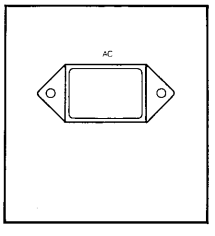
■ Rear Panel

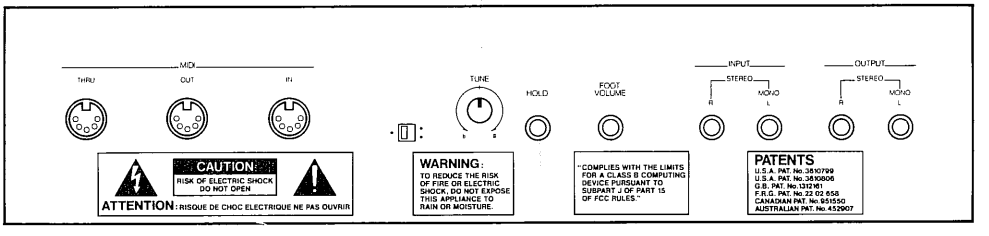
MIDI Connectors

Tuning Knob

Input Socket

Output Socket

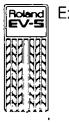




Socket

Local ON/OFF Switch
Normally, set this to " ● " position.
Unless the unit is used in the MIDI mode, the position of this switch has no effect.
(See page 28.)

Foot Volume Pedal Socket



Expression Pedal EV-5 (Optional)

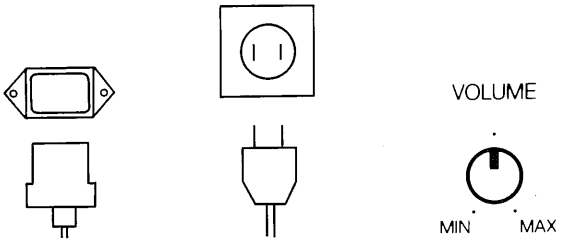
Hold Pedal Socket

Pedal Switch DP-2 (Optional)

BASIC PROCEDURE

Connect the power plug to the socket, turn the instrument on, then adjust the volume with the Volume Knob.

* The instrument will be ready to play in about two seconds.



The Roland Harpsichord allows you to do the followings:

The following functions are available by using the optional units.

Pedal Switch DP-2 or DP-6

Expression Pedal EV-5

TONE SELECTION I

The Roland Harpsichord features 5 Harpsichord sounds and 3 sustained sounds (Strings, Pipe Organ I and II). To select one of these voices, press one of the Tone Selectors. One harpsichord tone can be selected at a time.

The following are the 5 Harpsichord sounds.

8'I

This is the 8' sound of the lower keyboard. It may be the most commonly used tone.

Note: The expression "8'", comes from the pitch of organs. In other words, an 8' voice will play in the same octave range as a pipe organ using 8' pipes.

8'II

This is the 8' sound of the upper keyboard. It is a bright and delicate tone.

8' + 8'

This is the 8' sound of the upper and lower keyboards played simultaneously.

8' + 4'

This is the 8' sound of the upper manual, being played simultaneously with the lower manual one octave higher.

Lute

This is the 8' sound of the upper keyboard, muted. We call this a "lute" because it is similar to the string instrument known as a lute.

The following are the 3 sustained Tones.

Strings

This is a string ensemble.

Pipe Organ I

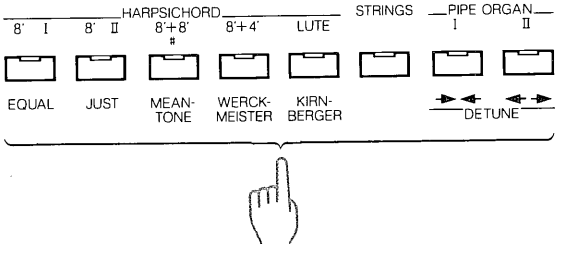
This is a sound of a Positive Organ manual.

Pipe Organ II

This is a sound made by rows of stops.

■ PROCEDURE

Press the Tone Selector button you want.



*The indicator lights up and the relevant Tone is selected.

*It is possible to change to another Tone by pressing one of the Tone Selectors.

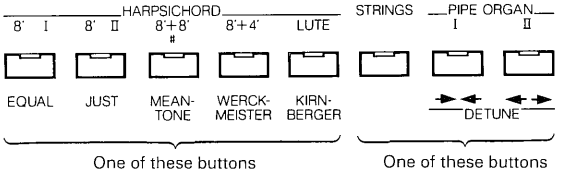
TONE SELECTION II (Dual Timbre Mode)

One Harpsichord sound and one Sustained sound can be selected at the same time.

■ PROCEDURE

While holding down the Tone Selector of a Harpsichord sound, press one of the Sustained sounds.

The two corresponding indicators will light up, and two sounds can be played at the same time.

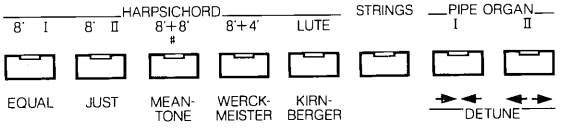


Press two simultaneously

*Even at this stage, it is possible to change to another Tone by pressing one of the Tone Selectors.

[e.g.] To add Strings to Harpsichord 8' I

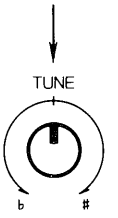
While holding the Harpsichord 8'I button down, press the Strings button.



Press two simultaneously

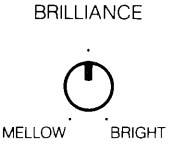
TUNING

The Tune Knob (on the rear panel) is provided for controlling the tuning of the Roland Harpsichord. This is especially useful for tuning to other acoustic instruments, synthesizers, or synthesizer sound modules. At its center position, A=442 Hz.



BRILLIANCE

Using the Brilliance Knob, you can make a brighter or mellower sound.



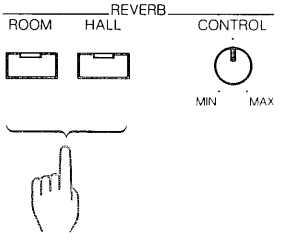
REVERB

Reverberation is a sound which reaches a listener after reflecting from the walls of a room, while direct sounds reach the listener's ears directly from the instrument. For instance, when a musical instrument is played in a hall, the sound appears to remain even after the instrument has stopped giving sounds. This is reverberation.
The Roland Harpsichords, C-20 and C-50, feature a digital reverb system that can give ambience to the sounds.
Two types of reverb effects are provided:

ROOM
Simulating the effect of a small auditorium.

