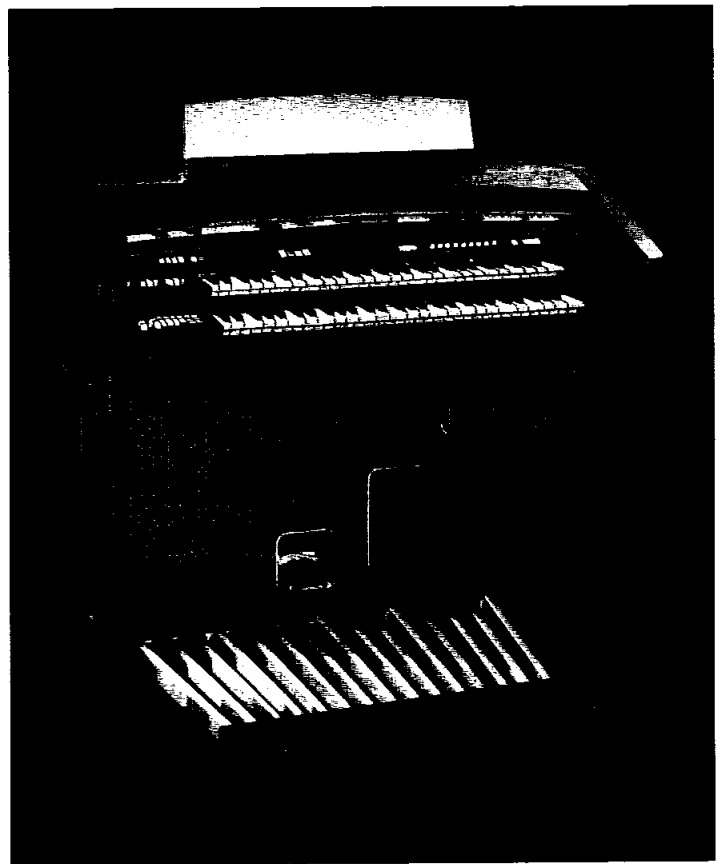


Technics

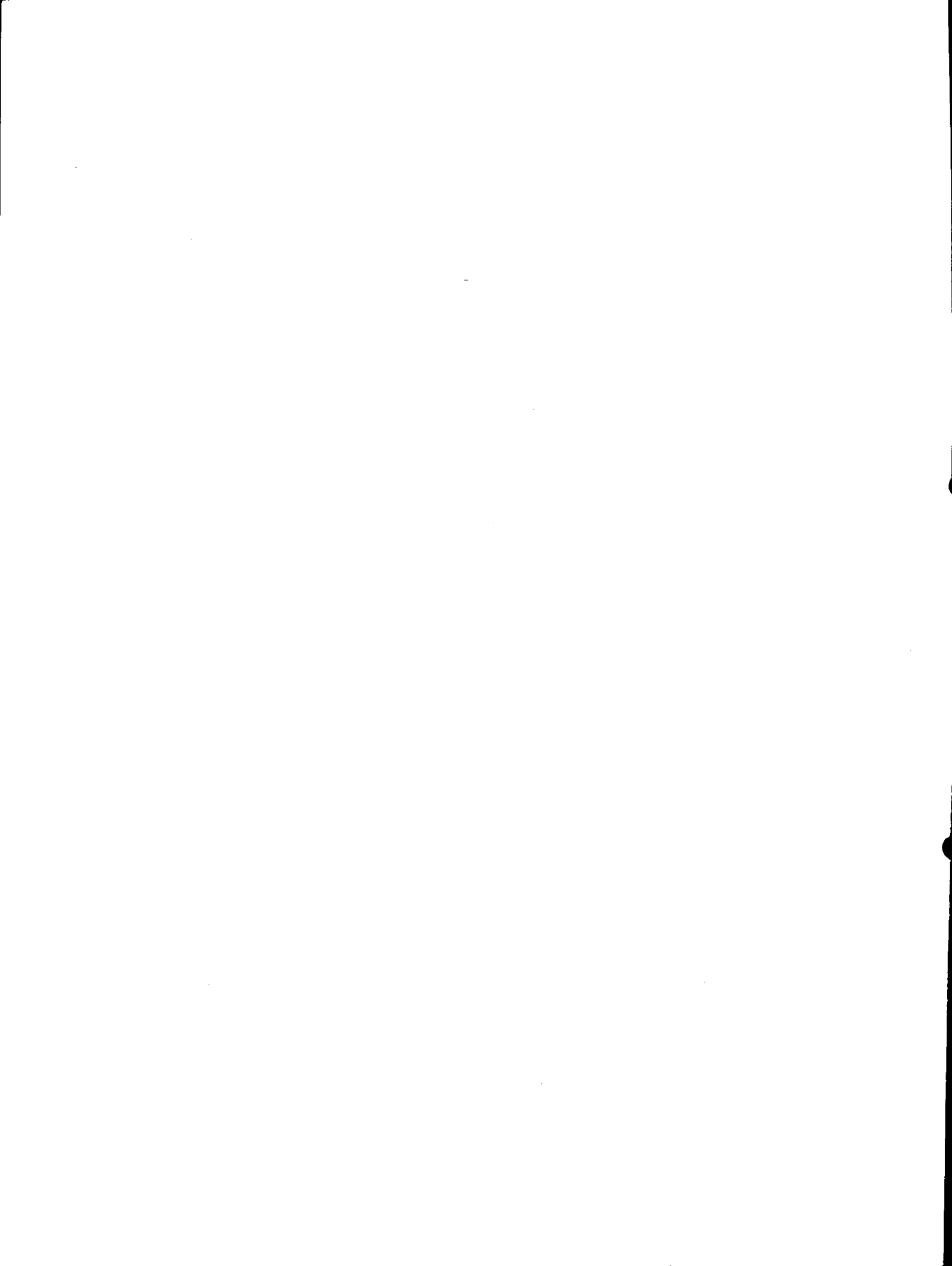
Electronic Organ

SX-5E

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.

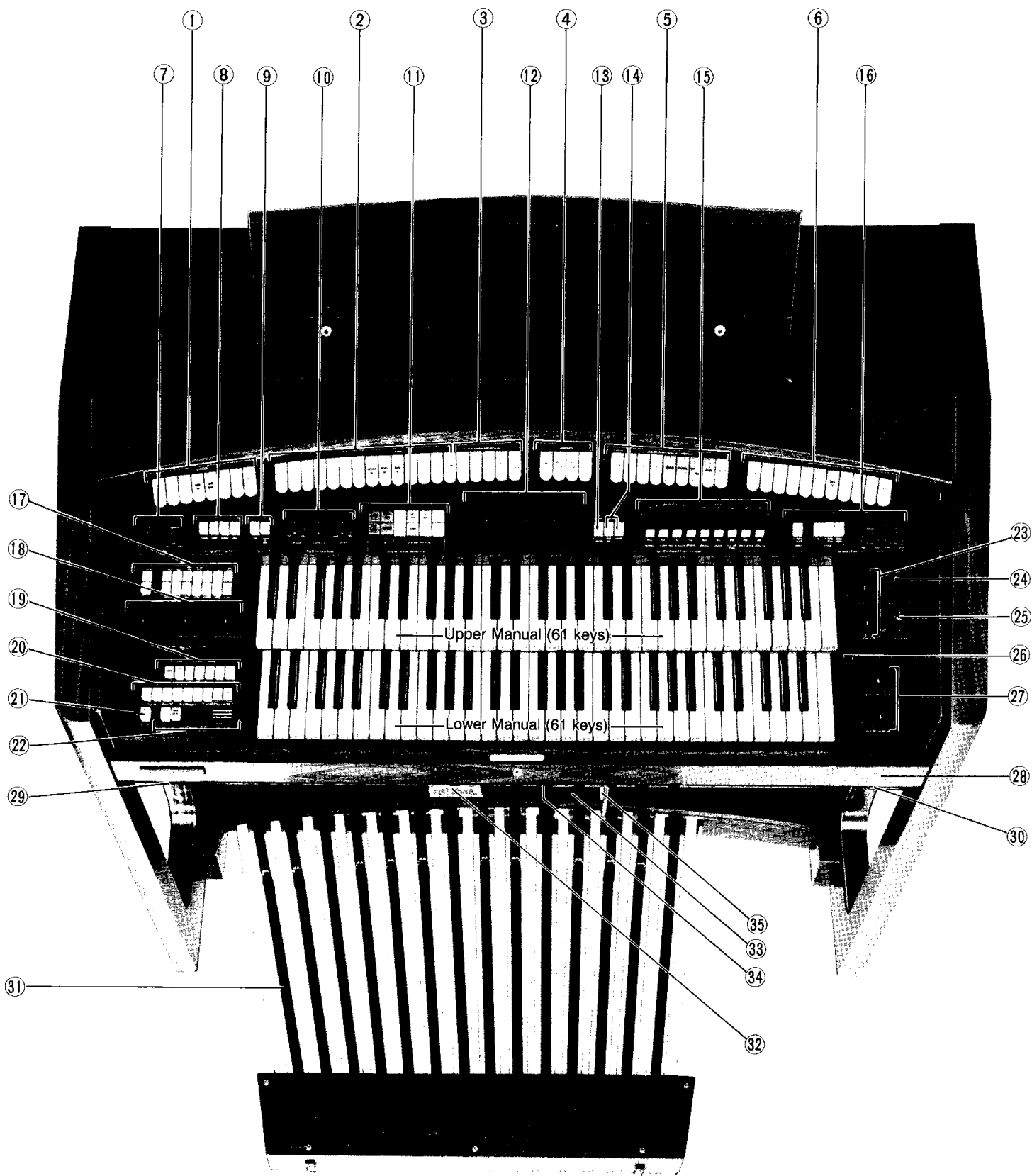
This organ is designed for playing musical performances from the simplest to the most complex and can be enjoyed by the beginner as well as the competent musician.

