

Technics

Electronic Organ

SX-7700G

Operating instructions



Before operating this set, please read these instructions completely.



OPERATING INSTRUCTIONS

Thank you for selecting this organ, an instrument built with care by one of the most famous names in electronics. The quality of design and manufacture will ensure that you obtain excellent performance and reliability for many years and we are sure you will derive many hours of enjoyment and entertainment from this excellent musical instrument.

This organ is designed for playing musical performances from the simplest to the most complex and can be enjoyed by the beginner as well as the competent musician.

Read this booklet carefully to get the best results from your organ.

CONTENTS

NAMES OF PARTS	2
PREPARATION FOR PLAYING	4
KEYBOARDS & COMPASS CHART	5
UPPER TONES	
UPPER TONE SELECTOR	6
UPPER TONE TABS	7
STRING ENSEMBLE	8
ORCHESTRAL HARMONIZER	8
PERCUSSIVE TONE	11
LOWER TONES	
LOWER TONE TABS	12
STRING ENSEMBLE	12
PEDAL TONES	13
FULL BASS PEDAL	14
EFFECTS	
VIBRATO TABS	16
MULTI-TREMOLO & CELESTE TABS	16
PEDAL CELESTE	17
SUSTAIN, DECAY	18
OTHER EFFECTS	19
AUTOMATIC RHYTHM CONTROLS	20
FILL IN	23
PROGRAMED RHYTHM COMPUTER	24
AUTO PLAY CHORD CONTROLS	28
WALKING BASS	30
AUTOMATIC ARPEGGIO	31
PROGRAMED CHORD COMPUTER	32
OTHER CONTROLS & FACILITIES	35
SPECIFICATIONS	36
MAINTENANCE	37

NAMES OF PARTS



① **Pedal Celeste**

② **Program Chord**

- record · auto/manual · reset

③ **Percussive Tone**

- 4' · 2²/₃' · normal/full · short/long

Orchestral Harmonizer

- ④ · wave form (Π - N) · peak frequency · speed
- ⑤ · repeat · auto wah · 8'/16' (Π)
- ⑥ · volume

⑦ **String Ensemble**

- upper volume · lower volume · on
- tablet voices

⑧ **Pedal Pitch**

⑨ **Pedal Tabs**

- bass 16' · bass 8' · tuba 16' · bass guitar
- coupler/solo

⑩ **Upper Tabs**

- flutes
 - flute 16' · flute 8' · flute 5¹/₃' · flute 4'
 - flute 2²/₃' · flute 2'
- orchestras
 - diapason 8' · clarinet 16' · oboe 8' · string 8'
 - string 4'
- effects · sustain · decay

⑪ **Upper Tone Selector**

- mixture
- tablet voices · string ensemble · harmonizer
- pre-set sounds
 - organ I · organ II · saxophone · accordion
 - piano · harpsichord · vibraphone

⑫ **Vibrato**

- on · light/heavy · slow/fast · delay

⑬ **Multi-Tremolo & Celeste**

- tone tabs
 - upper flute · upper orchestra · lower
- effect tabs
 - chorus · tremolo · delay · celeste

⑭ **Lower Tabs**

- flutes
 - flute 8' · flute 4'
- orchestras
 - diapason 8' · horn 8' · cello 8' · string 4'
- effect · sustain

⑮ **Program Rhythm**

- triplet · 3-beats · record · clear

⑯ **Programed Rhythm Computer**

- composer I · composer II · march (H.H)
- swing (C.B) · rock I (S.D) · rock II (T.T)
- slow rock (R.S.) · soul (B.D) · bossa nova
- samba · rumba (L.M.R) · mambo (P.V.R)
- waltz · tango
- variation } · auto variation
- | · variation

⑰ **Fill In**

- auto · manual & intro

⑱ **Rhythm Controls**

- volume · balance · tempo

⑲ **Effect Levers**

- pedal volume · pedal sustain · manual balance

⑳ **Auto Play Chord**

- cancel · composer · one finger · fingered
- separated pedal · pedal constant · memory

㉑ **Arpeggio**

- on · up/up-down · soft/loud

㉒ **Walking Bass**

- normal · I · II

㉓ **Foot Switch Control**

- glide/rhythm

㉔ **Rhythm Start**

- synchro start · touch switch on · touch switch

㉕ **Main Volume**

㉖ **Power Switch**

㉗ **Tremolo speed**

㉘ **Effect Levers**

- upper sustain · reverberation · lower sustain
- brilliance

㉙ **Pilot Lamp**

- ⑳ · output terminal · input jack · microphone jack (with volume) · headphones jack

㉚ **Pedal Keyboard (13 keys)**

㉛ **Full Bass Pedal**

㉜ **Expression Pedal**

㉝ **Foot Switch**

㉞ **Knee Lever**

PREPARATION FOR PLAYING

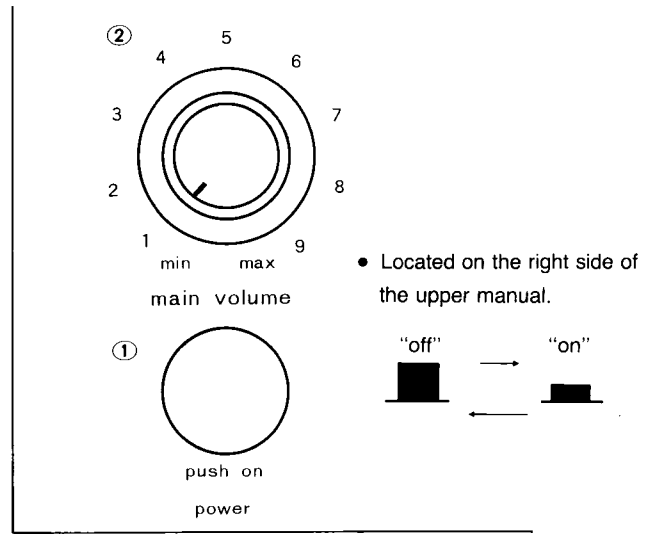
Before playing, undertake the following to test the sound:

[1] Press the power switch ①.

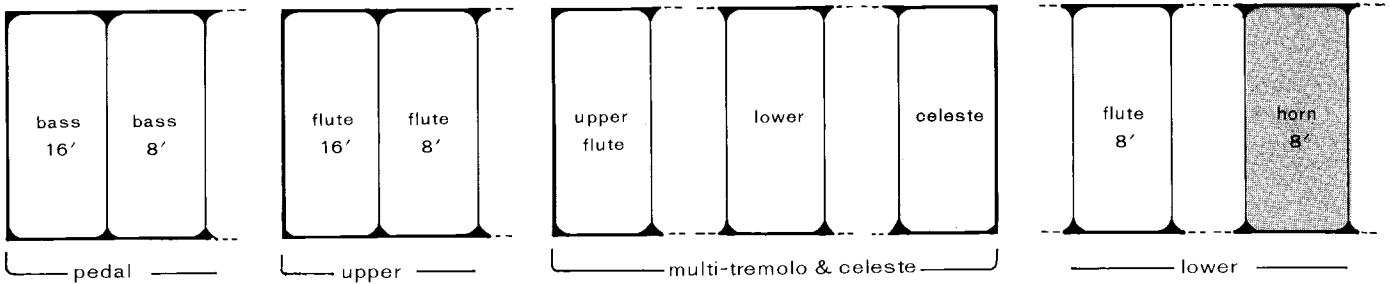
- Pressing this button turns the organ on. (The pilot lamp and the tablet voices indicator on the upper tone selector will light up.)

[2] Turn the main volume control knob ② clockwise, and set it between positions "5" and "9".

- This control knob adjusts the volume levels for the entire organ unit. With the knob on the "min." position, no sound will be heard. The volume increases as the knob is turned clockwise.



[3] Turn on the following tabs.



[4] Set all the effect levers to their central position.

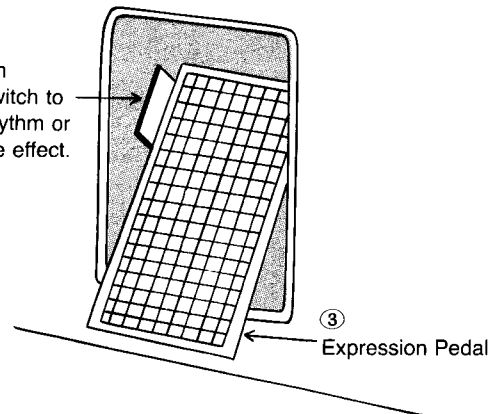


[5] Do not set any other buttons or controls.

[6] Fully depress the expression pedal ③ with your right foot.

- The expression pedal is designed for musical intonation. Upon depression of this pedal, the volume for the entire unit increases and it decreases when the pedal returns.

- Foot Switch
Use this switch to start the rhythm or give a glide effect.



The preparations are now complete. So, play with your right hand (on the upper manual) for melody, your left hand (on the lower manual) for accompaniment and left foot (on the pedal) for bass. The organ will produce beautiful sounds with the celeste effect. To use the automatic rhythms and auto play chords, as well as a variety of effects, please read the following pages carefully.

KEYBOARDS & COMPASS CHART

Keyboards

There are three keyboards—Upper Manual, Lower Manual and Pedal Keyboard.

Range

Upper Manual	Extends from c to c;	49 keys, 4 octaves
Lower Manual	Extends from C to c;	49 keys, 4 octaves
Pedal Keyboard	Extends from C to c;	13 keys, 1 octave
	Extends from C to b;	1 (Full Bass Pedal)

Compass Chart

Upper Manual

Lower Manual

Upper Manual Tone (8')

Lower Manual Tone (8')

Middle C

8va bassa

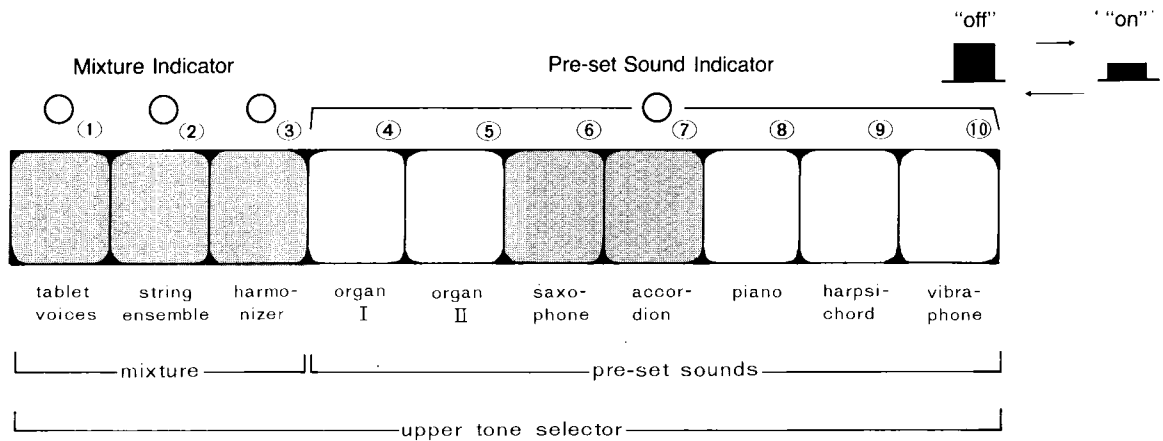
Full Bass Pedal Tone (8')

Pedal Tone (8')

Pedal Keyboard

8va bassa Played one octave lower than written.

UPPER TONES <UPPER TONE SELECTOR>



※ While the indicators remain unlit, no upper tones are produced. In this case, press any one of the buttons so that playing is possible with the tone of the pressed button.

<UPPER TONE SELECTOR>

- Located in the center of the operation panel.

Mixture

These buttons are designed to change the forms of the upper tones quickly while playing.