HALL
This creates the rich reverberation of a concert hall.

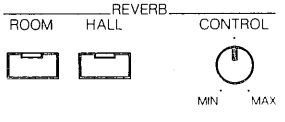
PROCEDURE
Push either of the Reverb Buttons, ROOM or HALL (the corresponding indicator lights up) to select a reverb effect.



*To turn off the Reverb you have selected (if the indicator is lit), simply push the button again.
*There are some more procedures to be taken at power-up. See page 13 "Functions which can be added or changed at power up."

Adjusting the intensity of the reverberation

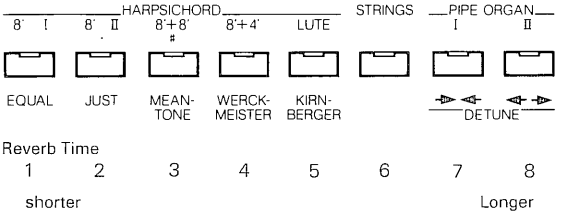
The intensity of the reverberation can be changed with the Reverb Control Knob.



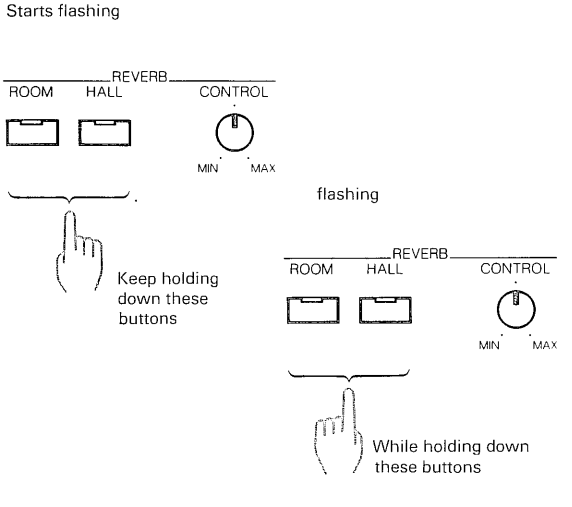
At MIN, the effect is weakest, and at MAX, it is strongest.

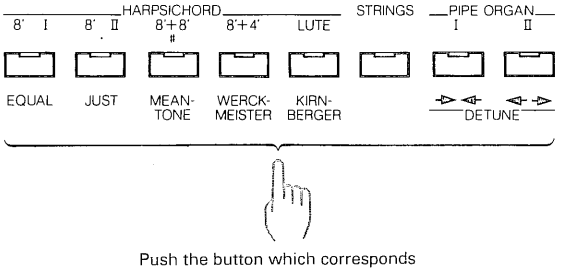
Changing the reverberation time

The Reverb time of each effect, Room or Hall, can be adjusted.



PROCEDURE
While holding down either of the Reverb Buttons (Room or Hall), press the Tone Selector that corresponds to the reverb time you want.
Holding down the Reverb Button will flash the Tone Selector that corresponds to the reverb time previously selected. At this stage, you can select a new reverb time.





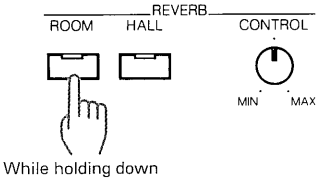
Push the button which corresponds to the reverb time you want.

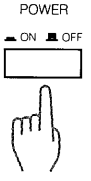
Setting a different reverb effect for each voice

Usually, the same reverb effect is obtained in all voices on the Roland Harpsichord. However, it is possible to set a different reverb effect for each voice.

■ PROCEDURE

While holding the Reverb Button ROOM down, turn the unit on.





Now, you can set the Reverb On/Off and reverb time separately for each voice. In other words, when the same voice is called, the Reverb setting of that voice remains.

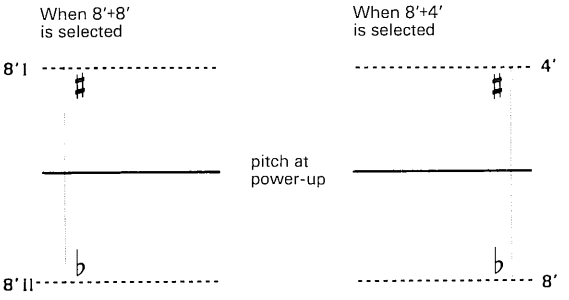
*When a sustained voice is mixed with a Harpsichord voice, the reverb setting of the harpsichord voice will have priority.

*The Reverb On/Off and reverb time you have set will be retained until the unit is turned off.

*The Roland Harpsichord allows you to add or change functions by taking a certain procedure when switching on. See page 21 "Functions which can be added or changed at power up."

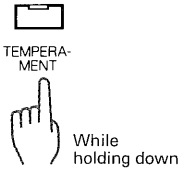
DETUNE

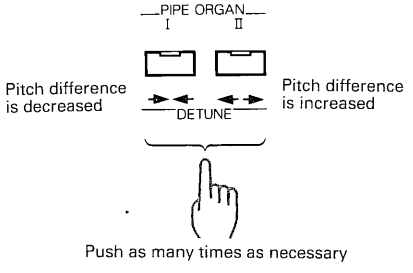
The Roland Harpsichord allows you to detune the pitches of the 8′ + 8′ and 8′ + 4′ sounds.



■ PROCEDURE

While holding the Temperament Button down(the indicator is lit), push one of the buttons as many times as necessary (it can be used up to four times) for the detune you want.





◄► button

Each time this button is pressed, the pitch difference(=detune) of the two sounds will be increased.

►◄ button

Each time this button is pressed, the pitch difference(=detune) of the two sounds will be decreased.

*Each time a button is pressed, the pitch will be changed in 2 cents steps.

*While taking the detune procedure, the button currently pressed is lit, and when the amount of detune reaches the maximum, both the ◄► and ►◄ buttons light up.

*When the pitch is returned to normal(by pressing the ◄► button), the indicator of the ►◄ button will go out.

*If you play a key while holding the Temperament Button down, the root note will be changed (as explained on page 16). So, if you wish to hear the detune you have set, be sure to do it with your finger released from the Temperament Button.

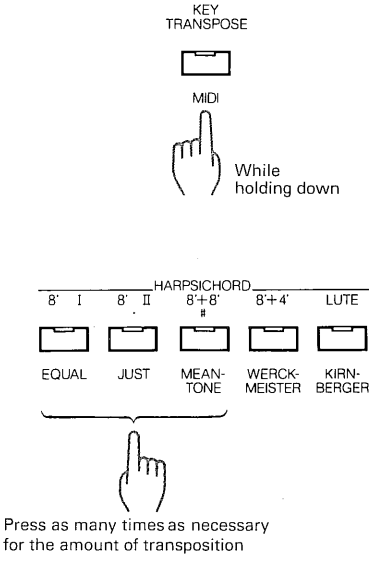
*The changes you have made will be retained in memory until the unit is turned off.