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

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NAMES OF PARTS



① Pedal Tabs

- bass 16'
- bass 8'
- bass 4'
- tuba 16'
- wah bass
- bass guitar
- string bass
- coupler/solo

② Upper Tabs

- flutes
- flute 16'
- flute 8'
- flute 5 1/3'
- flute 4'
- flute 2 2/3'
- flute 2'
- orchestras
- diapason 8'
- clarinet 16'
- brass 16'
- oboe 8'
- string 8'
- string 4'
- effects
- sustain
- decay

③ Percussive Tone

- 4'
- 2 2/3'
- 2'
- normal/full
- short/long

④ Vibrato

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

⑤ Multi-Tremolo & Celeste

- tone tabs
- upper flute
- upper orchestra
- lower flute
- lower orchestra
- effect tabs
- chorus
- tremolo
- light/heavy
- celeste

⑥ Lower Tabs

- flutes
- flute 8'
- flute 4'
- flute 2 2/3'
- flute 2'
- orchestras
- diapason 8'
- horn 8'
- cello 8'
- string 4'
- pre-set
- electric piano
- wah guitar
- effect
- sustain

⑦ Pedal Controls

- pitch
- celeste

⑧ Program Rhythm

- record
- triplet
- 3-beats
- clear

⑨ Fill In

- auto
- manual & intro

⑩ Rhythm Controls

- volume
- balance
- tempo

⑪ Upper Tone Selector

- mixture
- draw bar
- tab voices
- harmonizer
- ensemble
- pre-set sounds
- organ I
- organ II
- saxophone
- trumpet
- accordion
- piano
- harpsichord
- vibraphone

⑫ Drawbar

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

Synthesized Harmonizer

- ⑬ wave selector (□ - N /drawbar)
- ⑭ · auto wah
- ⑮ · speed
- noise
- wave form
- repeat
- attack
- decay
- depth
- cut off frequency
- resonance
- volume

⑯ Ensemble

- upper
- string/brass
- lower
- on
- string/brass
- tablet voices
- volume
- upper
- lower

⑰ 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)
- variation
- bossa nova
- samba
- rumba (L.M.R)
- mambo (P.V.R)
- waltz
- tango
- auto variation
- variation

⑱ Effect Levers

- pedal volume
- pedal sustain
- manual balance

⑲ Auto Play Chord

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

⑳ Program Chord

- record
- auto/manual
- reset

Arpeggio

- on
- up/up-down
- soft/loud

Walking Bass

- normal
- I
- II

㉑ Foot Switch Control

- glide/rhythm

㉒ Rhythm Start

- synchro start
- touch switch on
- touch switch

㉓ Effect Levers

- reverberation
- brilliance

㉔ Main Volume**㉕ Power Switch****㉖ Tremolo Speed****㉗ Effect Levers**

- upper sustain
- lower sustain

㉘ Pilot Lamp

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

㉙ Lighting Switch**㉚ Pedal Keyboard (25 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:

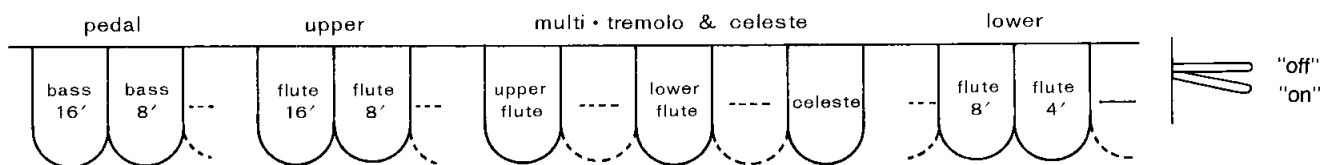
[1] Press the power switch (1).

- Pressing this button turns the organ on. (The pilot lamp and the tablet voices button 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.



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

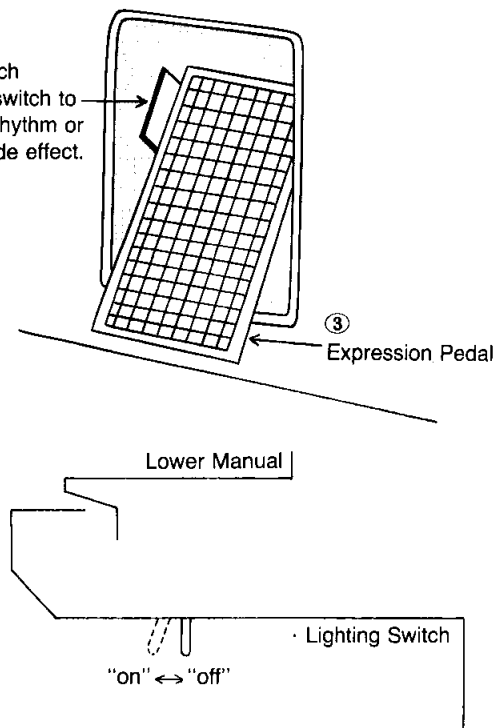
[5] Do not set any other buttons or controls.

[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 to its normal position.

[7] Turn on the lighting switch located on the right side under the lower manual.

- This illuminates the operation section and foot area. Use the switch to add mood to your performance or while playing in the dark.
- While not required for performance, keep it turned "off".



- When the lighting switch is turned towards you, the light will be "on".

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

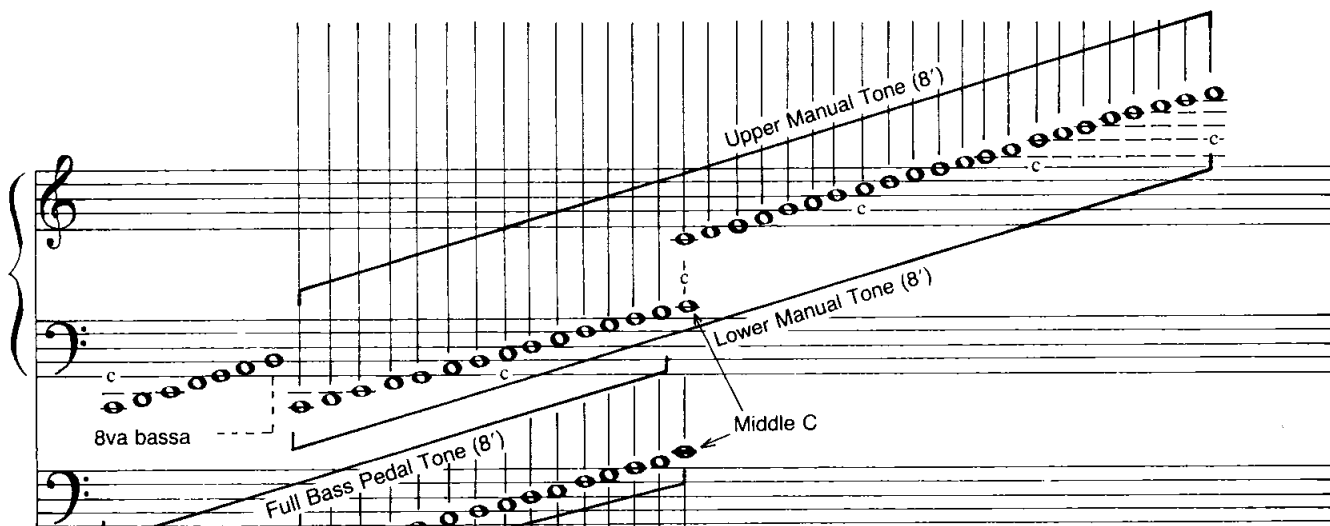
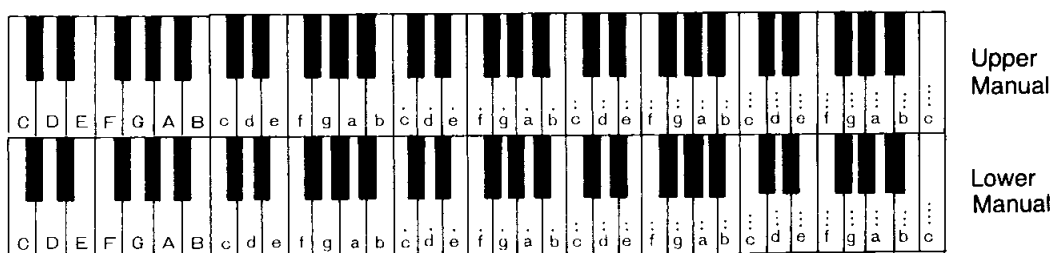
Keyboards

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

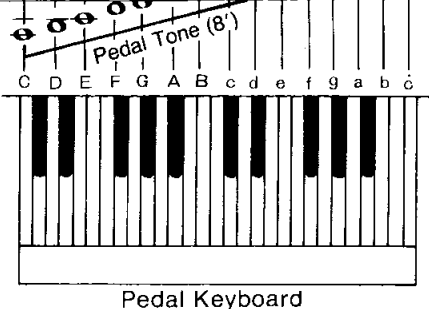
Range

Upper Manual	Extends from C to c;	61 keys, 5 octaves
Lower Manual	Extends from C to c;	61 keys, 5 octaves
Pedal Keyboard	Extends from C to c;	25 keys, 2 octaves
	Extends from C to b;	1 (Full Bass Pedal)

Compass Chart



8 va bassa: Played one octave lower than written.

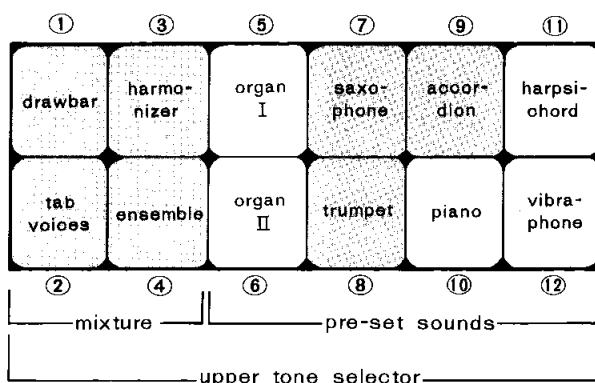


UPPER TONES <UPPER TONE SELECTOR>

<UPPER TONE SELECTOR>

- Located on the left side in the center of the operation panel.

☆ This switch is for use in the centralized changeover of the upper tones.



Upon depression, each button lights.

Mixture

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

① drawbar

With this button depressed, playing with the tones set by the drawbars is possible. (Play with the drawbars drawn out.)

② tablet voices

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

③ harmonizer

This button adds the highly characteristic tones set by the synthesized harmonizer buttons and knobs. (Play with the synthesized harmonizer buttons and knobs set.)

④ ensemble

This button provides rich tones such as those of string and brass ensembles. (Play with the ensemble's upper volume control knob turned clockwise.)

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

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

Pre-set Sounds

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

⑤ organ I

Harmonically rich sound suitable for most organ tunes.

⑥ organ II

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

⑦ saxophone

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

⑧ trumpet

Powerful trumpet sound. When played particularly with delay vibrato and delay tremolo effects, live performance with subtle sound effects is possible.

⑨ 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.

<DRAWBARS>

⑩ 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.