① tablet voices

Depressing this button allows playing with the tones selected by the upper tone tabs. (Play with the upper tone tabs turned on.)

② string ensemble

This button provides rich tones like those of the string ensembles. (Play with the string ensemble's upper volume control knob slid to the right.)

③ harmonizer

This button adds the highly characteristic tones of a musical synthesizer set by the orchestral harmonizer buttons and knobs. (Play using the orchestral harmonizer buttons and knobs.)

※ When a button is depressed, its indicator lights up, thus showing clearly which button is now in operation.

※ With the power switch on, the indicator of tablet voices will automatically light, permitting playing with the tones set by the upper tone tabs.

※ If you want to play with a tone combination, depress the buttons when required for the desired combination.

Preset Sounds

The preset sounds of various musical instruments are available and require no extra operation other than the depression of the correct button.

④ organ I

Harmonically rich sound suitable for most organ tunes.

⑤ organ II

This provides a jazz organ sound with enhanced attack effect and lively feeling.

⑥ saxophone

This provides the moody saxophone sound. Played with a delay vibrato effect in the low range, it creates a tenor saxophone effect.

<UPPER TONE TABS>

⑦ accordion

This provides the accordion sound that creates a cheerful, lively atmosphere. This effect can be further enhanced when used in combination with the celeste effect.

⑧ piano

The piano tone effects a feeling of striking piano wires with hammers. With the piano and harpsichord effects, the sound fades even though the key is held down, giving a realistic piano sound.

⑨ harpsichord

A sound with beautiful tones as delicate as the wires plucked with fingers. Played with both hands, the harpsichord will be enhanced in its feeling.

10) vibraphone

Most vibe players use a tremolo motor to enhance the sound, the feature is built-in to the pre-set vibraphone voice.

※ Even with two or more buttons for preset sounds depressed, one sound alone can be selected at a time.

※ If a changeover is desired from the present sounds to any other tone form, depress one of the mixture buttons as required. This automatically changes to the tone of the button thus depressed.

※ Even with the preset sound and mixture buttons depressed together, either one can be selected.

<UPPER TONE TABS>

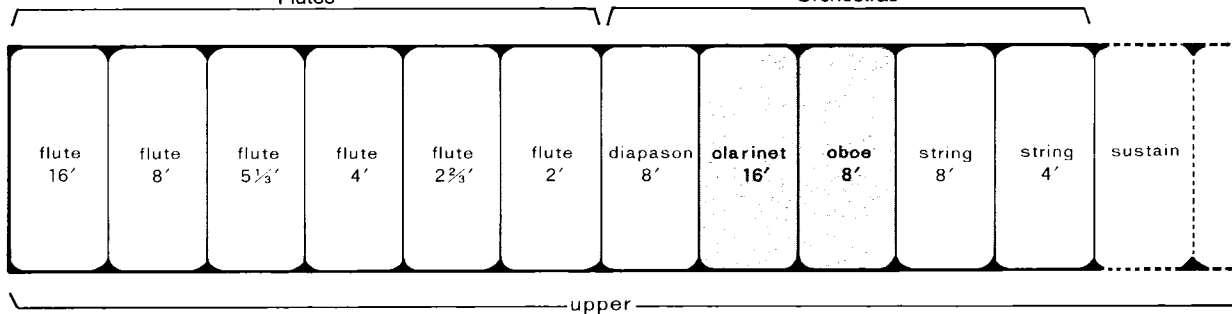
- Located on the left side of the operation panel.



※ The button "tablet voices" on the upper tone selector is depressed for playing.



Upper Tone Tabs



Flutes

flute 16'
flute 8'
flute 5 1/3'
flute 4'
flute 2 2/3'
flute 2'

Orchestras

diapason 8'
clarinet 16'
oboe 8'
string 8'
string 4'

• Foot Lengths and Tone Pitches

- 16'... Sound an octave below that of the 8'.
- 8'... Sound identical in pitch to the note in a musical notation.
- 5 1/3'... Sound the fifth above that of the 8'.
- 4'..... Sound an octave above that of the 8'.
- 2 2/3'... Sound an octave and the fifth above that of the 8'.
- 2'..... Sound two octaves above that of the 8'.

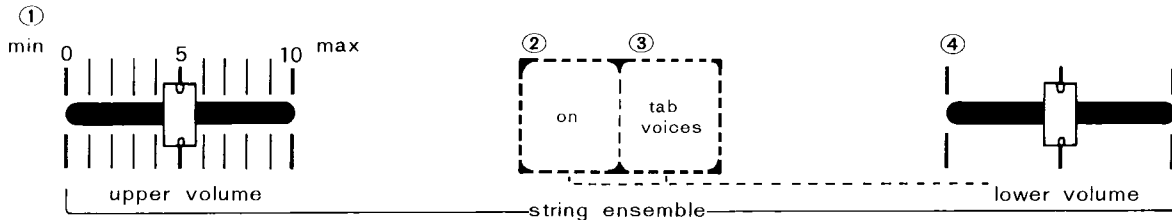
<STRING ENSEMBLE, ORCHESTRAL HARMONIZER>

<STRING ENSEMBLE>



※ The button "string ensemble" on the upper tone selector is depressed for playing.

- Located on the right side of the operation panel.



String Ensemble

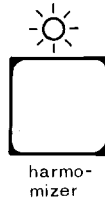
The string ensemble produces a preset rich, extended sound of orchestral strings played together. Rich harmonic tones are produced through a 3-channeled amplifier and speaker system, giving a pleasing string ensemble effect.

① upper volume

This control knob adjusts the upper string ensemble volume levels. With the knob set at the "min." position, no string ensemble sound is produced, while sliding it to the right gradually increases the volume.

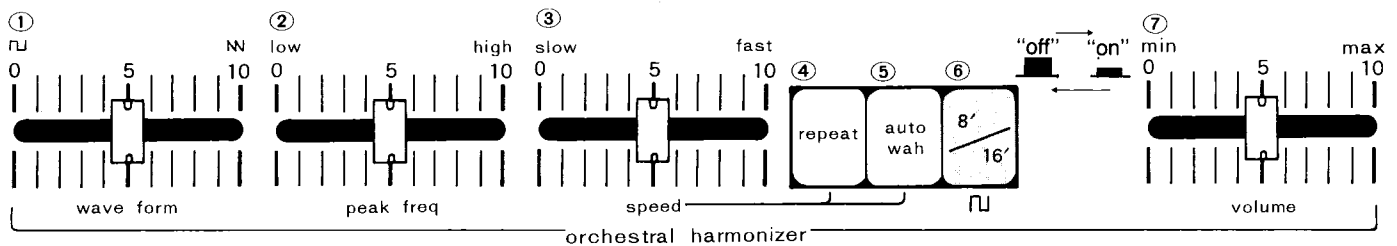
※ For ②, ③ and ④, see the Lower Tones on page 12.

<ORCHESTRAL HARMONIZER>



※ The button "harmonizer" on the upper tone selector is depressed for playing.

- Located in the center of the operation panel.



Orchestral Harmonizer

The harmonizer is a new type of simpler musical synthesizer. It produces completely separate tone colors from those of the tone tabs and preset sounds.

① wave form

Sliding this knob adjusts the mix of the two sound waveforms from the square wave (□) to sawtooth wave (∩). The control knob is set towards the square wave position for the soft tones of the clarinet, and towards the sawtooth wave for the harmonically rich, strong tones of the trumpet.

② peak freq

Operating this control knob permits a choice of sound range characteristics, from low to high, which may be required for emphasis. The control knob is set to "low" for heavy, round tones and to "high" for light, strong ones. These tones are added to whatever source waveform has been selected with the Wave Form knob.

③ **speed**

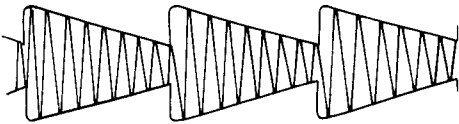
Moving this knob with the Repeat and Auto Wah buttons depressed controls the speed of repeat and auto wah effects. The speed gradually increases by moving the knob to the right.

④ **repeat**

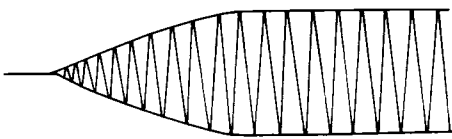
Pressing this button adds a repeat effect (sound continuously pitched) to the sound created by the Wave Form and Peak Freq. control knobs.

- Set to "0", the Speed control knob produces the sound with slow build-up and slow attack effect.

- Repeat effect: Sound modulated.



- Slow attack effect: Sound with slow build-up. (Speed: 0)



⑤ **auto wah**

- Pressing this button adds an auto wah effect (continuously muted effect) to the sound created by the Wave Form and Peak Freq. control knobs.
- Set to "0", the Speed control knob produces an attack wah whenever a key is pressed.

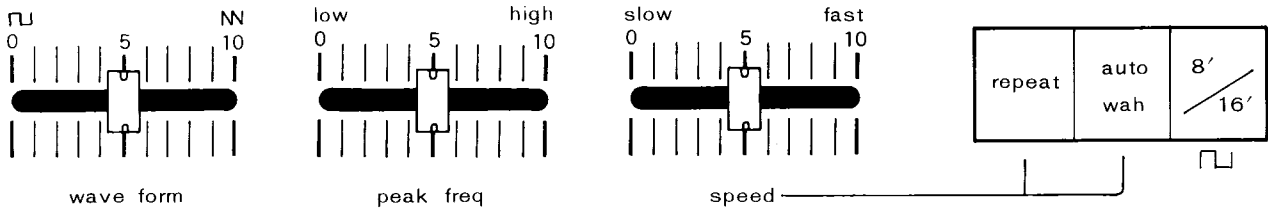
⑥ **8'/16' (Π)**

This button, when depressed, lowers the square wave (Π) of the source waveforms by one octave.

⑦ **volume**

Moving this control knob to the right gradually increases the volume of the orchestral harmonizer.

Some examples of the tones which can be created with the orchestral harmonizer are shown below.

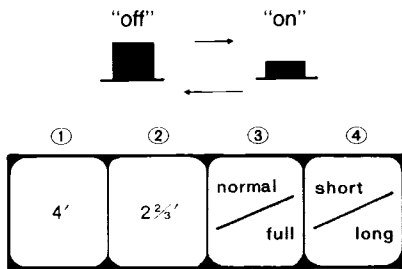


SWEET TRUMPET			repeat	auto wah	8' / 16'	vibrato : on, heavy, delay
10	6	0				
wave form	peak freq	speed				
BRIGHT TRUMPET			repeat	auto wah	8' / 16'	vibrato : on, heavy, delay
10	7.5	0				
wave form	peak freq	speed				
SWEET CLARINET			repeat	auto wah	8' / 16'	vibrato : on, heavy, delay
0	5	0				
wave form	peak freq	speed				
BRIGHT CLARINET			repeat	auto wah	8' / 16'	vibrato : on, heavy, delay
0	7	0				
wave form	peak freq	speed				
FUNNY CAT			repeat	auto wah	8' / 16'	vibrato : on, heavy, delay sustain : on 3rd u.sustain
10	8	0		on		
wave form	peak freq	speed				
SYNTHETIC SOUND I			repeat	auto wah	8' / 16'	celeste : on, u . orchestra : on sustain : on, 3rd u.sustain
10	10	0		on		
wave form	peak freq	speed				
SYNTHETIC SOUND II			repeat	auto wah	8' / 16'	celeste : on, u . orchestra : on sustain : on 3rd u.sustain
10	5	0	5		on	
wave form	peak freq	speed				
KOTO			repeat	auto wah	8' / 16'	sustain : on 3rd u.sustain
10	5	0				
wave form	peak freq	speed				

<PERCUSSIVE TONE>

<PERCUSSIVE TONE>

- Located on the left side of the operation panel.