KEY TRANSPOSE

The keyboard of your Roland Harpsichord can be transposed.

■ PROCEDURE

While holding the Key Transpose Button down, press one of the following buttons as many times as necessary.



 # button (= 8′ + 8′ button)

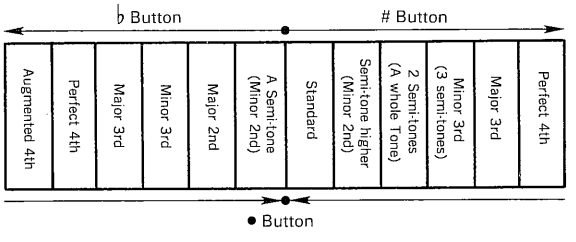
Each time this button is pressed (it can be used up to five times), the key is transposed up a semi-tone.

♭ button (= 8′I button)

Each time this button is pressed (it can be used up to six times), the key is transposed down a semi-tone.

● button (= 8′II button)

Pushing this button returns the keyboard to the normal condition (C key). (standard pitch).



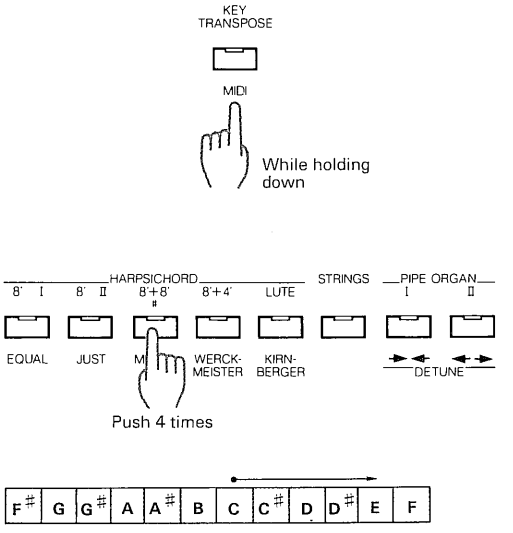
When Key Transposition is complete, the indicator will light up.

Once the key is transposed, the Transpose On or Off can be selected simply by pushing the Key Transpose Button.

*While taking the transposition procedure, the instrument cannot be played.

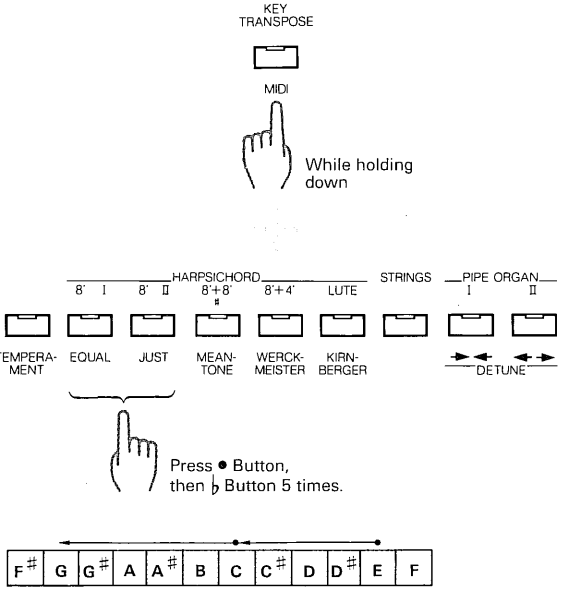
[e.g. 1] Transposing C to E

While holding the Key Transpose Button down, press # button four times.



[e.g. 2] Transposing E to G key

While holding the Key Transpose Button down, push the ● button once to return to C, then without releasing the Transpose Button, push the ♭ button five times.

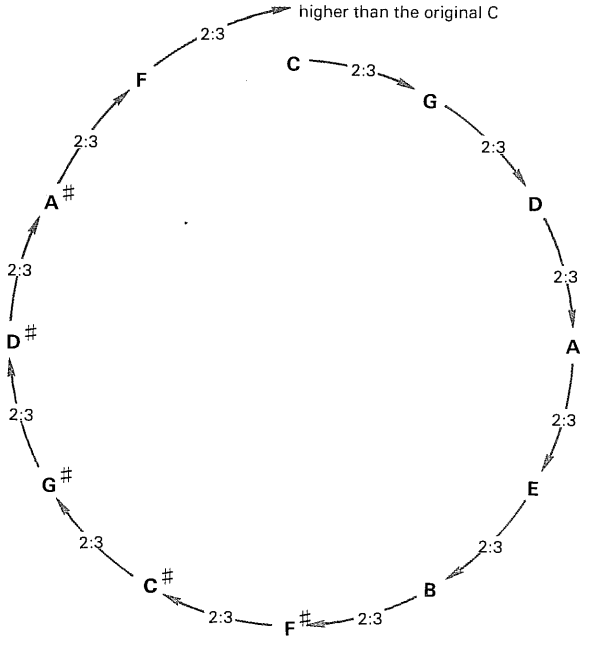


TEMPERAMENT

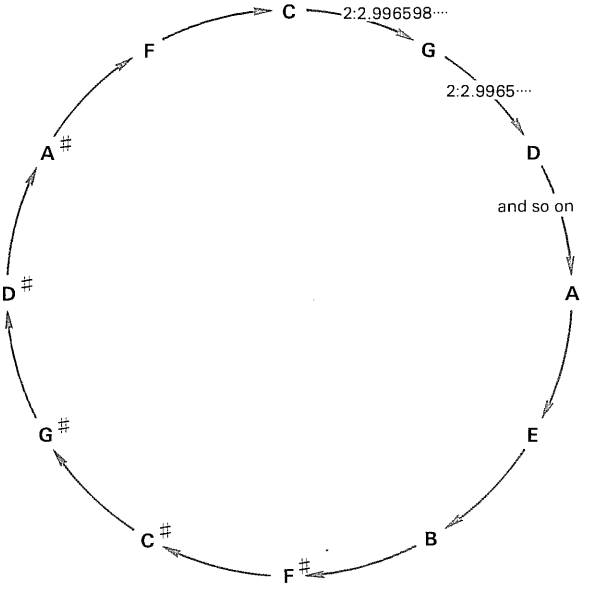
Usually, keyboards are tuned to a chromatic scale. This scale is said to have been defined by Johann Sebastian Bach. Basically, the chords used in Western music should sound clear and transparent. Therefore, when playing in an ensemble using only strings or wind instruments, instruments whose pitches can be altered by changing the playing manner, the pitch of the instruments should be subtly adjusted so that they will harmonize with each other. For example, a chord consists of do, mi and so, the ratio of the frequencies are 4 : 5 : 6. The ratio of do and so, the perfect 5th, are 4 : 6, in other words, 2 : 3.