⑪ 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.

⑫ 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.

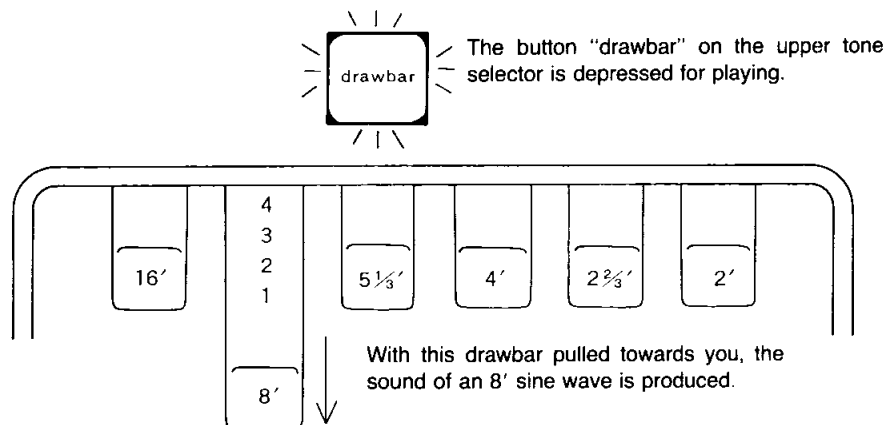
※ If a changeover is desired from the present sounds to any other tone form, depress one of the mixture buttons as required. This automatically changes to the tone of the button thus depressed.

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

<DRAWBARS>

- Located in the center of the operation panel.

☆ Drawbars are designed to produce tones through the free use of sine wave synthesis for sounds in harmonic relationship.



- When each individual drawbar is drawn towards you, the sine wave sound for the relevant drawbar is produced. As the numbers on the drawbar increase in value, the volume becomes higher to reach the maximum at "6".
- "16'" or "8'" indicated on the drawbar represents the pipe length of a pipe organ. The sound commensurate in pitch to the pipe length is produced with each drawbar drawn.
- When drawn in combination, the drawbars of different foot lengths allow for a sound with a single key depressed as rich in quality as with many keys pressed together.
- The 6-staged drawbar volume enables a player to combine the foot length and volumes of drawbars for production of any desired tone.

16' drawbar

Produces a sine wave sound an octave lower than that of the 8' drawbar.

8' drawbar

Produces a sine wave sound identical in pitch to the note in a musical notation.

5 1/3' drawbar

Produces a sine wave sound the fifth higher than that of the 8' drawbar.

4' drawbar

Produces a sine wave sound an octave higher than that of the 8' drawbar.

2 2/3' drawbar

Produces a sine wave sound an octave and the fifth above that of the 8' drawbar.

2' drawbar

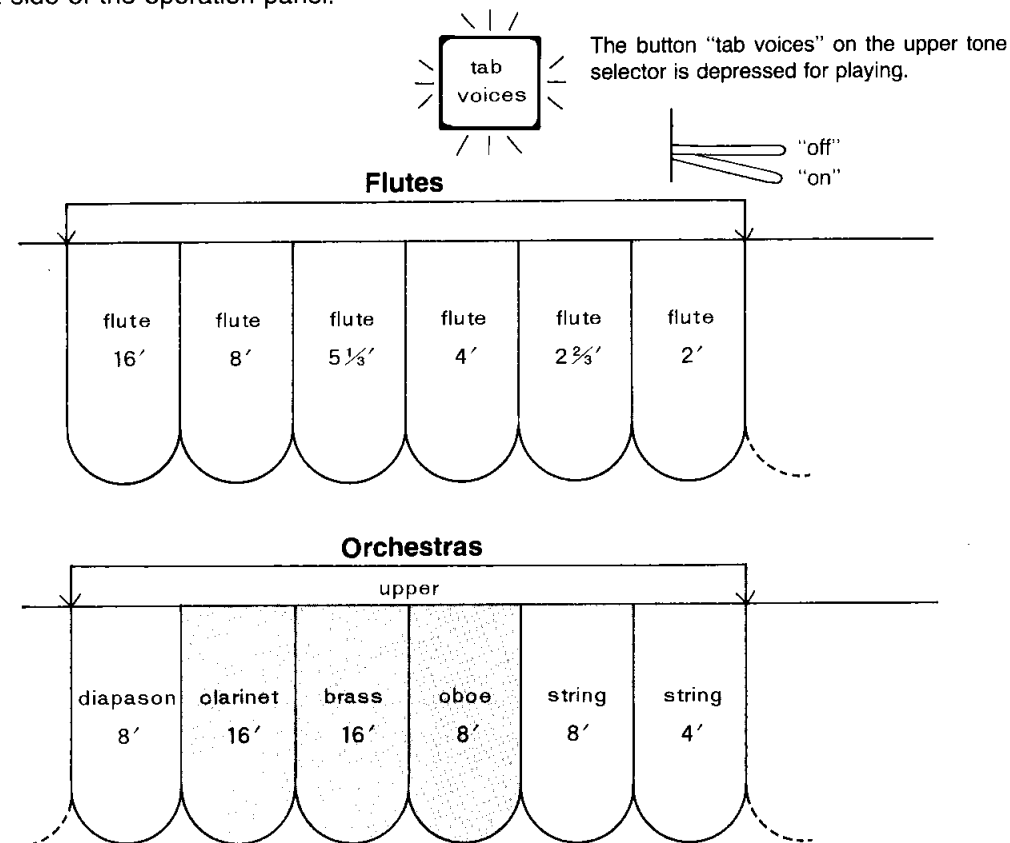
Produces a sine wave sound two octaves above that of the 8' drawbar.

<UPPER TONE TABS>

<UPPER TONE TABS>

- Located on the left side of the operation panel.

☆ Combined the upper tone tabs produce an upper tone.



Flutes

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

Orchestras

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

• Foot Lengths and Tone Pitches

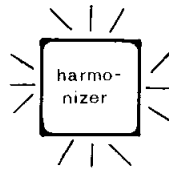
- 16'... Sound an octave below that of the 8'.
- 8'... Sound identical in pitch to the note in a musical notation.
- 5 1/3'... Sound the fifth above that of the 8'.
- 4'..... Sound an octave above that of the 8'.
- 2 2/3'... Sound an octave and the fifth above that of the 8'.
- 2'..... Sound two octaves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

<SYNTHESIZED HARMONIZER>

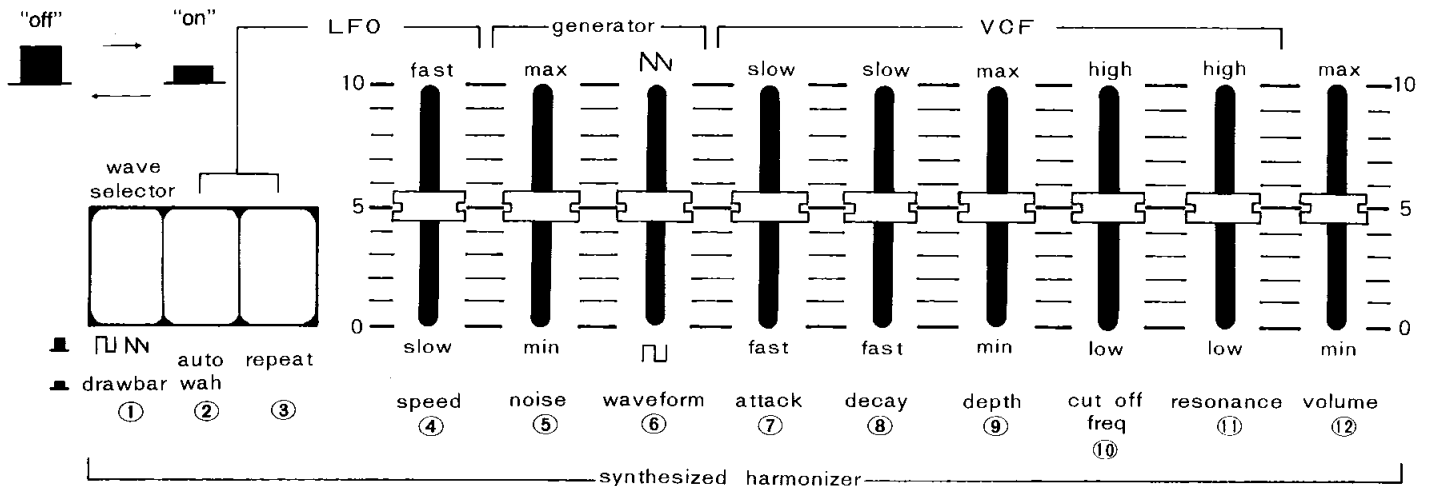
<SYNTHESIZED HARMONIZER>

- Located on the right side of the operation panel.

☆ The harmonizer is designed for playing with tone colors like those of a musical synthesizer, as well as for sound effects, such as wind and waves. In addition, the tones preset by the drawbars can be varied through the harmonizer function.



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



① wave selector

- Depressing this button allows playing in a variety of tones created through the harmonizer function from the sound set by the drawbars. With this button, and then the Repeat button ③ depressed, for example, the repeat effect adds to the sound set by the drawbars.
- This button should be "off" to use the source waveform (square wave "□" or sawtooth wave "∩") of the harmonizer.

LFO (Repeat effect adjustment)

② auto wah

Pressing this button adds the auto wah effect (continuously muted effect) to the sound. Speed control knob ④ is used to adjust the speed of repeated auto wah effect.

③ repeat

Depressing this button makes possible the repeat effect of intermittent sound. Speed control knob ④ is used to adjust the speed of the repeat effect.

④ speed

This button is designed for combined use with the Auto Wah button ② or Repeat button ③. With the button set to the "slow" position, the speed of auto wah and repeat effects is reduced, and speeds up when set to the "fast" position.

generator (Sound source adjustment)

⑤ noise

- With this button moved from the "0" (min.) to "10" (max.) position, "noise" gradually increases. Using this button makes possible sound effects, such as wind and waves.
- While not in use for a sound source, this button should be set at the "0" position.

⑥ wave form

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

VCF (Tone variation adjustment)

Set all the orange control knobs to the "5" position, and then turn the individual knobs to see how they function.