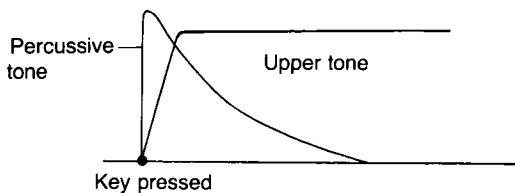
percussive tone

Percussive Tone

The percussive tones fade even with the key kept depressed. When used together with the upper tones, it enables playing with a clear build-up and in staccato.

① 4'

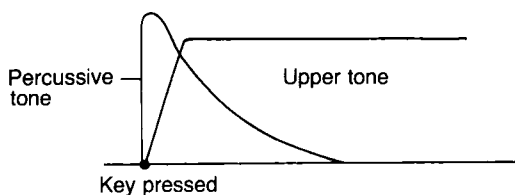
- With this button turned "on", the upper tones can be played with the 4' percussive tone overlapped.



- When the percussive tone is not required, be sure to turn it "off".

② 2 $\frac{2}{3}$ '

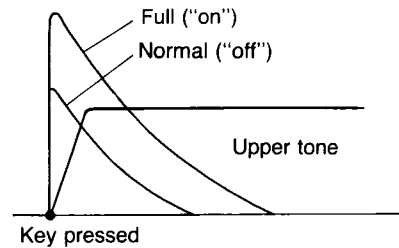
- With this button on, the upper tones can be played with the 2 $\frac{2}{3}$ ' percussive tone overlapped.



- When not required, turn it "off".

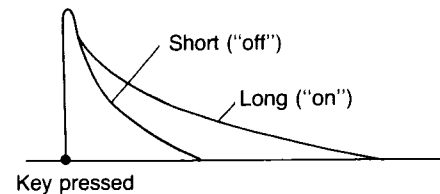
③ normal/full

This button is used to change the percussive tone levels. The percussive tone is normal in strength with the button turned "off" (normal) and full in strength when turned "on" (full).



④ short/long

This button is for use in changing the percussive tone fade in length. The length of fade is shortest when the button is turned "off" (short) and longer when turned "on" (long).



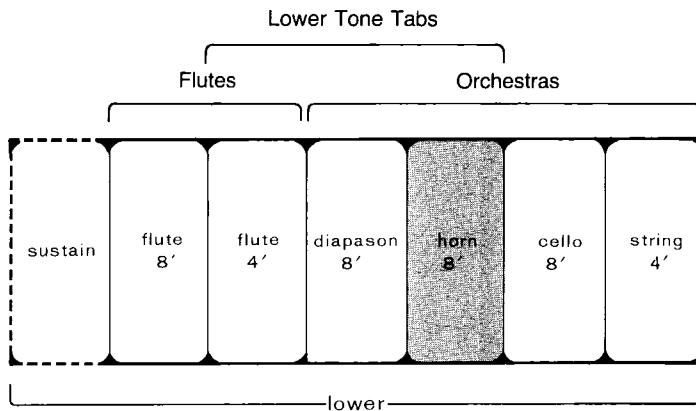
※ When playing legato, the percussive tone adds only to the first sound.

※ No percussive tone can be added to string ensemble sounds or preset sounds.

LOWER TONES <LOWER TONE TABS, STRING ENSEMBLE>

<LOWER TONE TABS>

- Located on the right side of the operation panel.



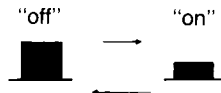
• Flutes

flute 8'
flute 4'

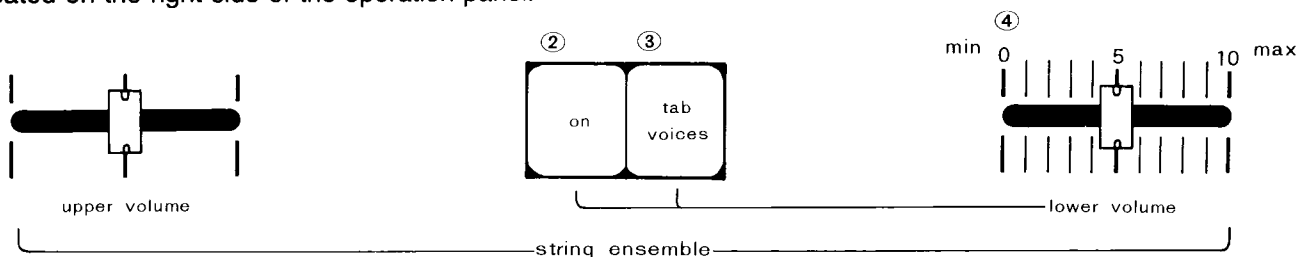
• Orchestras

diapason 8'
horn 8'
cello 8'
string 4'

<STRING ENSEMBLE>



- Located on the right side of the operation panel.



String Ensemble

- Playing with extended, thick string ensemble sounds is also possible with the lower manual.

② on

Depressing this button causes the lower tones to change to the string ensemble ones. If you want to return to the original sound of the lower tone tabs, depress the button again to turn it "off".

③ tablet voices

With this button, and the On button depressed, the lower tone tab sound and the string ensemble sound can be overlapped for playing.

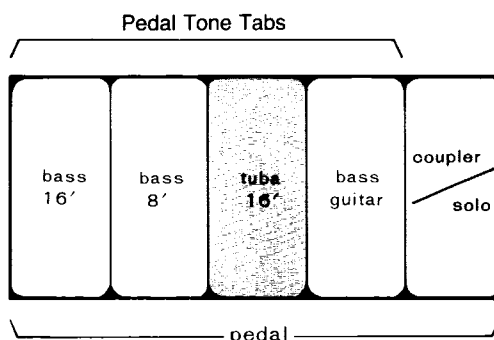
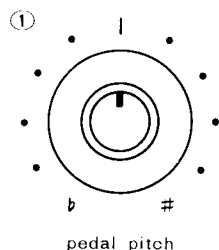
④ lower volume

This control knob adjusts the lower ensemble volume. With the knob at the "min." position, no sound is produced. The volume increases by sliding it to the right.

PEDAL TONES

< PEDAL TONE TABS >

- Located on the left side of the operation panel.



Bass (Pedal Tones)

This organ is equipped with a pedal sound source independent of the manual sound source. The pitch control adjusts the pedal sound source at a slightly lower pitch from that of the manuals. This prevents the bass from sounding slightly higher pitched during playing.

① pedal pitch

- This control provides the standard level when positioned in the center. The pedal sound pitch rises when the control knob is turned clockwise, and drops when turned counterclockwise. Use the control knob to adjust the balance in pitch feeling between the sounds of the manuals and the pedal.

Pedal Tone Tabs

bass 16'

bass 8'

tuba 16'

- Produces the bass sounds of the tube with the attack effect.

bass guitar

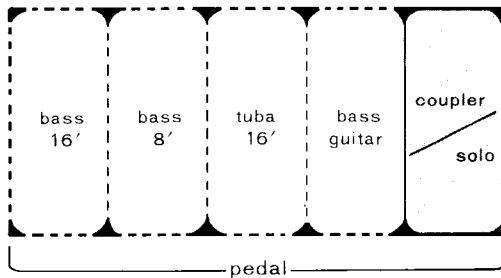
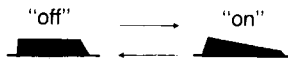
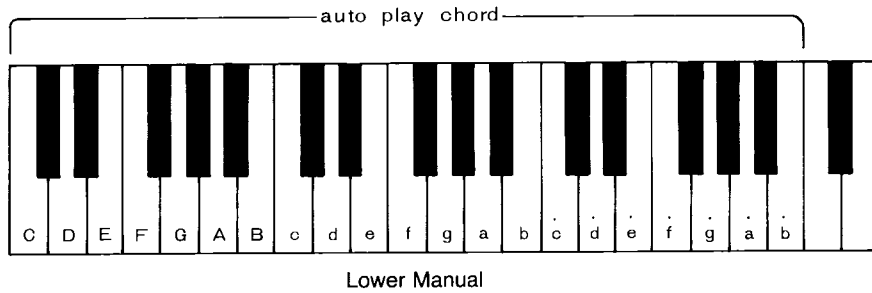
- The bass guitar gives the tones produced when a string is plucked with the attack effect. Use this when you want to play with the accent on the bass sounds.
- When combined with any other pedal tab, the bass guitar produces a heavy, thick sound with the attack effect.

※ The Coupler/Solo tab is used to play with the full bass pedal. For further information, see the following page.

FULL BASS PEDAL

The one pedal full bass system is a revolutionary function first developed by us. Used in combination with the pedal keyboard, this full bass pedal considerably extends the range of playing. The one pedal full bass system automatically selects the lowest sounds of the 36

keys on the lower manual from C to b when played with the left hand. And it provides bass an octave lower for each of the selected sounds when the full bass pedal is operated. The tones, volumes and effects identical to this system are available by the pedal tabs or levers.



- Located on the left side of the operation panel.

Bass Solo coupler/solo

- This tab is used to insert the bass solo when bass is played with the lower manual and the full bass pedal. With the tab turned "on" and the full bass pedal operated, the tones from the lower manual itself disappear, permitting a bass solo.
- With the tab returned to its original position, the tones from the lower manual and bass can be played together again.

Playing Examples

For a march or waltz, operate the full bass pedal to match the first beat on the left hand.

March



(Operate the full bass pedal lightly at the p position.)



Play as follows for a beguine.

Beguine



Even performers who cannot play the pipe organ can get pipe organ effects for hymns and chorales by playing while depressing the Full-Bass Pedal (Ped. . . . *)

The image shows three measures of music in F major, C major, and G major. The top staff is the right hand, and the bottom staff is the left hand. Above the first measure is 'F major', above the second is 'C major', and above the third is 'G major'. Below the first measure is 'L.M.' and 'Ped.' with a dot. Below the second is 'Ped.' with a dot. Below the third is 'Ped.' with a dot. Below the first measure is 'Actual Bass Sound' with a dot. Below the second is 'Actual Bass Sound' with a dot. Below the third is 'Actual Bass Sound' with a dot.

By simply depressing the Full-Bass pedal at the lowest sound during contrapuntal polyphonic fugues, etc., the same sound obtained with a full-scale pedal keyboard.

The image shows a short piece of music from 'Fughetta' by J. S. Bach. The top staff is the right hand, and the bottom staff is the left hand. Above the first measure is 'from "Fughetta"' and 'J. S. Bach'. Below the first measure is 'L.M.' and 'Ped.' with a dot. Below the second is 'Ped.' with a dot. Below the third is 'P.' and 'Ped.' with a dot. Below the first measure is 'Actual Bass Sound' with a dot. Below the second is 'Actual Bass Sound' with a dot. Below the third is 'Actual Bass Sound' with a dot.

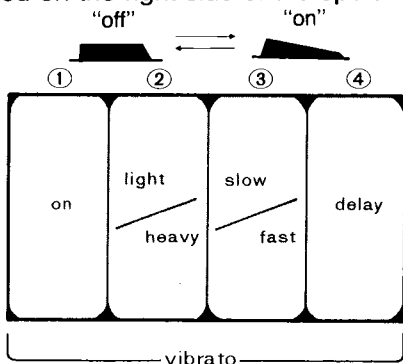
When the Full-Bass Pedal is depressed during playing of a compound sound with the left hand, an overlaid tone of the lowest sound of the left hand and the bass sound, or, during playing of a single tone, an overlaid tone of that sound and the bass sound one octave lower than that sound, can be obtained a very useful magnificent resonance.