		Do	Mi	So
Tone Name		A	C♯	E
Ratio		4	5	6
Freq. (Hz)	Just	440	550	660
	Equal	440	554.37	659.25

If, however, you tune the perfect 5th notes of so and re, or re and la, or la and mi in the exact ratio of 2 : 3, the final fa to do tuning will result in a do note higher than the original do.



To resolve the problem, a chromatic scale tunes the perfect 5th with a slightly different ratio from 2 : 3.



When using a chromatic scale, the chords are slightly unclear, but they are consistent in any key, therefore transposition is always possible. Because of this advantage, almost all contemporary keyboards use the chromatic scale.

Keyboards (harpsichords) used for Baroque music before Bach, were easily detuned, therefore, the performer would tune the instrument before playing it depending on the key of the music to be played. However, the problem was that it then played only in the one key. To resolve this, various temperaments were invented. The Roland Harpsichord has the following five temperaments.

Equal Temperament

The most common temperament.

Just Temperament

The "Muddiness" of the 5th and 3rd is removed. Chords sound beautiful, but it is not suitable for playing a melody, because the scale is inconsistent. Nor is it suitable for playing music with transposition, as the root notes should be changed according to the key in which the music is played.

Mean Tone

This is also called "medium whole note temperament". Just temperament is partly altered to make transposition possible. Key with up to three #'s and two ♭'s can be played, with chords sounding quite similar to the just temperament.

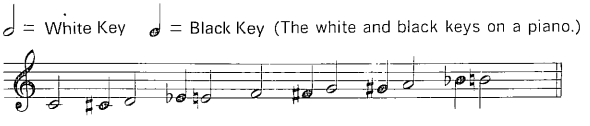
Werckmeister

This is the 3rd scale within the first group of scales suggested by Werckmeister. The flexibility for transposition is wider than using Mean Tone. A piece with few #'s or ♭'s will sound more harmonic, and one with many #'s or ♭'s will sound more melodious.

Kirnberger

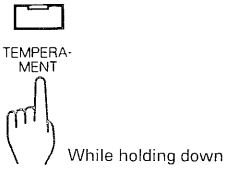
This is the third scale suggested by Kirnberger. This is a modification from Mean Tone and Just Temperament. It is used in concert as much as the Werckmeister scale.

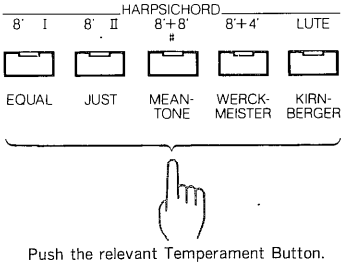
*All the temperaments except for Equal Temperament would require two black keyboards. For instance, C# and Db are different pitches. However, since there is only one black keyboard, a solution is presented below.



How to select one of the five Temperaments

While holding the Temperament Button down, press the Temperament Selector button you want.





Once a Temperament other than EQUAL is selected, the Temperament Button lights up, and EQUAL and the Temperament currently selected will be alternately selected by pressing the Temperament Button.

If you simply press the Temperament Button, the indicator of the Temperament Button currently selected will flash.

*At power-up, the Harpsichord will default to EQUAL.

*While taking the Temperament selection procedure, the instrument cannot be played.

How to change the Root Note in JUST Temperament

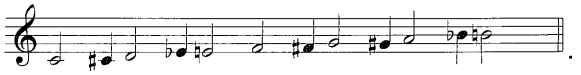
When the Just Temperament is selected, you are required to change the root note depending on the key of the music currently being performed. The Roland Harpsichord allows you to change root notes easily using the Temperament Button and a key on the keyboard(in any sound range). The necessary procedure differs in a major or minor key as follows.

■ PROCEDURE

Major Key

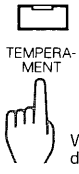
While holding the Temperament Button down, press the key for the root note.

When C is selected as a root:



Minor Key

While holding the Temperament Button down, press the key for the root note, and the key a minor 3rd higher, simultaneously.



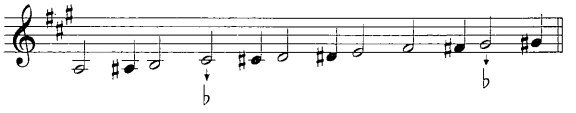
* When a Temperament other than JUST is selected, the root notes can be changed in the same way. (Except for EQUAL.) In that case, however, there is no difference for the major and minor keys.

* The root note you have set here will remain even after another Temperament is selected.

* When a Temperament other than JUST is selected for ensamble playing with other instruments, the pitch of a root may be slightly detuned. It is necessary to tune the Harpsichord to the other musical instruments.

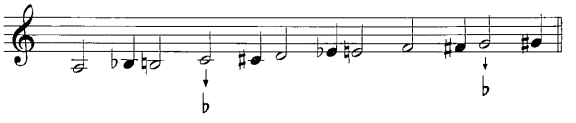
[e.g. 1] For playing in A major

While holding the Temperament Button down, press an A key.



[e.g. 2] For playing in A minor

While holding the Temperament Button down, press an A, and the minor 3rd above(in this example, C key) at the same time.

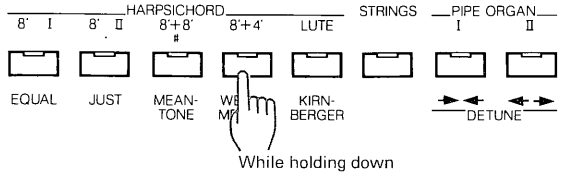


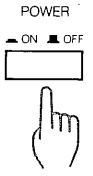
THE HARPSICHORD SOUND

It is possible to mute the sound which is created the moment your finger is released from the keys.

■ PROCEDURE

While holding the 8′ + 4′ button down, turn the Harpsichord on.





* The changes you have made will be retained in memory until the unit is turned off.

* The Roland Harpsichord allows you to add or change other functions by taking a certain procedure when switching on. See page 21 "Functions which can be added or changed at power up".