⑦ attack

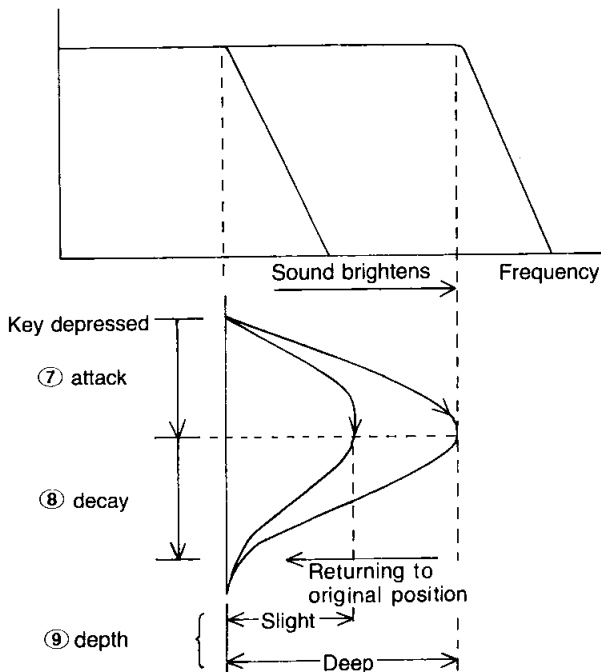
With this control knob moved towards "slow" and a key pressed, the sound brightens slowly. Moved towards "fast" with a key pressed, the sound brightens quickly.

⑧ decay

This control knob adjusts the speed at which the sound returns to its original tone after it has brightened. Moving the knob towards "slow" causes the sound to return slowly to its original tone. Fast return is possible with the knob moved towards "fast".

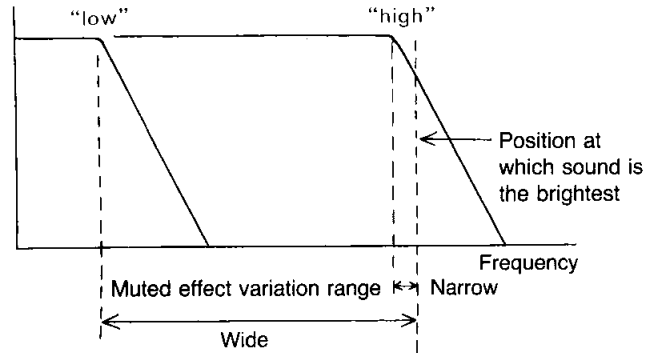
⑨ depth

This control knob adjusts the muted effect depth when the sound returns to its original tone after it has brightened. Moving the knob towards "0" (min.) decreases the muting effect, and towards "10" (max.), increases the muting effect.



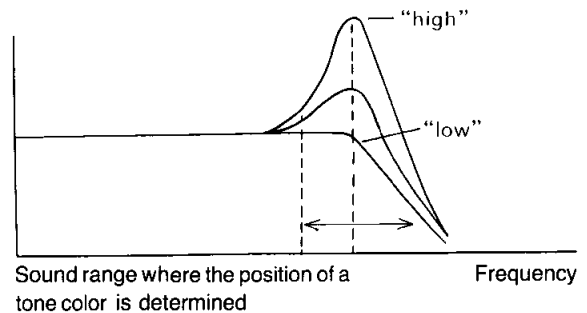
⑩ cut off frequency

This control knob determines the tone color when a muted effect starts. With the knob moved to "low", sound limited in the high range brightens, resulting in a wide variation range of the muted effect. Moved towards "high", however, the sound in the high range brightens, resulting in little muted effect.



⑪ resonance

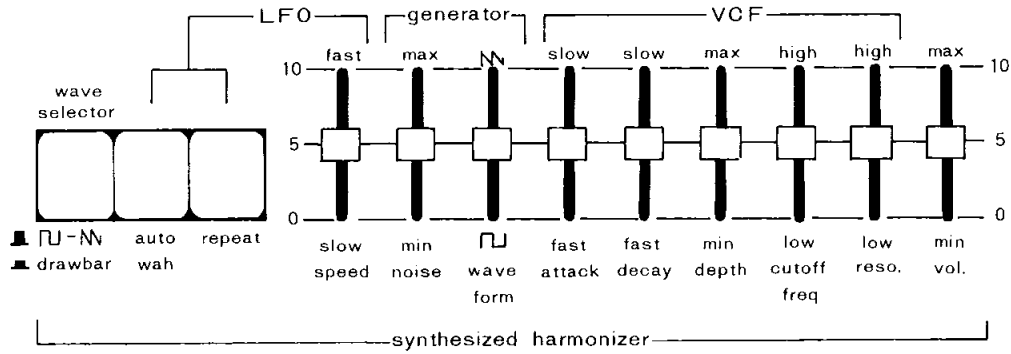
This control knob is used to emphasize the sound range to determine the position of a tone color set by the Cut Off Frequency control knob (⑩). With the knob moved from "low" towards "high", the sound range of the determined position for the tone color can be particularly emphasized.



⑫ volume

This is designed to adjust the volume of the harmonizer. With the control knob at the "0" (min.), no sound is produced, but moved towards "10" (max.), the volume increases.

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



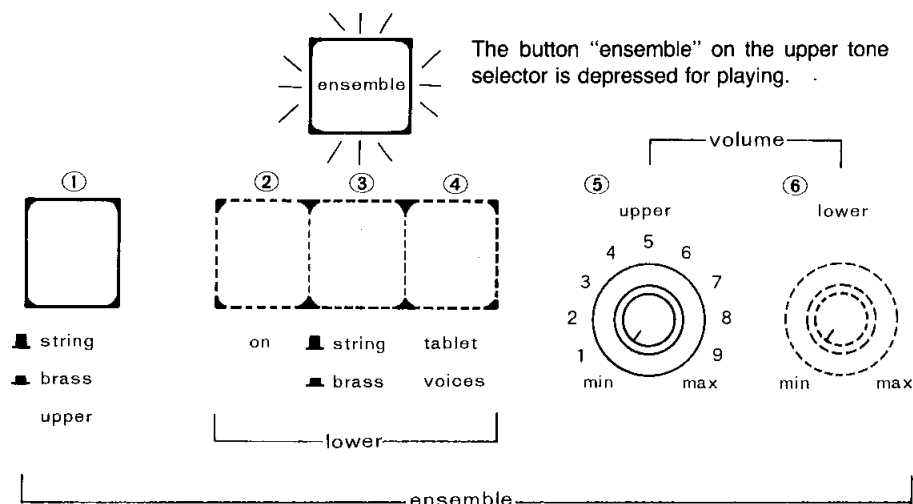
<p>WAVE</p> <p>on</p> <p>auto wah</p>	speed: 1	noise: 10	w.f.: 0	attack: 0	decay: 0	depth: 0	c.f.: 4	reso.: 1	vol.: 10	upper orch. on	celeste on
<p>STRONG WIND</p> <p>on</p> <p>auto wah</p>	speed: 1	noise: 10	w.f.: 0	attack: 0	decay: 0	depth: 0	c.f.: 1	reso.: 10	vol.: 10	upper orch. on	celeste on
<p>FUNNY CAT</p>	speed: 0	noise: 0	w.f.: 10	attack: 2	decay: 3	depth: 4	c.f.: 2	reso.: 10	vol.: 10	upper orch. on	celeste on
<p>TRUMPET</p>	speed: 0	noise: 0	w.f.: 8	attack: 0	decay: 0	depth: 0	c.f.: 5	reso.: 10	vol.: 10	upper orch. on	celeste on
<p>WAH TRUMPET</p>	speed: 0	noise: 0	w.f.: 10	attack: 3	decay: 3	depth: 6	c.f.: 0	reso.: 10	vol.: 10		
<p>ACCORDION</p>	speed: 0	noise: 0	w.f.: 0	attack: 0	decay: 0	depth: 0	c.f.: 6	reso.: 5	vol.: 10	upper orch. on	celeste on
<p>FUNNY SOUND</p> <p>on</p> <p>drawbar</p>	speed: 0	noise: 10	w.f.: 10	attack: 0	decay: 0	depth: 10	c.f.: 0	reso.: 10	vol.: 10	drawbar 16' 6	drawbar 2' 6

< ENSEMBLE >

< ENSEMBLE >

- Located on the right side of the operation panel.

☆ Playing is possible with the rich, extended tones of a string or brass ensemble.



- The string ensemble produces the gorgeous, extended and thick sound of orchestral strings played together. Rich harmonics included, this makes a beautiful ensemble effect possible.
- The brass ensemble produces the bright, extended sound of brass instruments played together. The sound gives a different feeling to that of the string ensemble, and should be used separately.
- Ensemble sounds are produced through a 3-channeled amplifier and speaker system, assuring enjoyable extended audio effects.

① upper ■ string/ ▲ brass

This button is used to change the type of ensembles, the string or brass.

Set the button to the "off" position to play with the string ensemble sound, and depress it to play with the brass ensemble sound.

⑤ upper volume

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

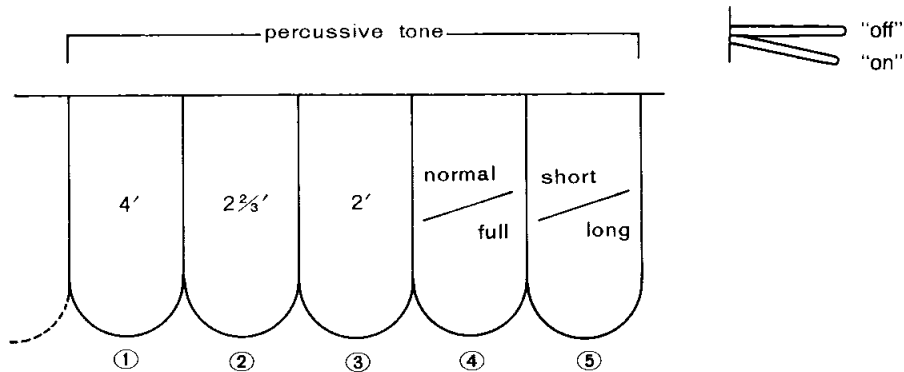
※ For ②, ③, ④ and ⑥, see the Lower Tones on Page 14.

<PERCUSSIVE TONE>

<PERCUSSIVE TONE>

- Located in the center of the operation panel.

☆ Overlapping the upper tones in use, the percussive tone produces staccato playing with the attack effect.



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'

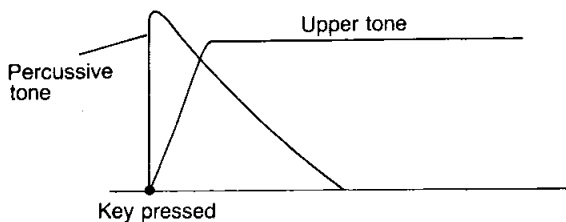
- With this tab turned "on", the upper tones can be played with the 4' percussive tone overlapped.
- When the percussive tone is not required, be sure to turn it "off".