The image shows a short piece of music from 'March Royale de Lion' by Sain-Saëns. The top staff is the right hand, and the bottom staff is the left hand. Above the first measure is 'from "March Royale de Lion"' and 'Sain-Saëns'. Below the first measure is 'f' and 'Ped.' with a dot. Below the second is 'ff' and 'Ped.' with a dot. Below the third is 'mf' and 'Ped.' with a dot. Below the first measure is 'Actual Bass Sound' with a dot. Below the second is 'Actual Bass Sound' with a dot. Below the third is 'Actual Bass Sound' with a dot.

EFFECTS <VIBRATO, MULTI-TREMOLO & CELESTE>

< VIBRATO TABS >

- Located on the right side of the operation panel.



① on

- Turning "on" this tab allows the vibrato effect to be added to the upper and lower tones.
- When no vibrato is required, make sure the tab remains "off".

② light/heavy

With this tab "on", the vibrato effect becomes "heavy", and by returning it to the "off" position, the effect turns "light".

③ slow/fast

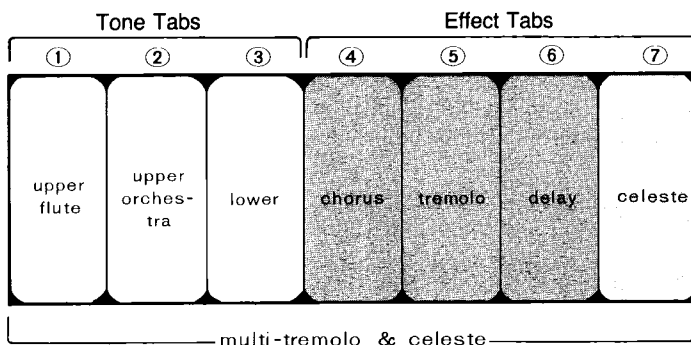
Turning this tab "on" makes the vibrato speed "fast", while returning it to the "off" position makes the speed "slow".

④ delay (Only for the upper manual)

- With this tab turned "on", the vibrato effect takes place after a little delay upon depression of an upper tone key. The combined use with the orchestral tones, in particular, makes live playing possible with the subtle vibrato-effected sound unique to an instrument.
- No delay effect occurs when playing legato, so play by releasing the keys one at a time.
- ※ No vibrato effect occurs even when the three other tabs are operated if the On tab remains "off".
- ※ The pedal tones are so designed that they cut any unwanted vibrato effects.

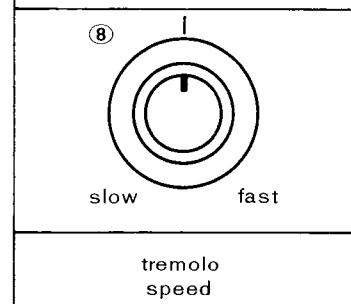
< MULTI-TREMOLO & CELESTE TABS >

- Located on the right side of the operation panel.



- Located on the right side of the keyboard ornament plate.

Turning this knob clockwise produces "fast" speed and counter-clockwise "slow".



With this, you can select and combine either the chorus, tremolo or celeste effect with the desired instrument tones. For example, turning on the Upper Flute and Celeste tabs gives celeste effect to the flute sounds of the upper tone tabs only.

- ※ The chorus and tremolo effects do not occur in the pedal tones. The celeste effect, however, can be added to them using separate control.

<PEDAL CELESTE>

Tone Tabs

① upper flute

Turning on this tab gives the chorus, tremolo and celeste effects to the flute sounds of the upper tone tabs.

② upper orchestra

With this tab turned on, the chorus, tremolo and celeste effects can be given to the following:

- ★ Orchestral sounds of the upper tone tabs
- ★ Orchestral harmonizer sounds
- ★ Preset sounds of organ I, organ II, saxophone, and accordion

③ lower

Turning on this tab gives the chorus, tremolo and celeste effects to the sounds of the lower tone tabs.

Effect Tabs

④ chorus

Turning on this tab can add the chorus effect (very slow effect cycle) to the selected tones.

⑤ tremolo

- Turning on this tab adds the tremolo effect to the selected tones.
- The tremolo speed can be adjusted by the control knob ⑧ located at the right side of the keyboard ornament plate.

⑥ delay (Only for the upper manual)

Turning "on" this tab with the tremolo tab "on" provides the delay tremolo effect that occurs after a slight delay upon depression of an upper manual key. The delay effect does not take place when playing legato, since it requires the key to be re-pressed after release.

⑦ celeste

The celeste provides the extended, thick and beautiful sound effect produced when a number of musical instruments are played together.

Turning on this tab extends the sound through a 3-channel amplifier and speaker system, resulting in a richer, more extended sound than that of the chorus and tremolo effects. The sound in each channel is modulated in a different phase, providing a beautiful ensemble effect.

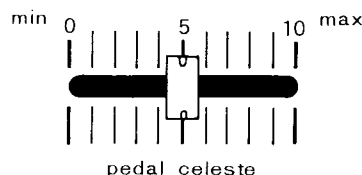
※ The tremolo or celeste effect does not take place even when the tab is turned on unless the tone tabs are on.

※ The tremolo or celeste effect does not affect the preset sounds, such as piano, harpsichord and vibraphone.

※ When the effect tabs are turned on altogether, priority is given to the following:
1. Celeste, 2. Tremolo and 3. Chorus

<PEDAL CELESTE>

- Located on the left side of the operation panel.

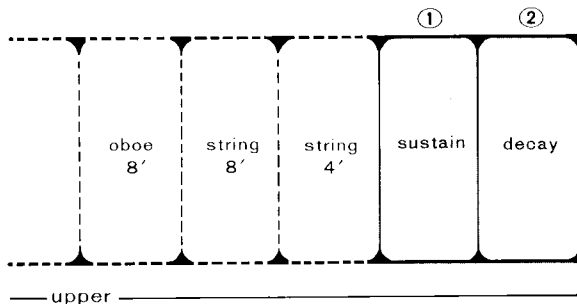


Pedal Celeste

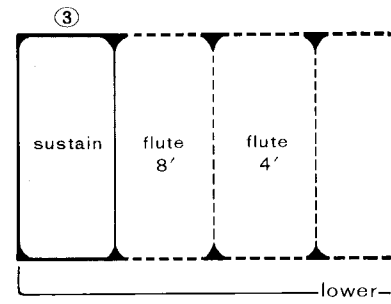
This control knob is used to give the celeste effect to the pedal tones. With the knob in the "min." position, the celeste effect is cut and sliding it to the right towards "max.", introduces the effect and increases the pedal tones in extension and thickness.

<SUSTAIN, DECAY>

<SUSTAIN, DECAY TABS>

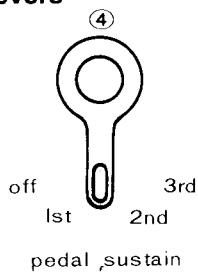


- Located on the left side of the operation panel.

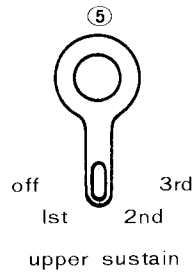


- Located on the right side of the operation panel.

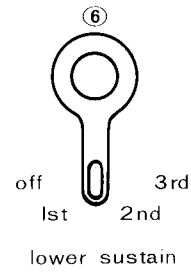
Sustain Effect Levers



- Located on the left side of the upper manual.



- Located on the right side of the lower manual.



- The sustain is an effect in which the sound fades after the finger has been released from the key. Each of the two manual and pedal keyboards can be given a separate sustain.
- The decay permits the sound to fade even when the key is held down. The upper tones alone can be given this effect.

- ※ When the sustain and decay tabs are turned on together, priority is given to the decay effect.
- ※ The sustain and decay effects do not apply to the preset sounds, such as saxophone and accordion.

Upper Manual Sustain and Decay

① sustain

Turning this tab "on" gives the sustain effect to the upper tones.

② decay

Turning this tab "on" gives the decay effect to the upper tones.

⑤ upper sustain

Use this lever to adjust the fade length of the upper sustain and decay effects. With the lever set at the "1st" position, the sound fades fast, but fades slowly when placed in the "3rd" position.

Lower Manual Sustain

③ sustain

Turning on this tab gives the sustain effect to the lower tones.

⑥ lower sustain

For use in adjusting the lower sustain length. With the lever set at the "1st" position, the sound fades fast, but slowly when placed in the "3rd" position.

Pedal Sustain

④ pedal sustain

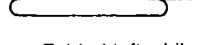
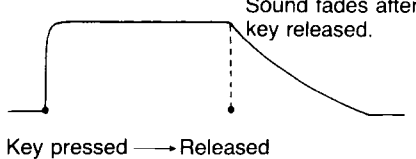
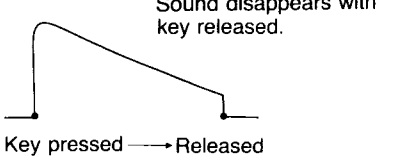
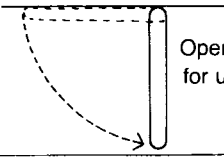

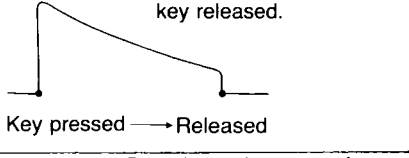
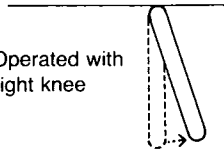

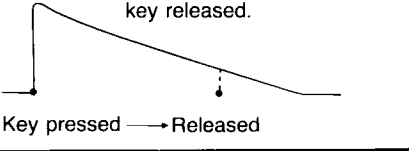
This lever is used to give the sustain effect to the pedal tones. It also permits adjustment of the length of sustain fade. No sustain takes effect with the lever placed in the "off" position. With the lever in the "3rd" position, however, the pedal tones are given the sustain effect so that the sound fades slowly.

<OTHER EFFECTS>

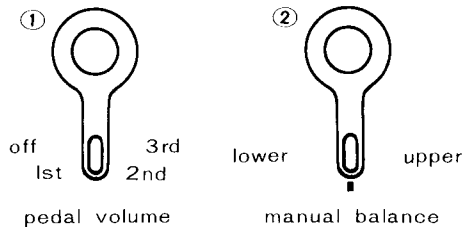
Knee Lever

- While presetting the upper and lower sustain tabs and levers, operating the knee lever under the keyboard with the right knee gives sustain to the manuals whenever required.

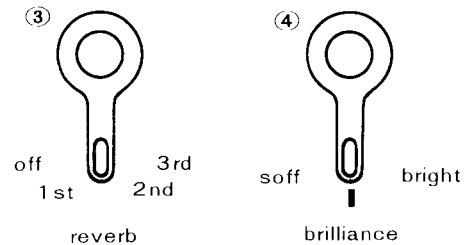
- Operating the knee lever, while the decay tab is turned on, enables playing with a damper effect.
- ※ The damper effect can be applied to the fade of such preset sounds as piano, harpsichord and vibraphone.

Knee lever	Effect	(Sustain) Sound fades after key has been released.	(Decay) Sound fades even with key held down.
	Folded left while not in use.	 Key pressed → Released Sound fades after key released.	 Key pressed → Released Sound disappears with key released.
	Opened for use.	 Key pressed → Released No sustain effected.	 Key pressed → Released Sound disappears with key released.
	Operated with right knee	 Key pressed → Released Sound fades after key released.	 Key pressed → Released Sound remains even after key released.

<OTHER EFFECT LEVERS>



↳ Located on the left side of the upper manual.↓



↳ Located on the right side of the lower manual.↓

① pedal volume

This lever adjusts the pedal volume. With the lever moved from the "off" towards "3rd" position, the pedal volume increases.