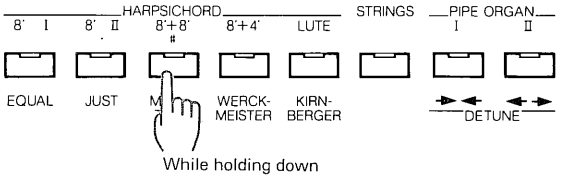
TOUCH SENSITIVITY

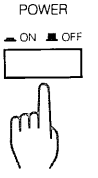
Usually, a harpsichord does not feature a touch sensitivity (dynamics). The Roland Harpsichords, C-20 and C-50, can perform with full control over dymamics, separately for harpsichord and sustained sounds. Using this unique function, you can enjoy interesting effects.

■ PROCEDURE

Touch Sensitivity for a Harpsichord Voice

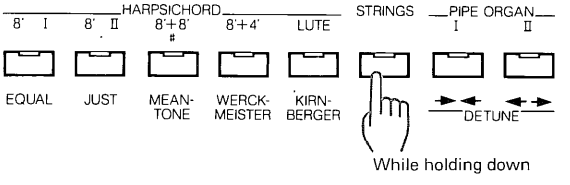
While holding the 8′ + 8′ button down, turn the unit on.

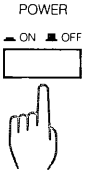




Touch Sensitivity for a Sustained Type Voice

While holding the STRINGS button down, turn the unit on.





If you turn on the unit while holding both the 8′ + 8′ and STRINGS buttons down, all voices will take on touch sensitivity.

* The changes you have made will be retained in memory until the unit is turned off.

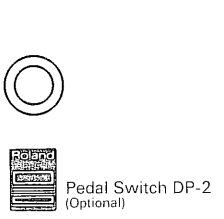
* The Roland Harpsichord allows you to add or change other functions by taking a certain procedure when switching on. See page 21 "Functions which can be added or changed at power up".

To obtain the following functions, optional units are needed.

HOLD PEDAL

[Hold Effect]

By connecting an optional pedal switch (e.g. DP-2, DP-6) or an Expression Pedal (EV-5) to the Hold Pedal Socket on the Harpsichord, the pedal functions just like a damper pedal on an acoustic piano. When using a Sustained voice, it keeps sounding while the pedal is being pressed.

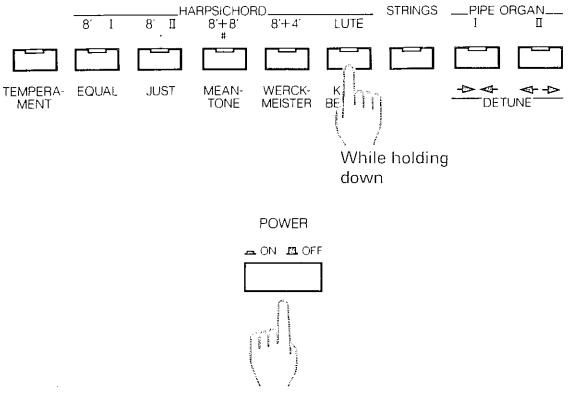


[Conditioned Hold Effect]

The Hold Pedal works only on harpsichord voices.

PROCEDURE

While holding the Harpsichord LUTE button down, turn the unit on.



* The changes you have made will be retained in memory until the unit is turned off.

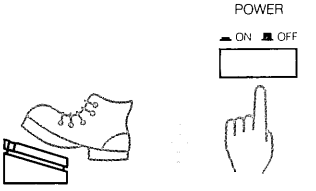
* The Roland Harpsichord allows you to add or change other functions by taking a certain procedure when switching on. See page 21 "Functions which can be added or changed at power up".

TONE SELECTION USING THE PEDAL

By connecting an optional pedal switch (e.g. DP-2, DP-6) to the Hold Pedal Socket on the Harpsichord, two tones can be alternately selected using the pedal.

■ PROCEDURE

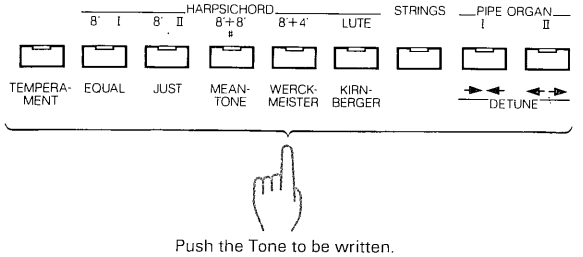
While holding the pedal switch down, turn the unit on.



While holding down

You can choose any two voices you want simply by pressing the relevant Tone Selector buttons(in any order)after releasing the pedal.

If you select only one voice, the previously selected voice will remain as one of the two tones.



Push the Tone to be written.

* When the pedal switch is turned to work as above, it does not work as a Hold Pedal.

* The changes you have made will be retained in memory until the unit is turned off.

* The Roland Harpsichord allows you to add or change other functions by taking a certain procedure when switching on. See page 21 "Functions which can be added or changed at power up".

[e.g.] If you have pushed the 8'I button, then the 8'II button.

The 8'I and 8'II tones are alternately selected by pushing the pedal.

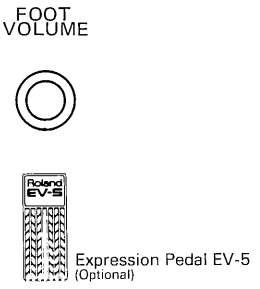
It is possible to combine a harpsichord voice and the mixed sound of a harpsichord and sustained type voices.

e.g. If you have pushed the 8'I button, then the 8'II and STRINGS button simultaneously.

The 8'I tone and 8'II + STRINGS sounds are alternately selected by pushing the pedal.

VOLUME PEDAL

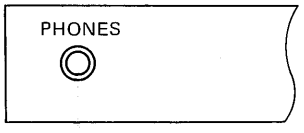
By connecting the Expression Pedal EV-5 to the Foot Volume Socket, the pedal will function as a volume pedal. The volume of the Strings or Pipe Organs I and II can be controlled by using this pedal.



HEADPHONES

Standard stereo headphones can be used with the Roland Harpsichord for private listening and practice. Connect the headphone plug to the Headphone socket on the Harpsichord.

Front of the unit



Headphone Socket

Adjust the headphone volume with the Volume Knob.

* Connecting the headphone to the Headphone Socket will disconnect the internal speaker.