② 2²/₃'

- With the tab on, the upper tones can be played with the 2²/₃' percussive tone overlapped.
- When not required, turn it "off".

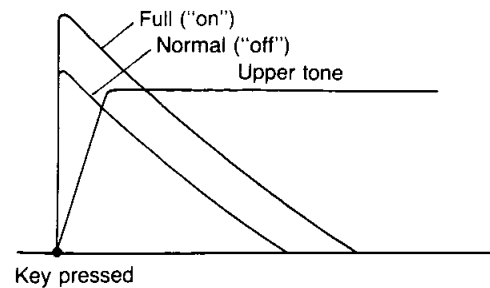
③ 2'

- With this tab on, the upper tones can be played with the 2' percussive tone overlapped.
- When not required, turn it "off".



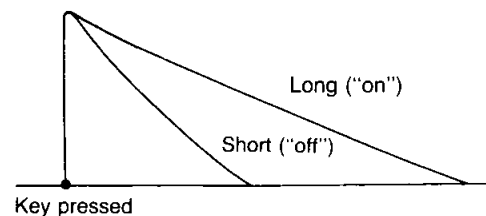
④ normal/full

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



⑤ short/long

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



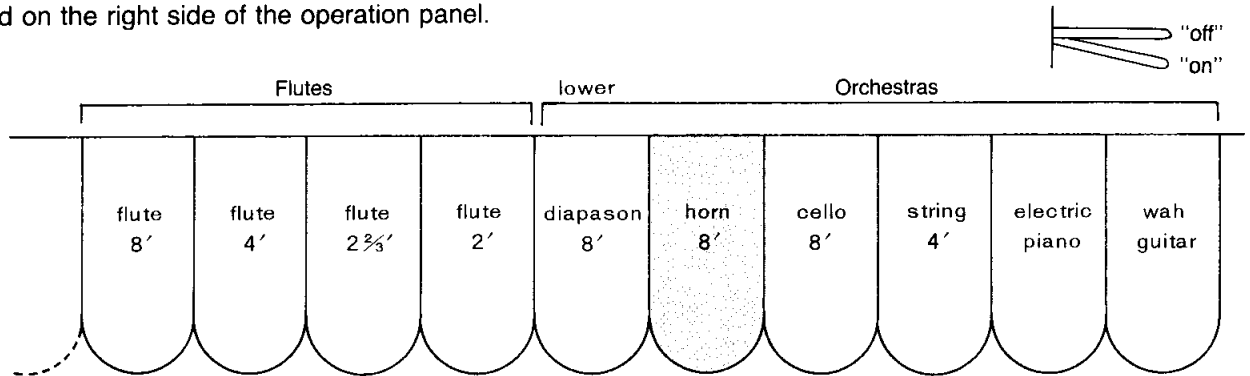
- ※ When playing legato, the percussive tone adds only to the first sound.
- ※ No percussive tone can be added to the ensemble sound or pre-set sounds.

LOWER TONES <LOWER TONE TABS, ENSEMBLE>

<LOWER TONE TABS>

- Located on the right side of the operation panel.

☆ Used in combination, the lower tone tabs create lower manual tones.



• Flutes

- flute 8'
- flute 4'
- flute 2 $\frac{2}{3}$ '
- flute 2'

• Orchestras

- diapason 8'
- horn 8'
- cello 8'
- string 4'
- electric piano
- wah guitar

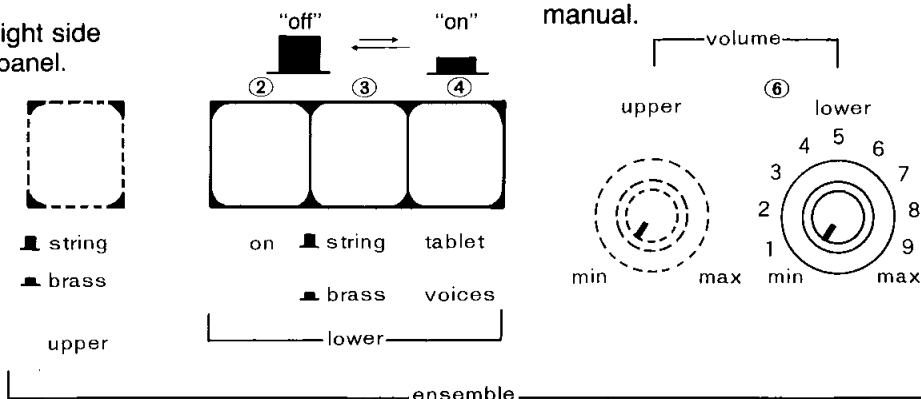
- With the Electric Piano tab "on", playing is possible, with a resultant attack effect as produced from an electric piano, and with the sound effect that fades even with the key remaining pressed. Combined use with other lower tone tabs makes possible a variety of sounds with unique effects.

- With the Wah Guitar tab "on", playing is possible with a resultant wah guitar sound, the wah being effected only when the key is pressed.

<ENSEMBLE>

- Located on the right side of the operation panel.

☆ Playing with extended, thick string and brass ensemble sounds is also possible with the lower manual.



② on

Depressing this button causes the lower tones to change to the 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 string/brass

This button is used to change the type of lower ensembles. To play with the string ensemble sound, turn the button "off", and depress it for playing with the brass ensemble sound.

④ tablet voices

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

⑤ 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 turning it clockwise.

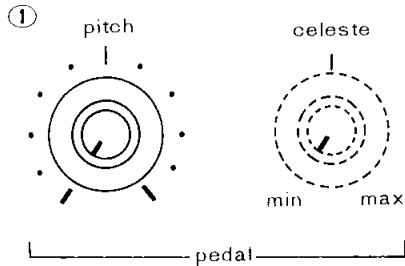
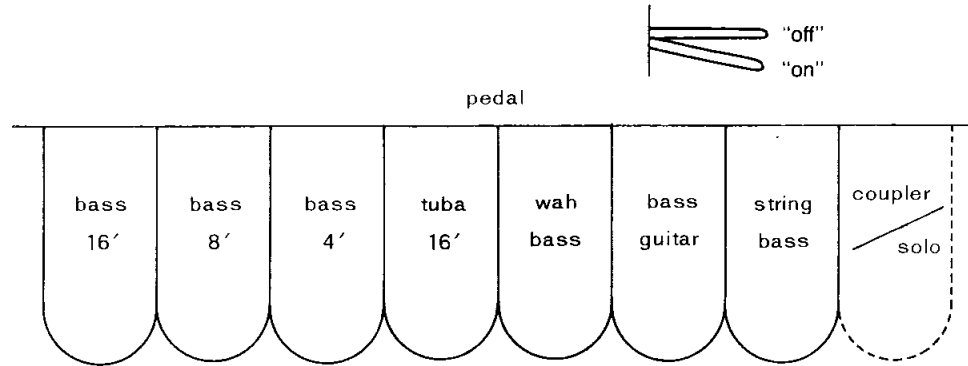
PEDAL TONES

< PEDAL TONE TABS >

- Located on the left side of the operation panel.

☆ The pedal tone tabs are combined to create pedal tones.

It is possible to play with a slightly delayed pitch between the pedal and manual sounds.



Pedal Tone Tabs

bass 16'
bass 8'
bass 4'
tuba 16'
wah bass
bass guitar
string bass

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.

- Turning "on" the Tuba 16' tab produces the bass sounds of the tuba.
- Turning "on" the Wah Bass tab produces the bass with wah and interesting effects.
- Turning "on" the Bass Guitar tab produces the solid sound of the bass guitar.
- Turning "on" the String Bass tab enables playing with the contrabass sound as heard when a string is plucked by fingers.

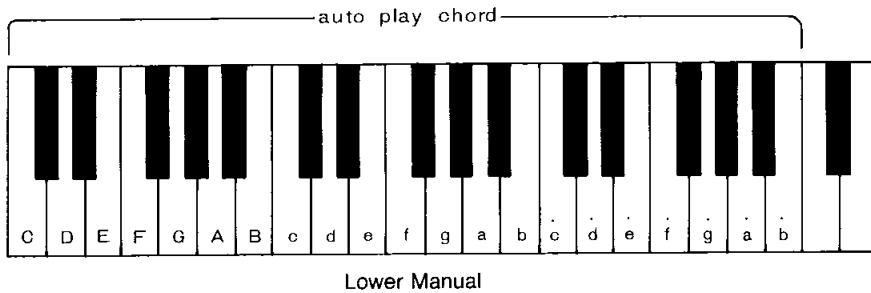
※ With the pedal volume lever placed in the "off" position, all bass sound is cut. Place the lever in the "3rd" position for playing.

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

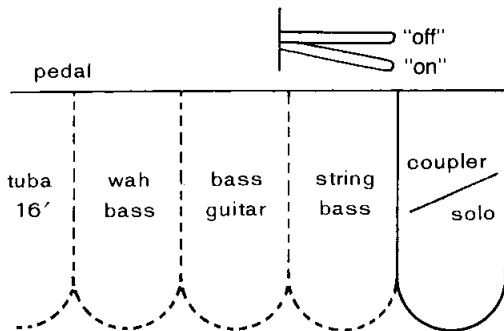
FULL BASS PEDAL

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.



Bass Solo



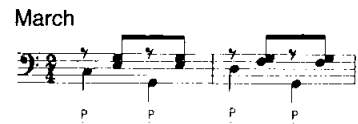
- Located on the left side of the operation panel.

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.



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



Play as follows for a 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. The left hand plays a simple bass line. Below the left hand staff, there are three dots labeled 'Ped.' with a small circle above each, indicating when the Full-Bass Pedal is depressed. The 'Actual Bass Sound' is shown in a separate staff below, which is a single octave lower than the original bass line.

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 excerpt from 'Fughetta' by J. S. Bach. The top staff is the right hand, and the bottom staff is the left hand. The left hand plays a complex polyphonic texture. Below the left hand staff, there are three dots labeled 'Ped.' with a small circle above each, indicating when the Full-Bass Pedal is depressed. The 'Actual Bass Sound' is shown in a separate staff below, which is a single octave lower than the original bass line.

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 for a very useful magnificent resonance.