② manual balance

This lever adjusts the balance in tone between the upper and lower manuals. With the lever positioned in the center, the upper and lower tones are nearly balanced in volume. Moving it to the "upper" position increases the upper tones, while moving it to the "lower" position increases the lower tones.

③ reverberation

The reverberation effect for the manual tones is controlled by this lever. Use the lever to adjust to the required level.

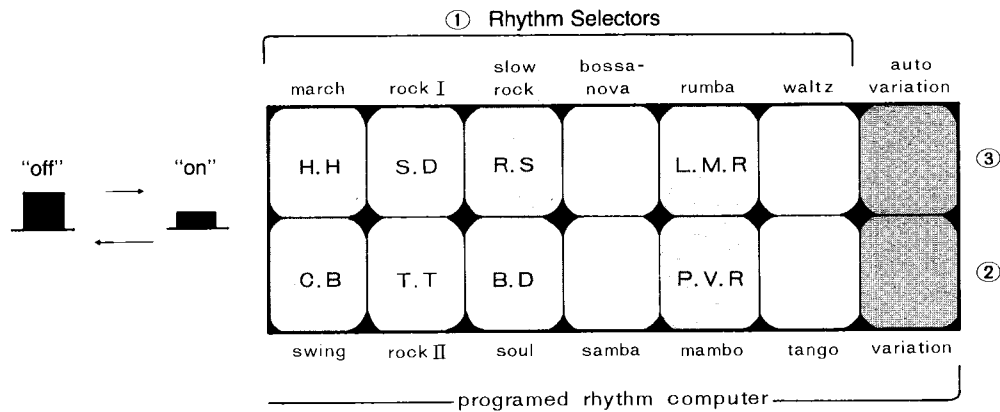
④ brilliance

This lever regulates the clear, bright sounds. Placing the lever in the "soft" position provides a sound of soft feelings. Moving it towards the "bright" position increases the brilliance of the sound. The center-position setting is standard, and adjust the lever to match a playing room or music.

※ No brilliance effect or reverberation effect is applied to the pedal tones.

AUTOMATIC RHYTHM CONTROLS

Here is the rhythm section with a wide variety of beats. You have a choice of 12 different rhythm sounds to select from. In addition, 16 beat rhythms can be used for crossover or soul tunes.



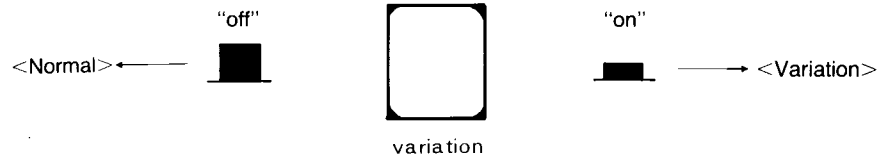
① Rhythm Selector

- The rhythm section is equipped with 12 rhythm selector buttons.
- Upon depression, a rhythm selector button sets the relevant rhythm.

The rhythm selector button is automatically turned off when another rhythm selector button is depressed. When two or more rhythm selector buttons are depressed together, a compound rhythm for added variety can be created.

② variation

- Depressing this button allows the selected rhythm to be varied into a different rhythm pattern. If, for example, you select the "March" rhythm and press the Variation button as well, the straight march rhythm becomes more rolling and varied.
- With the button re-pressed to turn it "off", the rhythm returns to its original rhythm pattern.

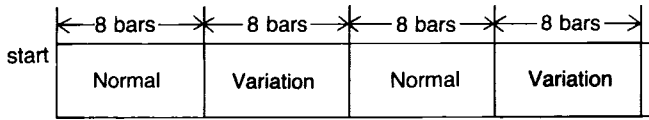


<Normal>	<Variation>
march	rolling march
swing	shuffle
rock I (8-beats)	teen beat
rock II (16-beats)	jazz soul rock
slow rock	ballade
soul	soul (The Stylistics style)
bossa nova	bossa nova (Sergio Mendes style)
samba	guaracha
rumba	beguine
mambo	cha-cha
waltz	jazz waltz
tango	habanera



③ auto variation

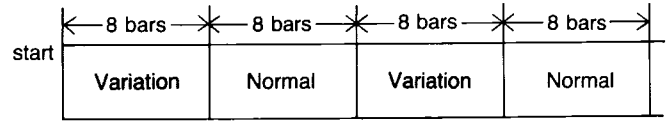
- When this button is pressed, the rhythm variations automatically repeat every 8 bars.



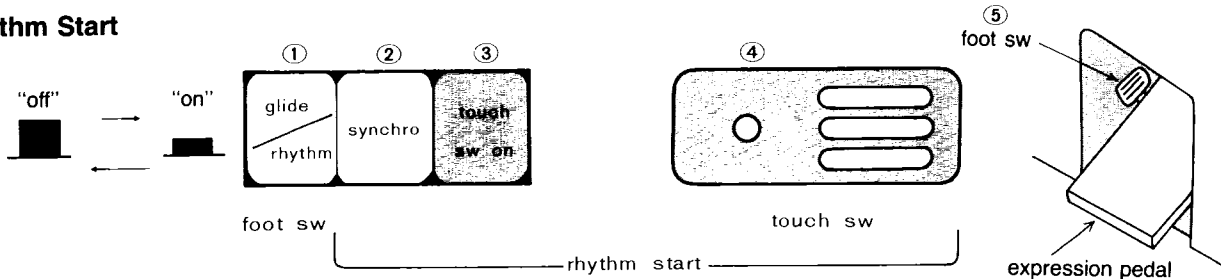
Normal: Rhythm of selector button
Variation: Varied rhythm

- With the button re-pressed to turn it off, the rhythm returns to its original pattern.

- With the Variation and Auto Variation buttons depressed together, the rhythm is played as follows:



Rhythm Start



- Located on the left side of the lower manual.

- There are three different way to start the rhythm, but for each one, the rhythm always starts on the first beat.
- This starter is used to activate the auto play chord to be described later.

Start by Touch Switch

③ Touch Switch On

- With this button on, depressing the Touch Switch lightly starts the rhythm.
- While not in use, make sure that this button remains off.

④ Touch Switch

- This switch turns on and off as soon as it is touched, making it easy to start and stop rhythms while playing.

Synchro Start

② Synchro Start

- When this button is preset, the rhythm starts when either the lower manual or the pedal keyboard is depressed.
- Press the Touch Switch to stop the rhythm.

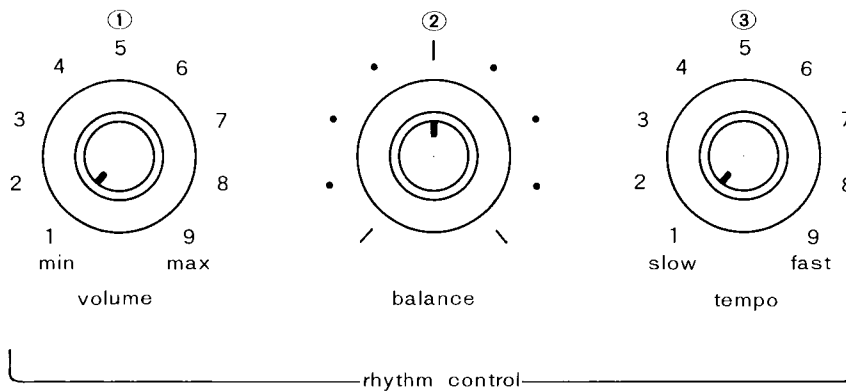
Start by Foot Switch

① Glide/Rhythm

- This button is depressed and the foot switch ⑤ on the left of the expression pedal is pressed left to start the rhythm. To stop the rhythm, press the foot switch again.
- With the button off, and the foot switch depressed left, the manual tones become a semitone lower. With the foot switch released, the tones return to their original condition while giving a portamento effect, thus providing the glide effect.

- ※ If the foot switch is depressed once to stop the rhythm while the Synchro Start button ② is on, the rhythm will not start even if the lower manual and pedals are played.
To reactivate the synchro start, depress the Synchro Start button ② once again.

Rhythm Control



- Located on the left side of the upper manual.

① volume

Turning this control knob clockwise gradually increases the rhythm volume. Adjust the rhythm level to match the volume of the manual and pedal tones.

② balance

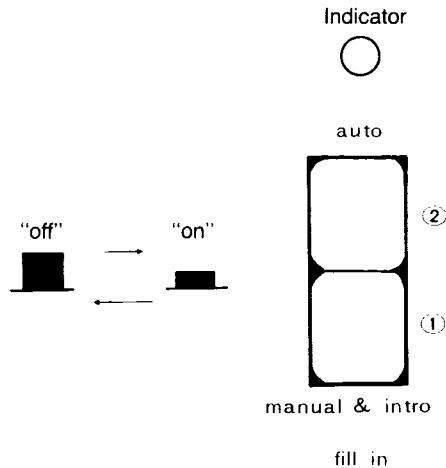
- Turning this control knob clockwise gradually increases the hi-hat and maraca sounds. Turning it counterclockwise increases the cowbell, clave and drum sounds. Use this knob to adjust the balance of rhythm instruments.

③ tempo

- Turning this control knob clockwise gradually increases the tempo of rhythm. Adjust the tempo to suit your music.
- The tempo lamp linked to the Touch Switch lights up for the first beats of rhythm sequences.

With the Synchro Start button on, the tempo lamp will light up for each beat even though the rhythm has not started. This makes it possible to adjust the tempo by watching the tempo lamp before introducing the rhythm sound.

FILL IN



- Located on the left side of the upper manual.

Fill In

- The "Fill In" means any rhythm inserted as a link at the start or halfway through a tune.
- Combined with the automatic rhythms, this Fill In can be used at any point in a tune as required.
- It is also possible to insert the Fill In rhythm automatically at every 8th bar of the rhythm.

① manual & intro

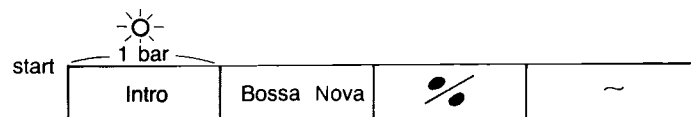
- When this button is depressed and the rhythm has started, the rhythm is automatically played after the first bar of the introduction at the start of a tune.
- When the button is depressed during a tune, the Fill In is immediately inserted for one bar in the rhythm being played.

② auto

- When this button is depressed and the rhythm has started, the Fill In is automatically inserted in every 8th bar of the rhythm being played.

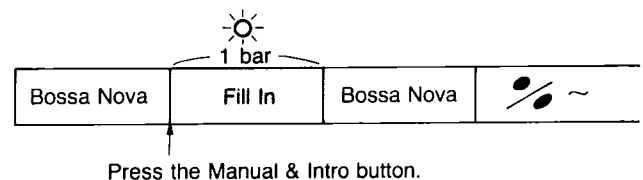
Example 1: To play an introduction followed by the bossa nova rhythm.

- [1] Depress the Bossa Nova button on the rhythm selector.
- [2] Depress the Manual & Intro button ① .
(The indicator lights up.)
- [3] And then start the rhythm.
The rhythm starts with the introduction and automatically continues to the bossa nova. (After the introduction is over, the indicator goes out.)



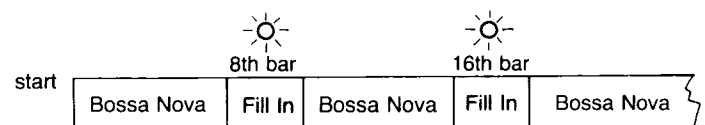
Example 2: To insert the Fill In while playing with the bossa nova rhythm.

- [1] Depress the Bossa Nova button on the rhythm selector.
- [2] Start the rhythm for the bossa nova.
- [3] Depress the Manual & Intro button ①. Immediately upon depression, the Fill In rhythm is inserted for one bar, after which the bossa nova rhythm automatically returns.