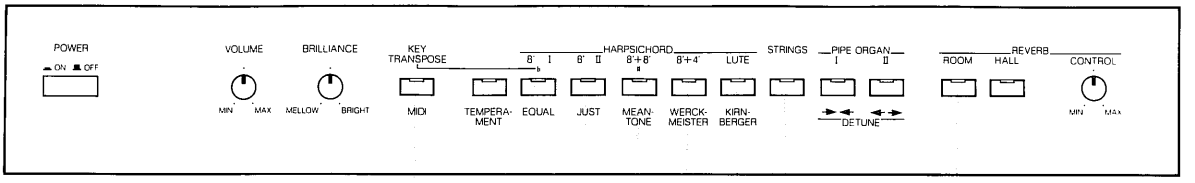
Functions which can be added or changed at power up

- Reverb setting for each voice
- Touch Sensitivity
- The Harpsichord sound
- Conditioned Hold Effect
- Tone Selection using the Pedal

To add or change more than one function at the same time, take the following procedure.

■ PROCEDURE

Turn the unit on while holding a button or pedal down. Then without releasing the button(or pedal), press other relevant buttons.



MIDI Function (III) (See p.26)

Touch Sensitivity for Sustained Sound
Conditioned Hold

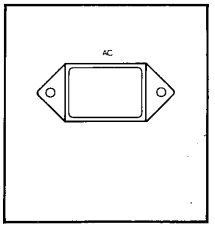
Reverb Setting for each voice

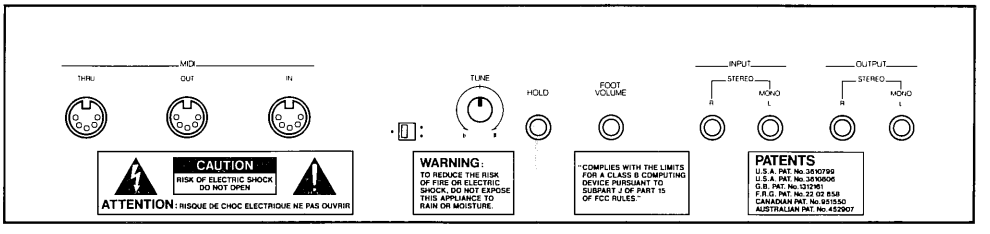
The Harpsichord Sound

Touch Sensitivity for Harpsichords

MIDI Function (IV) (See p.26)

MIDI Function (II) (See p.26)





Tone Selection using the Pedal

When the unit is turned on, all the relevant buttons light up, and the buttons you select will be brighter.

*If you make a mistake, repeat the whole procedure.

*When you have turned on the "Tone Selection using the Pedal" function, do not go to Tone selection procedure (=release the pedal) until you turn on the other functions.

Input Sockets

The external input sockets are provided for connecting the outputs of other electronic instruments (rhythm machines CR-1000, TR-626 or sound modules MT-32, etc.), to the internal speakers and amplifier of the Roland Harpsichord.

Output Sockets

These Output Sockets are provided for connecting the Roland Harpsichord to larger sound systems, such as a home stereo system, multi-track recorders, mixers, and/or auxiliary instrument amplifiers.

Connections

1 Turn down the volume of the external amplifier to be connected to the Harpsichord.

2 Connect the Output Sockets of the Harpsichord to the Input Sockets (or Line In's) of the amplifier.

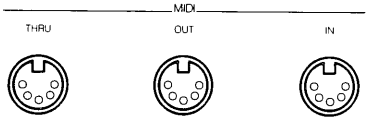
3 Adjust the volume of the amplifier.

* Connecting the headphone plug to the Headphone Socket on the Harpsichord will disconnect the internal speakers.

MIDI Connectors

Part of the power of your Roland Harpsichord is in the use of the MIDI (Musical Instrument Digital Interface). To learn more about MIDI and music systems that can be added to your Roland Harpsichord, refer to the enclosed booklet "MIDI" and the implementation chart in the back of this owner's manual.

The Roland Harpsichord features the MIDI IN, MIDI OUT and MIDI THRU Connectors on the rear panel.



MIDI IN Connector

MIDI OUT Connector

MIDI THRU Connector

MIDI IN Connector

When using the Harpsichord as a MIDI sound module controlled by an external MIDI device, connect the MIDI IN Connector to the MIDI OUT or MIDI THRU on the external device.

MIDI OUT Connector

When using the Harpsichord as a keyboard controller that drives an external device, connect the MIDI OUT Connector to the MIDI IN on the external device.

MIDI THRU Connector

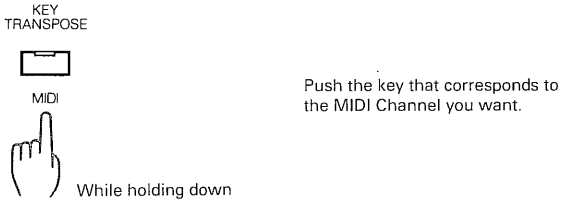
Through this, an exact copy of the signal fed into the MIDI IN is sent out.

2 MIDI Channel Setting

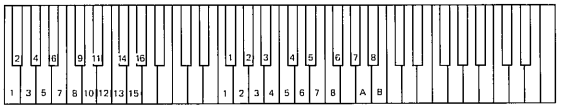
For MIDI communication, the MIDI channel of a transmitter and receiver unit should be set to the same number.
The MIDI channels of the Harpsichord can be changed as shown below.

■ PROCEDURE

While holding the MIDI Button down, push the key that corresponds to the MIDI channel number you want.(See page 30.)



*Usually, the default MIDI channel is 1 (and OMNI OFF).



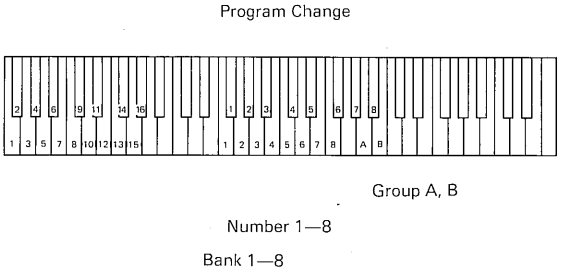
MIDI Channel

3 Program Change

A Program Change is a MIDI message for selecting tones (voices). A different Program Change number is assigned to each voice, and a voice can be selected by the corresponding Program Change number.

a. Transmitting Program Change to an external MIDI device

As shown below, you can transmit a Program Change number (combination of Group, Bank and Number) by using the appropriate keys on the keyboard.



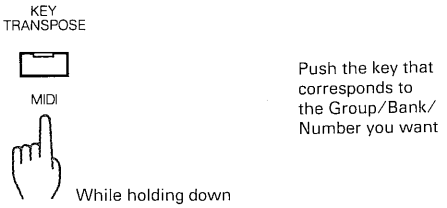
The table below shows how the Groups/Banks/Numbers on the Harpsichord correspond to the Program Change numbers.