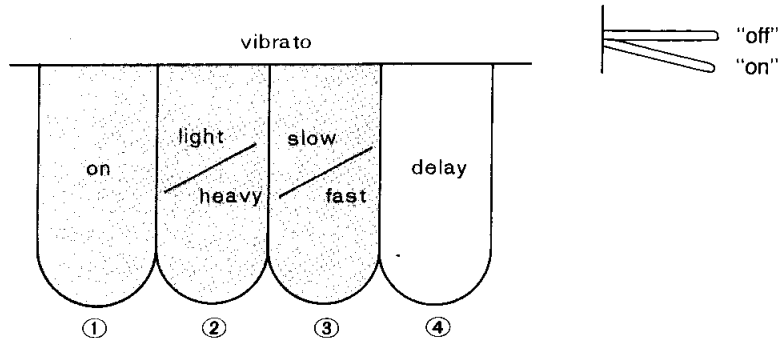
The image shows a short excerpt from 'March Royale de Lion' by Sain-Saëns. The top staff is the right hand, and the bottom staff is the left hand. The left hand plays a complex polyphonic texture. Below the left hand staff, there are three dots labeled 'Ped.' with a small circle above each, indicating when the Full-Bass Pedal is depressed. The 'Actual Bass Sound' is shown in a separate staff below, which is a single octave lower than the original bass line.

EFFECTS <VIBRATO, MULTI-TREMOLO & CELESTE>

< VIBRATO TABS >

- Located in the center of the operation panel.

☆ A vibrato effect can be added to the upper and lower tones. The tab operation makes for easy, quick turning "on" and "off" even during playing.



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.

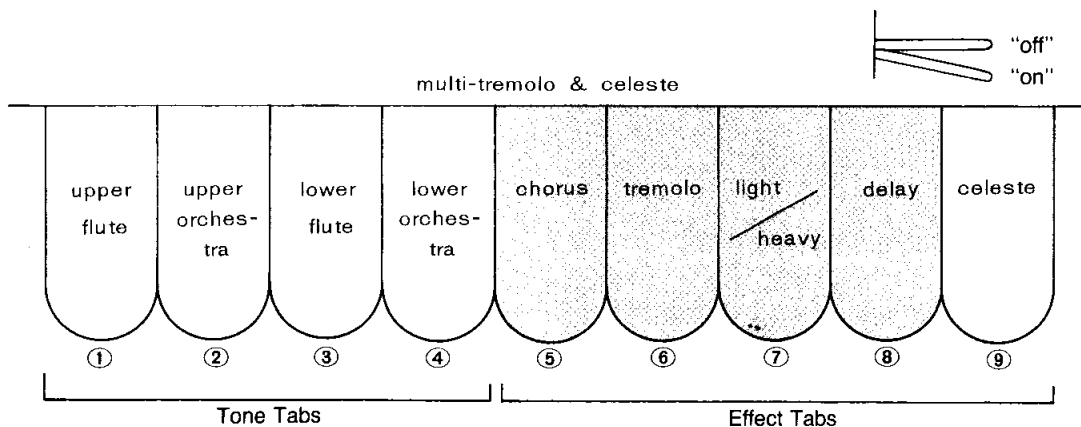
※ No vibrato effect occurs even when the three other tabs are operated if the On tab remains "off".

※ 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.

- This allows selection of any desired tone system from the sound of the manuals to bring the chorus, tremolo and celeste into effect.
- The chorus and tremolo effects do not occur in the pedal tones. The celeste effect, however, can be added to them using a 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 or the drawbar sounds.

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
- ★ Synthesized harmonizer sounds
- ★ Preset sounds of organ I, organ II, saxophone, trumpet and accordion.

③ lower flute

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

④ lower orchestra

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

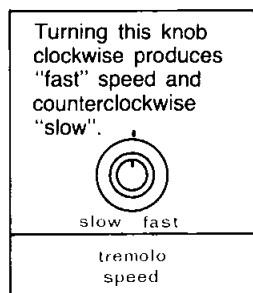
Effect Tabs

⑤ chorus

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

⑥ tremolo

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



⑦ light/heavy

With the chorus or tremolo tab and then this tab turned "on," the chorus or tremolo effect becomes "heavy". Returning it to the "off" position makes the effect "light".

⑧ 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.

⑨ 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-channelled 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".

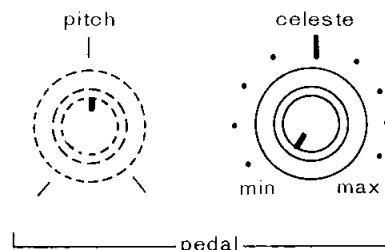
※ The tremolo or celeste effect does not affect the pre-set sounds, such as piano, harpsichord and vibraphone.

※ 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.

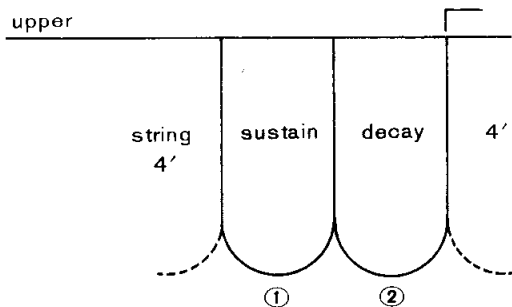


Pedal Celeste

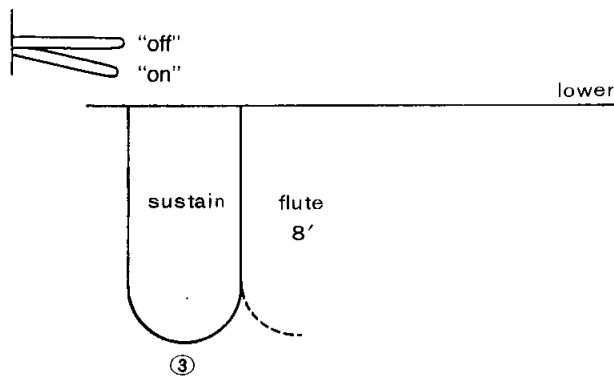
This control knob is used to give the celeste effect to the pedal tones. With the knob in the "min." position, the celeste effect is cut, and turning it clockwise towards "max.", introduces the effect and increases the pedal tones in extension and thickness.

<SUSTAIN, DECAY>

<SUSTAIN, DECAY TABS>

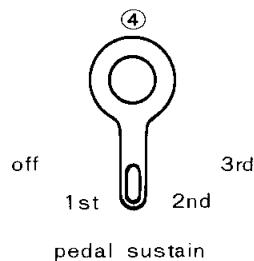


- Located on the left side of the operation panel.

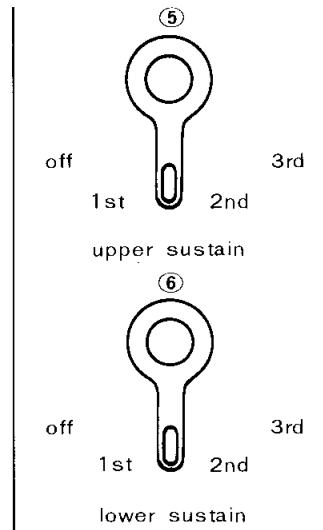


- Located on the right side of the operation panel.

- 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.



- Located on the left side of the upper manual.



- Located on the right side of the lower manual.

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.

- ※ 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 pre-set sounds, such as saxophone, trumpet and accordion.

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 fades slowly when placed in the "3rd" position.

Pedal Sustain

④ pedal sustain

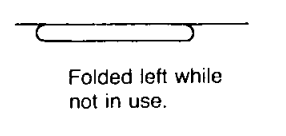
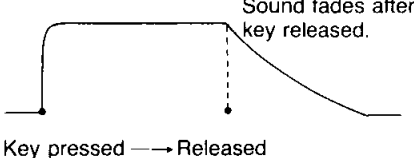
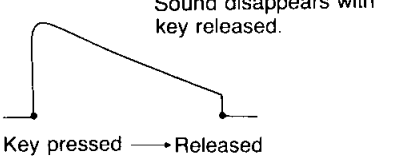
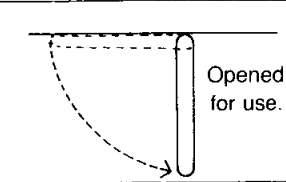
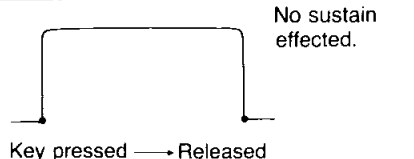
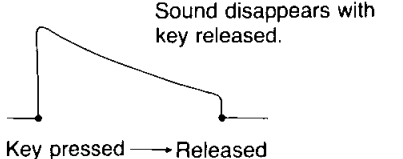
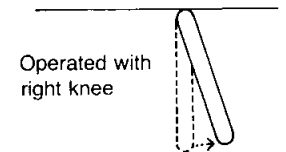
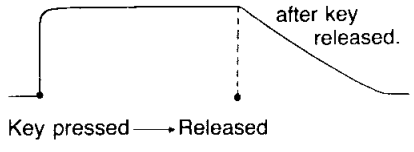
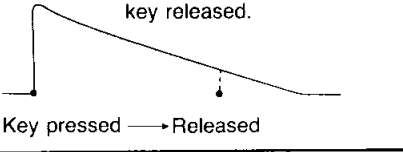
This lever is used to give the sustain effect to the pedal tones. It also permits adjustment of the length of sustain fade. No sustain takes effect with the lever placed in the "off" position. With the lever in the "3rd" position, however, the pedal tones are given the sustain effect so that the sound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

< OTHER EFFECTS >

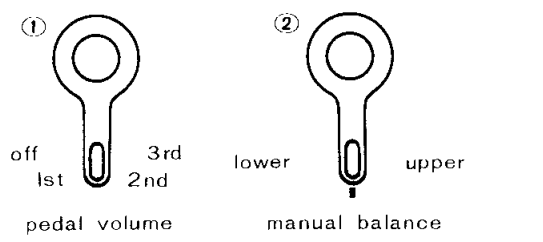
Knee Lever

- 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 pre-set 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.

① pedal volume

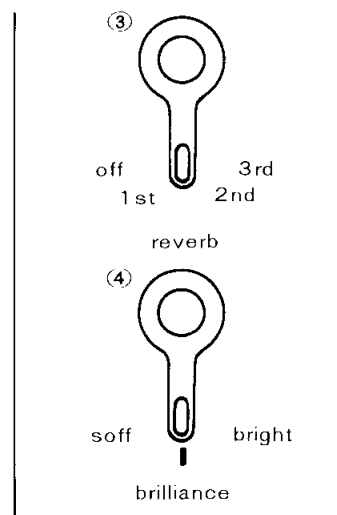
This lever adjusts the pedal volume. With the lever moved from the "off" towards "3rd" position, the pedal volume increases.