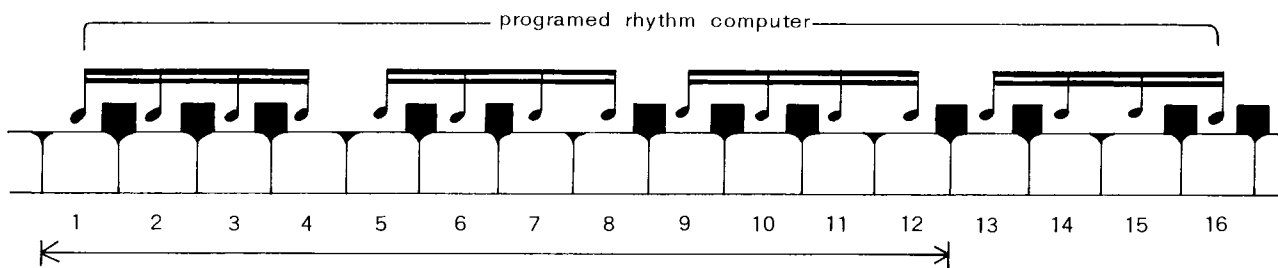
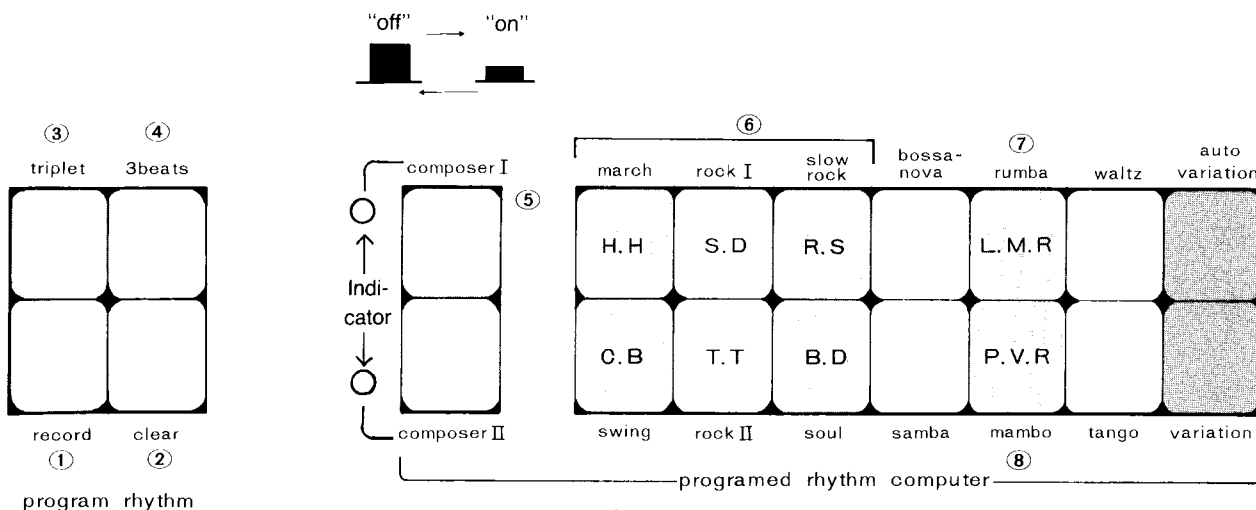


Example 3: To insert the Fill In automatically every 8th bar while playing with the bossa nova rhythm.

- [1] Press the Bossa Nova button on the rhythm selector.
- [2] Press the Auto button ② and start the rhythm. The Fill In will then be automatically inserted every 8th bar.



PROGRAMED RHYTHM COMPUTER



※ The white keys 1 through 12 are used to store 3 beat rhythms. (The other keys, even if pressed, do not affect the rhythm memory.)

※ Be sure to depress Triplet button (3) to store the triplet rhythms. The rhythms are as illustrated below:



- The programed rhythm computer is a function that allows the rhythms created by you to be stored in the computer memory and any desired rhythm to be automatically played, as required.
- Two types of rhythm can be stored, one in Composer I and one in Composer II.
- Automatic playing is possible for a synthesis of two types of rhythm when the rhythm-stored Composer button and the automatic rhythm selector button are depressed together. This makes rhythm variation easy while playing.
- The buttons for the Composers are depressed together, and this causes the two types of rhythm to be played alternately for one bar each.

- ※ The rhythms are retained in the memory even when the power switch is turned off. When the entire organ unit is unplugged, however, the memory clears. Note this.
- ※ Until the rhythm storage procedure becomes familiar, use the provided programed rhythm computer manual guide which should be placed on the lower manual.
- ※ To effect the automatic chord accompaniment for the rhythm stored in the Composers, be sure to store the lower and pedal rhythms (voicing time). Automatic accompaniment is not possible unless these rhythms have been stored. This requires special attention.

① record

Press this button to start the rhythm storage operation. After the operation, be sure to turn the button "off".

② clear

This button is used to clear the assigned instrument rhythm from the memory.

③ triplet

This button should be used to store triplet rhythms.

④ 3 beats

This button should be used to store 3 beat rhythms.

⑤ composer I and composer II

Press these buttons to store the rhythm or to play the stored rhythm automatically.

⑥ Six Rhythm Instrument Buttons for Rhythm Storage

H.H : Hi-hat

C.B: Cowbell

S.D: Snare drum

T.T: Tom-tom

R.S: Rimshot

B.D: Bass drum

(Normal bass)

⑦ Lower Manual Rhythm (L.M.R)

This button is depressed to store the lower manual rhythms (voicing time) for automatic accompaniment.

⑧ Pedal Voice Rhythm (P.V.R)

This button is depressed to store the walking bass rhythms (voicing time) for automatic accompaniment.

※ The normal bass sounds at the same time as that of Bass drum.

For Rhythm Storage

- [1] Depress the Record button ①.
- [2] Operate the buttons to store the following rhythms:
 - Depress the Triplet button ③ for 4 beat triplets.
 - Depress the 3 Beats button ④ for 3 beat rhythms.
 - Depress the both Triplet and 3 Beats buttons together for 3 beat triplets.
 - For 4 beat quadruplets, it is not necessary to depress the button.
- [3] Depress either the Composer I or II button ⑤.
(The indicator for the relevant Composer lights up.)
- [4] To clear the Composer memory:
 - While pressing the Clear button ②, depress all six rhythm instrument buttons ⑥, L.M.R button ⑦ and P.V.R button ⑧, one by one.
- [5] Select the rhythm instrument required and press button ⑥.
- [6] Depress the lower white keys for the instrument rhythm (voicing time).
 - White keys ranging from 1 to 12 are used for the 3 beats, and those from 1 to 16 for the 4 beats.

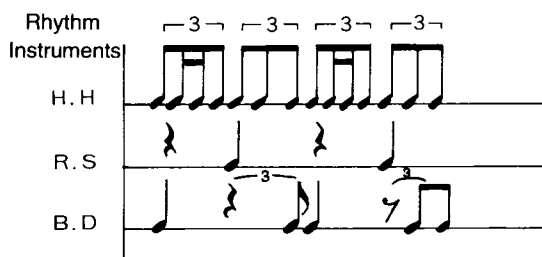
※ The instrument sounds on depression of the white keys. If it does not, the rhythm storage operation is incorrect, and should be repeated from the start.

- [7] The operations in [5] and [6] are repeated until the rhythms are all stored.
- [8] With the L.M.R button ⑦ depressed, if necessary, the lower tone voicing time is stored through the operation of [6]. Also, with the P.V.R button ⑧ depressed, the walking bass voicing time is stored through the operation of [6].
- [9] After the storage operation is completed, depress the Record button ① again to turn it "off". (The indicator for the Composer button goes out.)

For Automatic Playing of the Stored Rhythm

- [1] Depress the Composer button, in which the rhythm has been stored.
- [2] With the rhythm started, the stored rhythm is repeatedly played automatically.

Example:



To Store the above Rhythm in the Composer I.

- [1] Depress the Record button ①.
- [2] Depress the Triplet button ③ since the rhythm is of 4 beat triplets.
- [3] Depress the Composer I button ⑤.
- [4] While pressing the Clear button ②, press all the instrument button ⑥, L.M.R button ⑦ and P.V.R button ⑧, one by one, to clear the memory.
- [5] With the H.H button ⑥ pressed, depress the lower white keys, 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14 and 16.
- [6] With the R.S button ⑥ pressed, depress the lower white keys and 5 and 13.
- [7] With the B.D button ⑥ depressed, press the lower white keys 1, 8, 9, 14 and 16.
- [8] Depress the Record button ① again to turn it off.

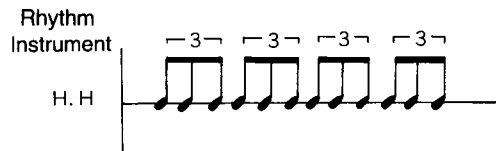
To Play the Stored Rhythm Automatically.

- [1] Depress the Composer I button.
- [2] Once started, the rhythm will automatically repeat.

For Modification of the Stored Rhythm

- [1] Depress the Record button ①.
- [2] Operate the following for the rhythms to be modified:
 - Depress the Triplet button ③ for triplets.
 - Depress the 3 Beats button ④ for 3 beats.
 - Depress both the Triplet and 3 Beats buttons together for 3 beat triplets.
- [3] Depress button ⑤ of the Composer which contains the rhythm to be modified.
- [4] Select and depress the button for the instrument rhythm to be modified.
- [5] Depress the Clear button ②.
(The rhythm memory for the instrument alone is cleared.)
- [6] Press the lower white keys for the rhythm to be modified for the instrument.
- [7] To modify a variety of instrument rhythms, repeat the operations of [4], [5] and [6].
- [8] After completion of the modification, depress the Record button ① to turn it "off".

Example:



To Modify the Hi-hat alone as above in the earlier example:

- [1] Depress the Record button ①.
- [2] Depress the Triplet button ③ as the rhythm is of 4 beat triplets.
- [3] Depress the Composer I button ⑤.
- [4] Depress the H.H button and then the Clear button ②.
(This will clear the Hi-hat rhythm memory.)
- [5] Depress the lower white keys 1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 14 and 16.
- [6] Depress the Record button ① to turn it "off."

To Play the Modified Rhythm Automatically:

- [1] Depress the Composer I button ⑤.
- [2] With the rhythm started, the modified rhythm is repeatedly played automatically.

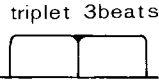
Use the Programed Rhythm Computer.

For creation of rhythms unavailable from the rhythm selector and for rhythm study.

How to Use the Programed Rhythm Computer

Examples:

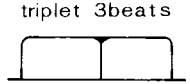
• **Bossa rock**



Musical notation for Bossa rock rhythm:

- H. H: Four eighth notes.
- R. S: Quarter note, eighth note, quarter note.
- B. D: Quarter note, eighth note, quarter note.
- (L. M. R): Quarter note, eighth note, quarter note.
- (P. V. R): Quarter note, eighth note, quarter note.

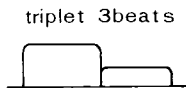
• **Latin rock**



Musical notation for Latin rock rhythm:

- H. H: Four eighth notes.
- S. D: Quarter note, quarter note, quarter note.
- R. S: Quarter note, eighth note, quarter note.
- T. T: Quarter note, quarter note, quarter note.
- B. D: Quarter note, eighth note, quarter note.
- (L. M. R): Quarter note, eighth note, quarter note.
- (P. V. R): Quarter note, eighth note, quarter note.