Program Change Table

BANK	No.	1	2	3	4	5	6	7	8
A	1	1	2	3	4	5	6	7	8
	2	9	10	11	12	13	14	15	16
	3	17	18	19	20	21	22	23	24
	4	25	26	27	28	29	30	31	32
	5	33	34	35	36	37	38	39	40
	6	41	42	43	44	45	46	47	48
	7	49	50	51	52	53	54	55	56
	8	57	58	59	60	61	62	63	64
B	1	65	66	67	68	69	70	71	72
	2	73	74	75	76	77	78	79	80
	3	81	82	83	84	85	86	87	88
	4	89	90	91	92	93	94	95	96
	5	97	98	99	100	101	102	103	104
	6	105	106	107	108	109	110	111	112
	7	113	114	115	116	117	118	119	120
	8	121	122	123	124	125	126	127	128

■ PROCEDURE

While holding the MIDI Button down, push the key which corresponds to the Group/Bank/Number you want.



A Program Change number is now sent through the MIDI OUT Connector of the Harpsichord.

b. Selecting a Tone on the Harpsichord with a Program Change number sent from an external MIDI device

When a Program Change number (1 - 8) is received through the MIDI IN Connector, the Tones on the Harpsichord will change as shown below.

Received Program Change Number	Selected Tone
1	Harpsichord 8'I
2	Harpsichord 8'II
3	Harpsichord 8'+8'
4	Harpsichord 8'+4'
5	Harpsichord Lute
6	Strings
7	Pipe Organ I
8	Pipe Organ II

Receiving the following Program Change number, the Harpsichord will be turned to the Dual Timbre mode (see page 8 "Tone Selection II"), with two tones (a Harpsichord and a Sustained) combined.

BANK	NO	1	2	3	4	5
A	2	(9) 8'I	(10) 8'II	(11) 8'+8'	(12) 8'+4'	(13) Lute
		+ Strings				
	3	(17) 8'I	(18) 8'II	(19) 8'+8'	(20) 8'+4'	(21) Lute
		+ Pipe Organ I				
	4	(25) 8'I	(26) 8'II	(27) 8'+8'	(28) 8'+4'	(29) Lute
		+ Pipe Organ II				

( ) = Program Change Number

* Program Change numbers 14 - 16, 22 - 24 and 30 - 128 are ignored.

4 Reverb On/Off

The Harpsichord can transmit Reverb On or Off messages to an external device as follows.

■ PROCEDURE

While holding the MIDI Button down, push either of the Reverb Buttons, ROOM or HALL.
The reverb time setting (see page 10) will also be transmitted as MIDI messages.

* The above procedure does not affect the Reverb On/Off setting written on the Harpsichord.

5 MIDI Functions

The Roland Harpsichord can select any of the following four modes that decide how the messages are received and transmitted. This is called "MIDI Functions".

(I) Note On/Off, Pedal and Program Change messages are transmitted and received.

(II) Note On/Off and Pedal messages are transmitted and received. Program Change messages are only transmitted.

(III) Note On/Off, Pedal and Program Change messages are transmitted and received. Program Change can be transmitted when the internal voices are changed. Even without taking the Reverb On/Off procedure on page 10, Reverb On/Off messages are transmitted by turning on or off the Reverb effect.

* This mode may be used when recording data into a MIDI sequencer.

(IV) More than one voice can be played simultaneously via the performance messages sent from an external MIDI device. This is called the "Multi Timbre Mode".

* For a detailed explanation, see the following page "Multi Timbre Mode".

■ PROCEDURE

(I) Turning the Harpsichord on will automatically select this mode.
(II) Turn the Harpsichord on while holding the Tone Selector button, 8'I.
(III) Turn the Harpsichord on while holding the Key Transpose Button down.

(IV) Turn the Harpsichord on while holding the Tone Selector button, 8'II.

* Mode (IV) can also be selected by using the MIDI Exclusive messages. See the MIDI Implementation chart at the back of the manual.
* More than one MIDI mode can be selected simultaneously in a similar method to "Function which can be added or changed at power up" on page 21, except that (II) and (IV) cannot be selected at the same time. If either of the 8′I or 8′II button is pressed, the other button is turned off.
* The procedures of MIDI Function (I — IV) and of "Function which can be added or changed at power up" (page 21) can be done at the same time.
* According to the MIDI Function, the contents of the MIDI messages communicated will differ. See the MIDI Implementation chart for the details.

[NOTE]

In any of the MIDI modes (I) to (IV), Note On/Off messages will be ignored if the Temperament Button is pressed.
When a mode other than (II) is selected, and a Program Change is received while Tone selection is being performed via the pedal connected to the Harpsichord (page 19), a different Tone will be selected because of the Program Change.

6 Multi Timbre Mode

The Multi Timbre Mode of the Roland Harpsichord, C-50/20, allows you to play a harpsichord voice (8′I — LUTE) and a sustained voice (Strings, Pipe Organs I and II) at the same time by using performance messages sent from an external device. This mode may be useful for an ensemble section, such as playing a harpsichord voice on the keyboard while playing the Strings voice via MIDI messages from a sequencer.

* The Multi Timbre Mode does not allow you to play the combined sound of a harpsichord and a sustained voices on the keyboard.

a. Voices and MIDI Channels

In the Multi Timbre Mode, MIDI channels are assigned to the voices on the Harpsichord as shown below.

Tone Name	MIDI Channel
Harpsichod (8′I—Lute)	11
Strings, Pipe Organs I and II	14

*It is not possible to change the above MIDI channel assignment.

A voice (harpsichord voices or sustained type voices) is called by using the Program Change number assigned to that voice, and the messages (Program Change) are communicated on the MIDI channel assigned to that voice.

Tone Name	Program Change No.
Harpsichord 8′I	1
Harpsichord 8′II	2
Harpsichord 8′+8′	3
Harpsichord 8′+4′	4
Harpsichord Lute	5
Strings	48
Pipe Organ I	64
Pipe Organ II	65

Program Change numbers of a Sustained Sound will change in the Multi Timbre mode.

Performance messages (e.g. Note On/Off) are transmitted on the MIDI channel as assigned to the voice selected on the Harpsichord.

b Pedal Messages

The sound played on the Harpsichord is controlled by its own pedal, and the sound played via the performance messages from an external device is controlled by the pedal messages from the external device. However, when the Harpsichord is set so that the Hold Pedal controls only the harpsichord voices (see page 18), MIDI messages from an external device control the sound on the Harpsichord as well.

c Reverb On/Off Messages

When Reverb On messages are received, all voices take on reverb effects, and Reverb Off messages turn off the reverb effects of all voices.
Reverb On or Off messages are received on either channel 11 or 14. The last message received will have priority.
Reverb On/Off messages are transmitted on the channel assigned to the voice currently selected on the Harpsichord.