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.



- Located on the right side of the upper manual.

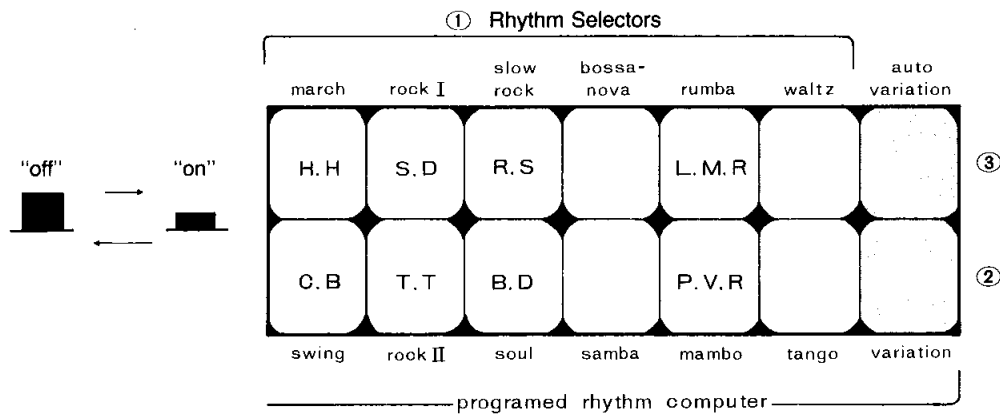
④ brilliance

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.



- Located on the left side of the upper manual.

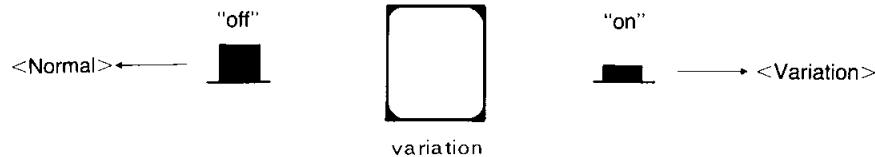
① Rhythm Selector

- 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

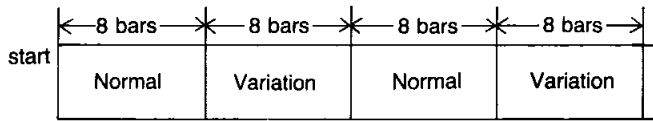
- Depressing this button allows the selected rhythm to be varied into a different rhythm pattern. If, for example, you select the "March" rhythm and press the Variation button as well, the straight march rhythm becomes more rolling and varied.
- With the button re-pressed to turn it "off", the rhythm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

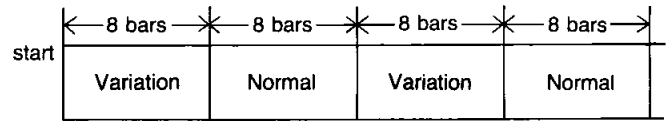


Normal: Rhythm of selector button

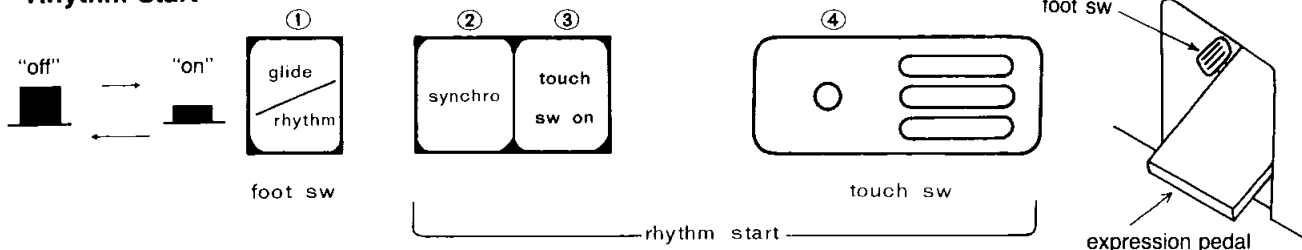
Variation: Varied rhythm

- 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 ways 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.

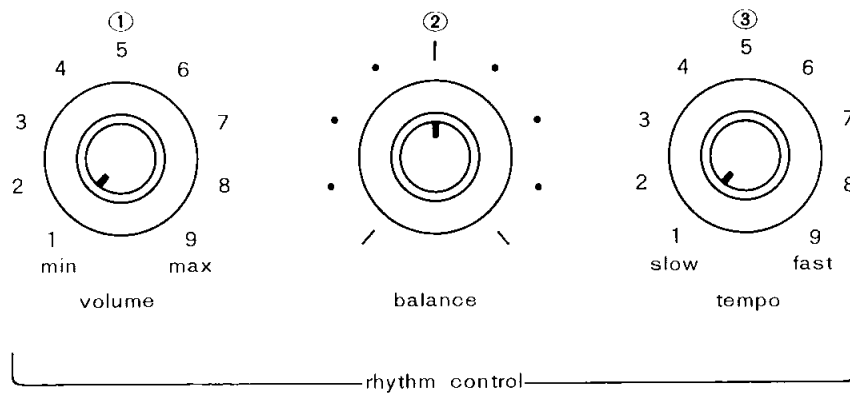
Start by Foot Switch

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. (The tempo lamp does not light up.) To reactivate the synchro start, depress the Synchro Start button ② once again. (The tempo lamp will light up for each beat.)

Rhythm Control



- Located on the left side of the operation panel.

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

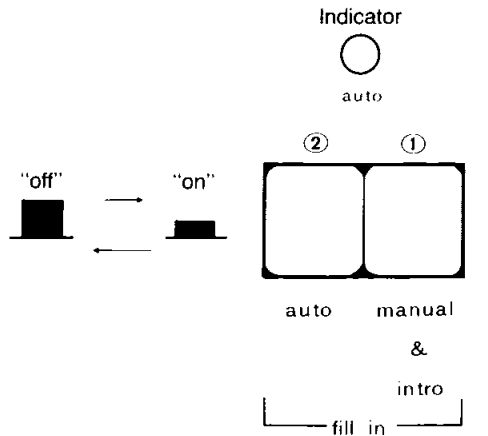
- Turning this control knob clockwise gradually increases the hi-hat and maraca sounds. Turning it counterclockwise increases the cowbell, clave and drum sounds. Use this knob to adjust the balance of rhythm instruments.

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.

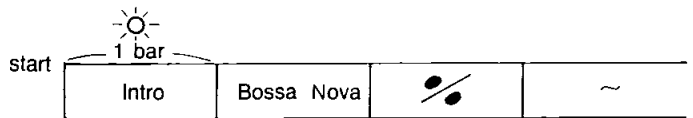
FILL IN



- Located on the left side of the operation panel.

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.)



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

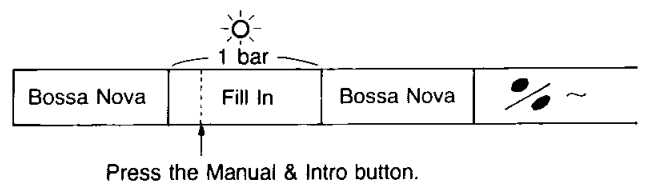
- When this button is depressed and the rhythm has started, the rhythm is automatically played after the first bar of the introduction at the start of a tune.
- When the button is depressed during a tune, the Fill In is immediately inserted for the rest of the bar in the rhythm being played.

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.

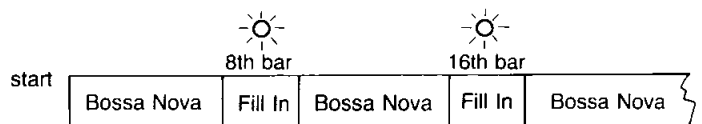
Example 2: To insert the Fill In while playing with the bossa nova rhythm.

- [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.

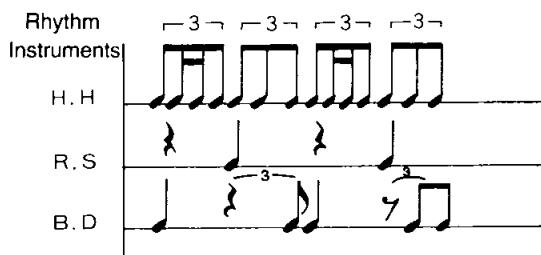


Example 3: To insert the Fill In automatically every 8th bar while playing with the bossa nova rhythm.

- [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.



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.

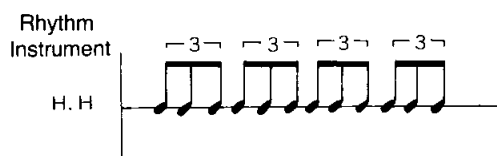
To Play the Stored Rhythm Automatically.

- [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:

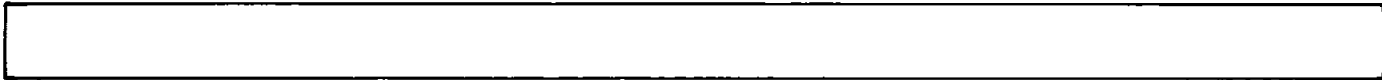


To Modify the Hi-hat alone as above in the earlier example:

- [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.



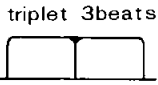
Use the Programed Rhythm Computer.