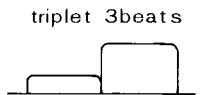
• **Rock-a-waltz**



Musical notation for Rock-a-waltz rhythm:

- H. H: Four eighth notes.
- R. S: Quarter note, quarter note, quarter note.
- B. D: Quarter note, eighth note, quarter note.
- (L. M. R): Quarter note, eighth note, quarter note.
- (P. V. R): Quarter note, eighth note, quarter note.

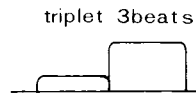
• **6/8-March**



Musical notation for 6/8-March rhythm:

- H. H: Four eighth notes.
- S. D: Quarter note, quarter note, quarter note. (Stored as the 4/4 note triplets)
- B. D: Quarter note, eighth note, quarter note.
- (L. M. R): Quarter note, eighth note, quarter note.
- (P. V. R): Quarter note, eighth note, quarter note.

• **Bolero**



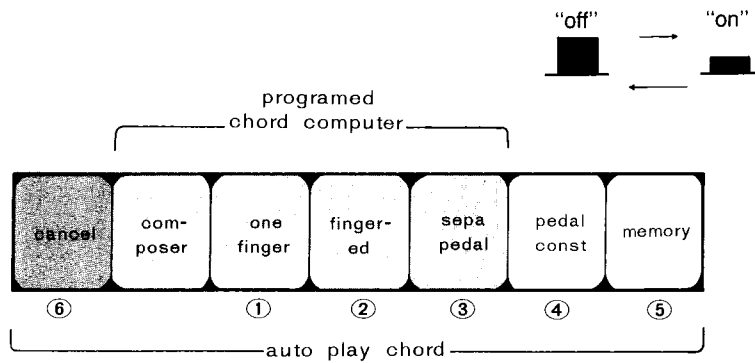
Musical notation for Bolero rhythm:

- S. D: Quarter note, eighth note, quarter note.
- B. D: Quarter note, eighth note, quarter note.
- (L. M. R): Quarter note, eighth note, quarter note.
- (P. V. R): Quarter note, eighth note, quarter note.

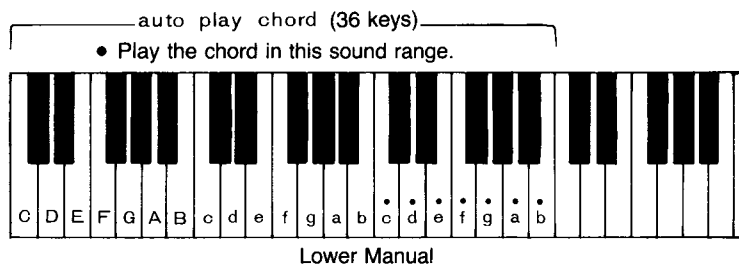
composer I composer II

Rhythm to be stored in Composer I and II in that order, and played with both Composer I and II depressed.

AUTO PLAY CHORD CONTROLS



- Located on the left side of the lower manual.



- The auto play chord is an automatic accompaniment function that allows automatic playing of the lower manual and pedal accompaniment chords in automatic rhythm when the lower manual keys are pressed.

The lower manual accompaniment is only possible with the orchestral sounds of the lower tone tabs. The flute and ensemble sounds are not effected, but they are sustained.

- When the rhythm instrument sounds are not required, turn the rhythm control volume knob counterclockwise to set it at the "min." position:

※ No sound will be produced unless the lower manual and pedal tone tabs are turned "on" prior to the auto play chord functioning. This requires careful attention.

① one finger chord

- With this button pressed, playing a key on the lower manual automatically produces the basic chord (triad) in the lower manual and pedal tones. With the rhythm started, the accompaniment chords (orchestral and pedal tones alone) take effect according to the rhythm patterns for automatic playing.
- This accompaniment chord will be in a major key. To change it to a minor, depress a black pedal key. To change it to the seventh, depress a white pedal key. Depressing the white and black keys together produces a minor seventh chord.

② **fingered chord**

With this button "on" and a lower manual chord played and the rhythm started, the chord and its corresponding bass are automatically played for rhythm accompaniment.

③ **separated pedal**

This button and the pedal operation produce the bass sound that is normally produced when a chord is played by the Fingered button.

④ **pedal constant**

This button changes the bass linked to the automatic rhythm to a sustained sound.

⑤ **memory**

Pressing this button together with the One Finger button (1) allows a chord to be stored automatically once a lower manual key is played and even after the key has been released. The stored chord is repeatedly played unless another lower manual key is pressed.

- When the Fingered and Separated Pedal are used, depressing this button enables the pedal tones alone to be stored.
- This button can be used as a memory button for the automatic arpeggio accompaniment.

⑥ **cancel**

Pressing this button permits ordinary playing.

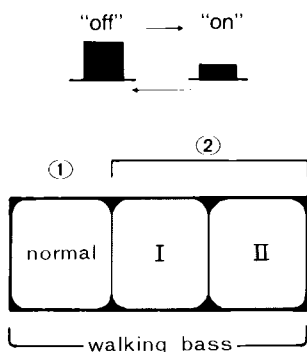
※ For the Composer buttons, refer to the "Programmed Chord Computer" on Page 32.

Lower tone tabs	Orchestras	Effect
	Flutes	Not effected (sustained)
String ensemble		Not effected (sustained)

☆ Basic Chord Example

major	minor	7th	minor 7th	major 7th	augmented	diminished 7th	minor 7th flat 5
C	Am	G7	Dm7	CM7	Gaug	G#dim7	Bm7 ^{b5}

WALKING BASS



- Located on the left side of the lower manual.

- When the automatic playing of an accompaniment chord is in effect, the bass will play according to the preset rhythm. With the Walking Bass I or II button pressed, however, the bass can be changed to a walking pattern.
- Changing the type of rhythm while the auto play chord is on allows the walking bass matching the rhythm type to be automatically introduced.
- Even during the automatic playing of the chord computer, the bass can be changed to a walking bass on pressing the walking bass button.

① normal

This button is depressed to return the walking bass to ordinary bass sound.

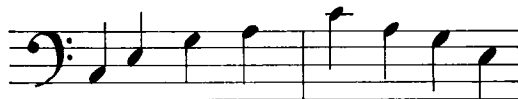
② I and II

Two walking patterns are available. Use buttons I or II to select most suitable pattern for your playing tunes.

Example:

Rhythm Selector: swing
(C chord)

With the I button pressed, the bass is;



With the II button pressed, the bass is;



Rhythm Selector: soul
(C chord)

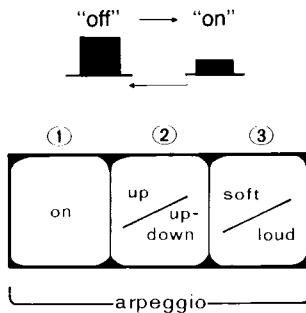
Pressing the I button makes the bass as;



Pressing the II button makes the bass as;



AUTOMATIC ARPEGGIO



- Located on the left side of the lower manual.

- The arpeggio is a function that can automatically play the varied chords over several octaves when the lower manual chords are played. Normally, arpeggios are very difficult to play, but this function makes it possible to play varied chords automatically. This, combined with the one finger chords, makes arpeggio playing with one finger possible.
- Arpeggio playing is also possible in association with the automatic rhythm, thus enabling automatic playing in the same tempo as the selected rhythm.
- If the Auto Play Chord "Memory" button is preset, the chord key is stored, allowing automatic playing of varied chord notes to continue, even with the finger released from the lower manual key, unless another key is pressed.

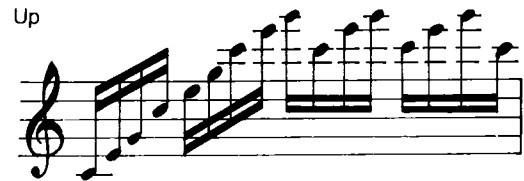
1) on

With this button depressed and the lower manual chords played and the automatic rhythm started, the various notes of chords will be automatically played.

2) up/up-down

This button changes the arpeggio playing patterns. With the button "off", the various notes are automatically and repeatedly played in the up pattern. With the button "on", the playing pattern can be changed to an up-down pattern.

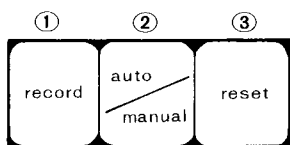
C Major Chord Example



3) soft/loud

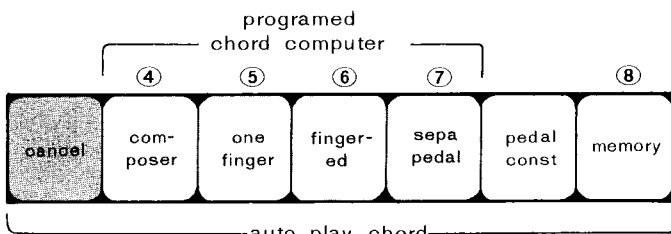
Depressing this button increases the volume of arpeggio. When the arpeggio volume is sufficient, play with the button in "off" (soft) position.

PROGRAMED CHORD COMPUTER

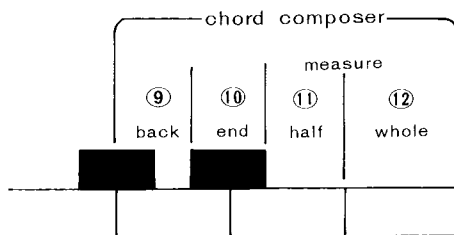
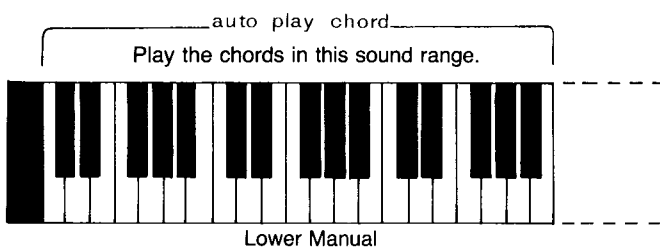


- Located on the left side of the operation panel.

— program chord —



- Located on the left side of the lower manual.



The four right lower manual keys are used.

- The programed chord computer automatically plays the different accompaniment chords for the melody as prestored in the computer.
- With all the accompaniment operations performed by the computer, the player can concentrate on melody playing and tab operation.
- For a player finding it difficult to match the rhythm, depress any lower manual keys without starting the rhythm. The chord develops with each key pressed, allowing slow melody playing. (With the Memory button depressed, the chord continues to sound after the lower manual key has been pressed just once.)
- When you are more familiar with the melody, start the rhythm. For a player not interested in the auto play chords, use this function as an idea source or for adlib practicing.

① record

After this button has been pressed, the chord can be stored.

② auto/manual

With this button pressed to Manual, the stored chords are played in sequence, whenever required, by pressing the lower manual, regardless of the automatic rhythm progress.

③ reset

Depressing this button stops automatic chord playing for resetting.

④ composer

This button is used to play the stored chords.

※ For buttons ⑤ through ⑧, refer to the "Auto Play Chord" on Page 28.

⑨ back

In case there is an error in the chord storage operation, this key is pressed once to turn one chord back to correct chord storage operation.

⑩ end

This key is pressed after the chord storage operation has been completed.

⑪ half

This key is used to store the chord for a half measure.

⑫ whole

This key is used to store the chord for a whole measure.