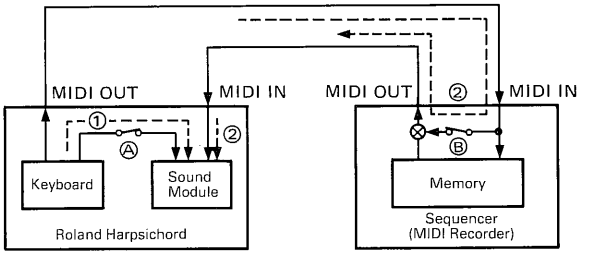
* To leave the above mode, turn off the unit. Another way to leave the mode is the unit receives the Exclusive message, Multi Timbre Off (see MIDI Implementation chart).

7 Local On/Off

Usually, MIDI devices, including the Roland Harpsichord, are not intended to transmit MIDI messages received at MIDI IN to MIDI OUT. However, MIDI sequencers are provided with a SOFT THRU function that enables it to do just that.

The Soft Thru function can be effective when using a MIDI keyboard and a separate MIDI sound module with a sequencer. That is, to record a keyboard performance from a keyboard controller into a sequencer, and play it using the sound module, you connect the sound module to the MIDI THRU on the sequencer, play the keyboard controller, then disconnect it from the sequencer to play it back. Such complication can be resolved by the Soft Thru function. Simply turn Soft Thru on, connect the sound module to the MIDI OUT on the sequencer, and you can record and playback without changing conditions.

The Soft Thru function, however, must not be turned on when using a sequencer with a Roland Harpsichord type keyboard that contains both the keyboard and sound module. If the Soft Thru on the sequencer is set to ON, the Harpsichord stutters, or the maximum voices are reduced. This is because the same performance information travels to the sound module section of the Harpsichord through the internal connection ① and via sequencer ②.



Ⓐ LOCAL SWITCH

Ⓑ SOFT-THRU SWITCH

* These switches do not mechanically exist. These are functions engaged in the software.

To resolve this problem, the sequencer's Soft Thru should be turned off (= cut route ②), or route ① on the keyboard should be cut off. The cutting of route ① on the keyboard is called the LOCAL OFF function. LOCAL ON may then be called the normal condition (= route ① is connected).

Most sequencers default to SOFT THRU OFF, and therefore are free from such troubles. However, if the sequencer cannot be set to SOFT THRU OFF, you can set LOCAL OFF on the Harpsichord by setting the Local Switch on the rear panel to the ":" position.

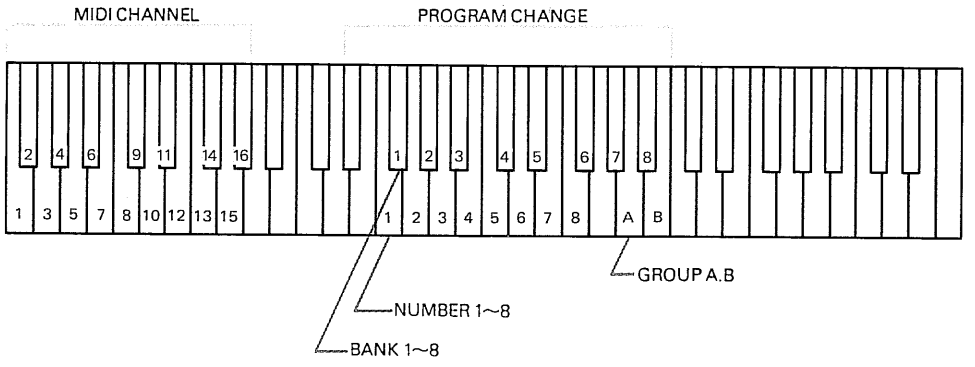
· position → LOCAL ON

: position → LOCAL OFF

* Unless a MIDI cable is connected to the MIDI IN connector on the Harpsichord, LOCAL OFF cannot be selected.

APPENDIX

MIDI Channel and Program Change Correspond to the Keyboard as shown below.



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SPECIFICATIONS

C-20

Keyboard ..... 61 keys
Maximum Voices ..... 16 Voices Polyphonic
Preset Voices ..... Harpsichords (8'I, 8'II, 8'+8', 8'+4', LUTE),
Strings,
Pipe Organs I and II
Reverbs ..... ROOM, HALL (ON/OFF),
Reverb Control
Connectors ..... Output Sockets (Mono, Stereo)
Input Sockets (Mono, Stereo)
Hold Pedal Socket
Foot Volume Pedal Socket
MIDI IN Connector
MIDI OUT Connector
MIDI THRU Connector
Switch ..... Power Switch
Speakers ..... 12 cm x 2, 5 cm x 2
Output ..... 8.5W x 2
Finish ..... Roland Original Oak (Light Brown)
Dimensions ..... 936(W) x 460(D) x 153(H) mm/36-7/8" x 18-1/8" x 6"
Weight ..... 19.5 kg / 43 lb
Consumption ..... (35W) 117V / (60W) 220V / (60W) 240V
Accessories ..... Music Rest, Power Cord

C-50

Keyboard ..... 61 keys
Maximum Voices ..... 16 Voices Polyphonic
Preset Voices ..... Harpsichords (8'I, 8'II, 8'+8', 8'+4', LUTE),
Strings,
Pipe Organs I and II
Reverbs ..... ROOM, HALL (ON/OFF),
Reverb Control
Connectors ..... Output Sockets (Mono, Stereo)
Input Sockets (Mono, Stereo)
Hold Pedal Socket
Foot Volume Pedal Socket
MIDI IN Connector
MIDI OUT Connector
MIDI THRU Connector
Switch ..... Power Switch
Speakers ..... 16 cm x 1, 6 cm x 2, 10 cm x 2
(Multi speaker sound field control)
Output 25W
Finish ..... Roland Original Oak (Light Brown)
Dimensions ..... 977.5(W) x 725.5(D) x 798(H) mm / 38-1/2" x 28-9/16" x 31-7/16"
(including legs)
Weight ..... 31 kg / 68 lb 7 Oz
Consumption ..... (55W) 117V / (60W) 220V / (60W) 240V
Accessories ..... Music Rest, Power Cord, Legs

Roland

Harpsi