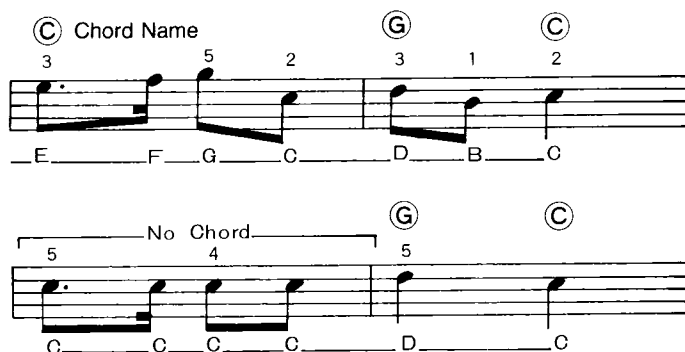
For Chord Storage

- [1] Depress the Record button ① .
 - [2] Select the chord playing modes.
 - Depress the One Finger button ⑤ (play the lower manual with one finger), or
 - Depress the Fingered button ⑥ (press the chord with the lower manual), or
 - Depress the Separated Pedal button ⑦ (play the chord with the lower manual and pedal).
 - [3] • While playing the chord, depress the Half key ⑪ to store the chord for a half bar or Whole key ⑫ to store the chord for a whole bar. Upon depression of either key, a whistling sound is heard.
 - If a mistake is made in the operation of [3], depress the Back key ⑨ once to turn one chord back to repeat the storage operation.
 - [4] The operation of [3] is repeated until all chords are stored.
 - [5] Depress the End key ⑩ after the storage operation has been completed.
 - [6] Depress the Record button ① again to turn it off.
- ※ To store no chord, carry out the operation of [3] without playing a chord.
- ※ If a mistake is made during storage operation, depress the Reset button ③ to carry out operations again from [3].

For Automatic Playing of the Stored Chords

- [1] Depress the Composer button ④ .
- [2] With the rhythm started, the stored chords are repeatedly played automatically in the sequence in which they are stored.

Example:



To Play the above Chord using the One Finger Chord:

- [1] Depress the Record button ① .
- [2] Depress the One Finger button ⑤ .
- [3] While pressing the C key, depress the Whole key ⑫ .
- [4] While pressing the G key, depress the Half key ⑪ .
- [5] While pressing the C key, depress the Half key ⑪ .
- [6] For no chord, depress the Whole key ⑫ without playing any note.
- [7] While pressing the G key, depress the Half key ⑪ .
- [8] While pressing the C key, depress the Half key ⑪ .
- [9] Depress the End key ⑩ .
- [10] Depress the Record button ① again to turn it "off".

To Play the Stored Chords Automatically:

- [1] Depress the Composer button ④ .
- [2] With the rhythm started, the stored chords are repeatedly played in sequence in which they are stored.

☆ While sounding the lower tone tabs or ensembles using the lower manual, play the chords so that these are stored.

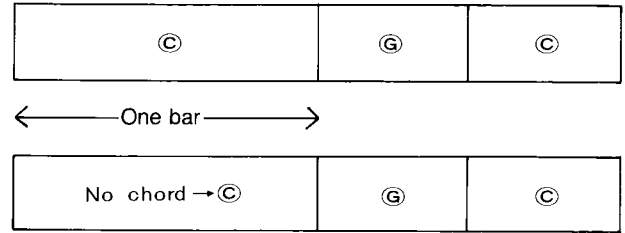
For Modification of the Stored Chords

- [1] Turn on the Record button ① .
- [2] Depress the Composer button ④ .
- [3] Start the rhythm for automatic playing.
- [4] Stop the rhythm at the position of the chord to be modified.

Or

- [3'] Depress the lower manual keys (any keys) to sound chords intermittently, one by one, in sequence. With the Memory button ⑧ preset, in this case, the chord continues even if the key is released, making it easy to locate the various chord positions.
- [4'] Stop the chord where modification is required.
- [5] Depress either of the Fingered button ⑤, One Finger button ⑥ or Separated Pedal button ⑦ .
- [6] While playing the correct chord in its matched playing mode, depress the Half key ⑪ for half bar modification or the Whole key ⑫ for whole bar modification.
- [7] After the modification has been completed, depress the Record button ① to turn it off.

Example:



Store the C chord in the No Chord Position of the earlier Example.

- [1] Turn "on" the Record button ① and depress the Composer button ④ .
- [2] Depress the lower manual keys four times to stop at the no chord position.
- [3] Depress the One Finger button ⑤ .
- [4] While pressing the C key with one finger, depress the Whole key ⑫ .
- [5] Depress the Record button ① again to turn it off.

Play the Modified Chords Automatically.

- [1] Depress the Composer button ④ .
- [2] With the rhythm started, the modified chords are repeatedly played automatically.

☆ Chord Types to be Stored in the Chord Composer

Types	major	minor	7th	minor 7th	augumented	diminished 7th	minor 7th flat 5	major 7th
Chords	C	Cm	C7	Cm7	Caug	Cdim7	Cm7 ^{b5}	CM7

※ 32 chords can be stored at a time. When the 32nd chord is stored, the tempo lamp on the Touch Switch of the automatic rhythm lights up, indicating that no more chords can be stored.

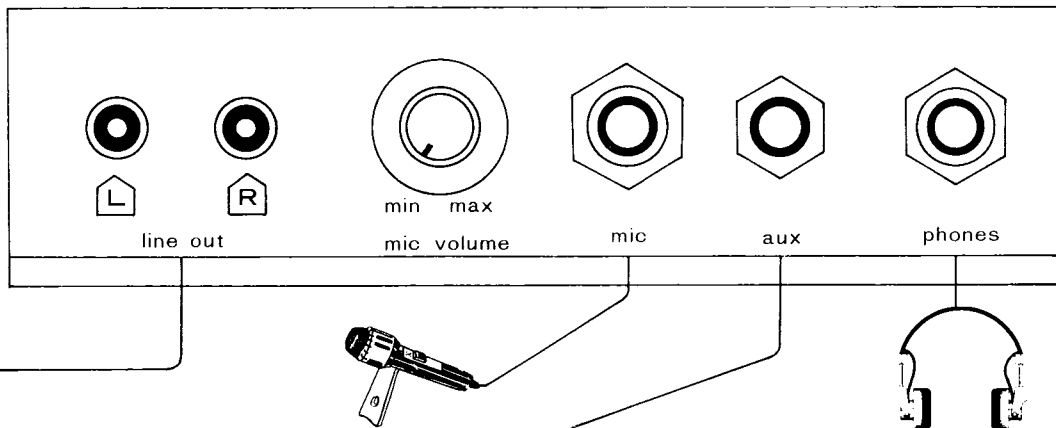
※ When the Reset button ③ is pressed while the stored chords are automatically playing, the rhythm and chord stop, returning the chord to its original position. Starting the rhythm again allows the chords to be played from the first.

※ The stored chords are not cleared even when the power switch is turned off. If the unit is unplugged, however, please note that all memory contents will be cleared.

OTHER CONTROLS & FACILITIES

Connection Terminals

- Located on the left bottom of the lower manual.



Microphone Jack (mic) (input level 7.5 mV 10 k Ω)

The organ will accept a microphone of the uni-directional type. This type of microphone reduces feed-back to the minimum, thus allowing the player to use this feature for public address and/or singing.

Microphone Volume

There is a volume control by the microphone jack in order to balance the voice with the organ volume. Increase the volume of the microphone by turning the control knob to the right (clockwise).

Output Terminal (line out [L, R])

(output level 500 mV, 600 Ω)

This output terminal can be used for connection to external stereo amplifiers or the recording terminal of a stereo tape recorder.

When connecting to the external stereo amplifiers or a stereo tape recorder, connect their left and right inputs to the L and R output terminals of the unit.

Even when playing in a large hall, it is possible to play with the beautiful multi-tremolo and celeste effects using the external stereo amplifiers.

Headphones Jack (phones)

For silent practice headphones may be used. When plugged in, the organ's speaker system is automatically switched off, and the entire organ is heard only through the headphones.

The use of stereo headphones adds to the enjoyment of the multi-tremolo and celeste effects.

Input Jack (aux) (input level 150 mV, 20 k Ω)

If the organ is to be used in conjunction with other electronic equipment, the auxiliary input jack will be a useful advantage. Among the many items which can be connected to this are tape/disc pre-amps, portable synthesizers, etc.

This input jack is connected through the expression pedal, making it possible to give the intonations of the organ to the sound of any connected equipment.

SPECIFICATIONS

Keyboards:	Upper Manual	49 keys		
	Lower Manual	49 keys		
	Pedal keyboard	13 keys		
		1 (Full Bass Pedal)		
Tones:	Upper			
	· Upper Tone Selector			
	Mixture ... Tablet Voices, String Ensemble, Harmonizer			
	Preset Sounds ... Organ I, Organ II, Saxophone, Accordion, Piano, Harpsichord, Vibraphone			
	· Upper Tone Tabs			
	Flutes ... Flute 16', Flute 8', Flute 5 1/3', Flute 4', Flute 2 2/3', Flute 2'			
	Orchestras ... Diapason 8', Clarinet 16', Oboe 8', String 8', String 4'			
	· Orchestral Harmonizer			
	Wave Form, Peak Frequency, Speed, Volume, Repeat, Auto Wah, 8'/16'			
	· Percussive Tone			
	4', 2 2/3', Normal/Full, Short/Long			
	Lower			
	· Lower Tone Tabs			
	Flutes ... Flute 8', Flute 4'			
	Orchestras ... Diapason 8', Horn 8', Cello 8', String 4'			
	· String Ensemble ... Upper Volume, Lower Volume, On, Tablet Voices			
	Pedal			
	· Pedal Tone Tabs			
	Bass 16', Bass 8', Tuba 16', Bass Guitar			
Effects:	· Multi-tremolo & Celeste			
	Upper Flute, Upper Orchestra, Lower, Chorus, Tremolo, Delay, Celeste, Pedal Celeste, Tremolo Speed			
	· Vibrato ... On, Light/Heavy, Slow/Fast, Delay			
	· Sustain			
	Upper ... Sustain, Decay Lower ... Sustain			
	Upper Sustain, Lower Sustain, Pedal Sustain			
	· Others ... Pedal Volume, Manual Balance, Reverberation, Brilliance, Pedal Pitch, Pedal Coupler/Solo, Glide/Rhythm			
Automatic Rhythm:	· Rhythm Selectors			
	March, Swing, Rock I, Rock II, Slow Rock, Soul, Bossa Nova, Samba, Rumba, Mambo, Waltz, Tango, Variation, Auto Variation, Synchro Start, Touch Switch On, Touch Switch, Rhythm Volume, Balance, Tempo, Fill In (Auto, Manual & Intro)			
Auto Play Chord:	· Cancel, Composer, One Finger Chord, Fingered Chord, Separated Pedal, Pedal Constant, Memory			
	· Walking Bass ... Normal, I, II			
	· Arpeggio ... On, Up/Up-Down, Soft/Loud			
Rhythm Computer:	· Program Rhythm ... Record, Clear, Triplet, 3-beats			
	· Programed Rhythm Computer			
	Composer I, Composer II, Hi-hat, Cowbell, Snare Drum, Tom-tom, Rimshot, Bass Drum, Lower Manual Rhythm, Pedal Voice Rhythm			
Chord Computer:	· Program Chord ... Record, Auto/Manual, Reset, Whole, Half, Back, End			
Others:	Main Volume, Power Switch, Knee Lever, Expression Pedal, Foot Switch, Headphones Jack, Input Jack, Output Terminal, Microphone Jack (with Volume), Pilot Lamp			
IC's:	63	Transistors:	366	
Diodes:	1296	Thyristors:	3	
Output:	100 W (50 W + 25 W × 2)			
Speakers:	30 cm (12")×1, 20 cm (8")×2, 6 cm (2.4")×1			
Power Requirement:	240 W AC 120/220/240 V 50/60 Hz			
	300 VA AC 120 V 60 Hz only for Canada			
Cabinet:	Simulated Rosewood			
	118 cm (46.5") (W)×99.3 cm (39.1") (H)×65 cm (25.6") (D)			
Net Weight:	103 kg (227 lbs.)			