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

How to Use the Programed Rhythm Computer

Examples:

• **Bossa rock**



H.H

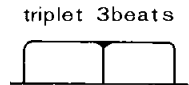
R.S

B.D

(L.M.R

P.V.R)

• **Latin rock**



H.H

S.D

R.S

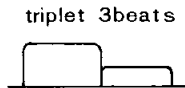
T.T

B.D

(L.M.R

P.V.R)

• **Rock-a-waltz**



H.H

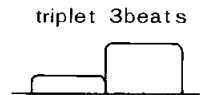
R.S

B.D

(L.M.R

P.V.R)

• **6/8-March**



H.H

S.D

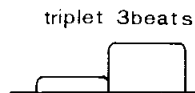
B.D

(L.M.R

P.V.R)

Stored as the 4/4 note triplets

• **Bolero**



S.D

B.D

(L.M.R

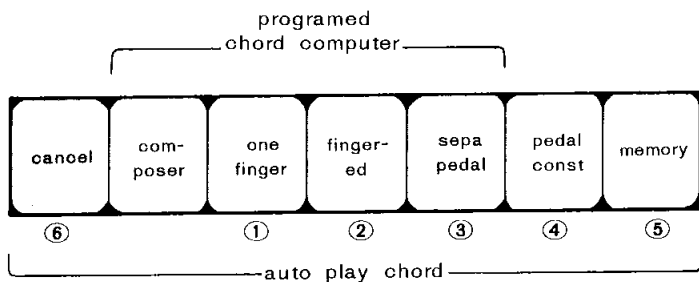
P.V.R)

composer I

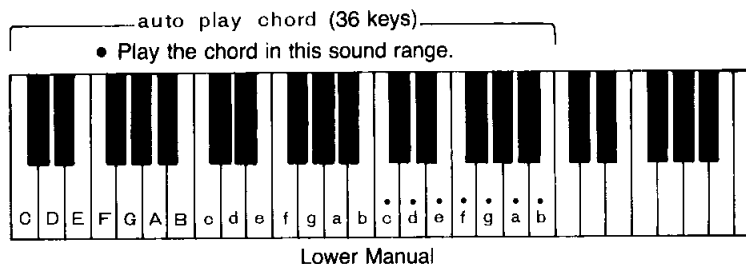
composer II

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

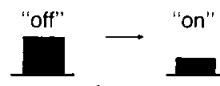
AUTO PLAY CHORD CONTROLS



- Located on the left side of the lower manual.



- Play the chord in this sound range.



- 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 "Programed Chord Computer" on Page 33.

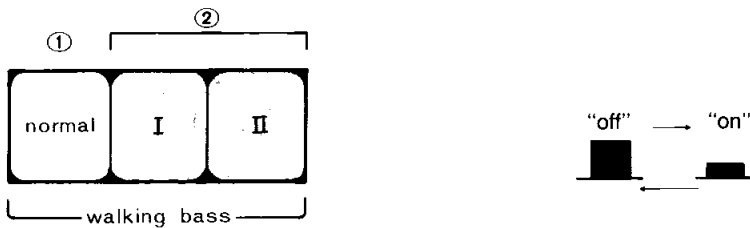
Lower tone tabs	Orchestras	Effected
	Flutes	Not effected (sustained)
String ensemble		Not effected (sustained)

☆ Basic Chord Example

major	minor	7th	minor 7th	major 7th	augumented	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 the most suitable pattern for your playing.

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)

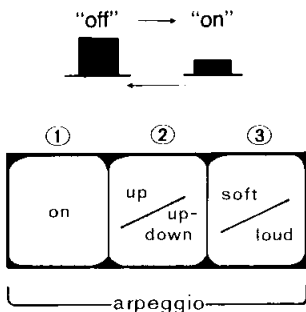
Pressing the I button makes the bass as:



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.

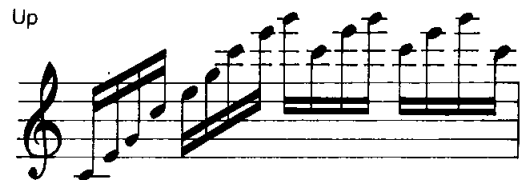
① **on**

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.

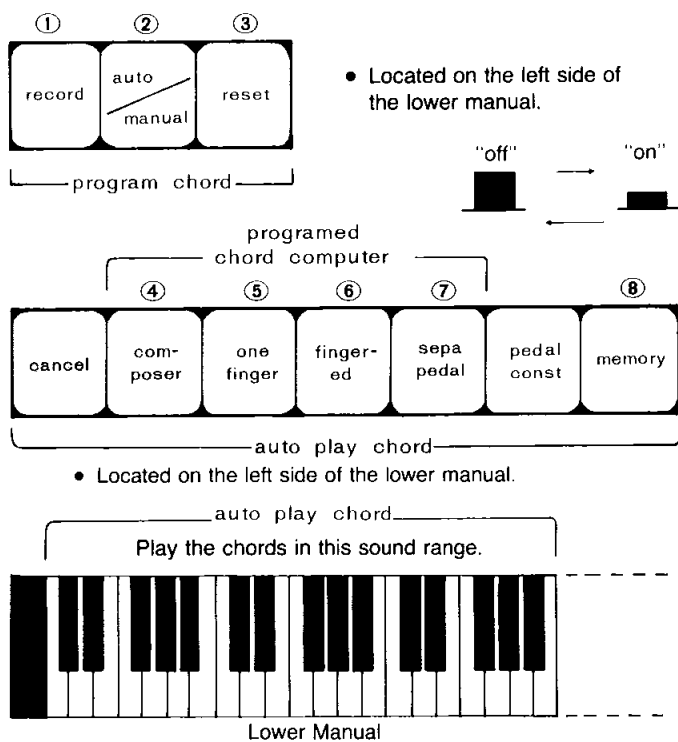
C Major Chord Example



③ **soft/loud**

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

PROGRAMED CHORD COMPUTER



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 Controls" on Page 30.

⑨ back

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

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

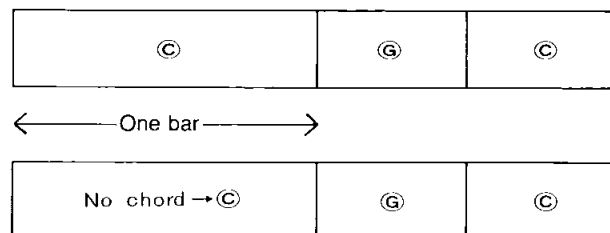
For Modification of the Stored Chords

- [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.

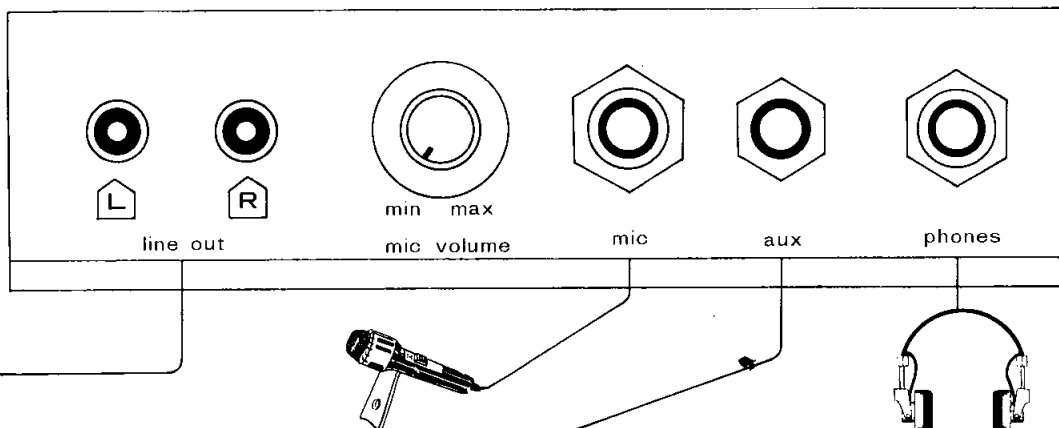
※ When the Reset button ③ is pressed while the stored chords are automatically playing, the rhythm and chord stop, returning the chord to its original position. Starting the rhythm again allows the chords to be played from the first.

※ 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.

MAINTENANCE

Maintenance

This organ is a very high quality product and built to a standard to ensure good performance, long life and high reliability. Nevertheless, even the finest merchandise requires service occasionally. In the unlikely event of failure, please insist, when contacting your organ dealer, that genuine replacement parts are used so that your instrument will continue to give you many years of trouble-free pleasure.

However, the following do's and don'ts will assist you in keeping the organ in top condition:

- Be sure to switch the instrument off after use, and do not switch the organ on and off in quick succession, as this places an undue load on the electronic components.
- Do not, under any circumstances, remove the back from the organ and tamper with the electronic circuitry. If a fault does develop, switch the organ off, unplug it from the electrical outlet and contact your nearest organ dealer. To assist your dealer, please explain the nature of the fault.
- To keep the lustre of the keys and tabs, simply use a damp cloth to clean and finish with a soft duster. Polish may be used but do not use thinners or petrol chemical based polishes.
- The cabinet may be polished with a wax polish, although you will find that rubbing with a soft cloth will normally suffice.

SPECIFICATIONS

Keyboards:	Upper Manual	61 keys
	Lower Manual	61 keys
	Pedal keyboard	25 keys
		1 (Full Bass Pedal)
Tones: Upper	<ul style="list-style-type: none"> · Upper Tone Selector Mixture ... Drawbar, Tablet Voices, Harmonizer, Ensemble Preset Sounds ... Organ I, Organ II, Saxophone, Trumpet, Accordion, Piano, Harpsichord, Vibraphone · Drawbar 16', 8', 5¹/₃', 4', 2²/₃', 2' · Upper Tone Tabs Flutes ... Flute 16', Flute 8', Flute 5¹/₃', Flute 4', Flute 2²/₃', Flute 2' Orchestras ... Diapason 8', Clarinet 16', Brass 16', Oboe 8', String 8', String 4' · Synthesized Harmonizer Speed, Noise, Wave Form, Attack, Decay, Depth, Cut Off Frequency, Resonance, Volume, Wave Selector (□ - ∞ / Drawbar), Auto Wah, Repeat · Percussive Tone ... 4', 2²/₃', 2', Normal/Full, Short/Long 	
Lower	<ul style="list-style-type: none"> · Lower Tone Tabs Flutes ... Flute 8', Flute 4', Flute 2²/₃', Flute 2' Orchestras ... Diapason 8', Horn 8', Cello 8', String 4' Preset ... Electric Piano, Wah Guitar · Ensemble Upper ... String/Brass, Upper Volume Lower ... On, String/Brass, Tablet Voices, Lower Volume 	
Pedal	<ul style="list-style-type: none"> · Pedal Tone Tabs ... Bass 16', Bass 8', Bass 4', Tuba 16', Wah Bass, Bass Guitar, String Bass 	
Effects:	<ul style="list-style-type: none"> · Vibrato ... On, Light/Heavy, Slow/Fast, Delay · Multi-tremolo & Celeste Upper Flute, Upper Orchestra, Lower Flute, Lower Orchestra, Chorus, Tremolo, Light/Heavy, Delay, Celeste, Pedal Celeste, Tremolo Speed · Sustain Upper ... Sustain, Decay, Upper Sustain Lower ... Sustain, Lower Sustain Pedal Sustain · Others ... Pedal Coupler/Solo, Pedal Pitch, Pedal Volume, Manual Balance, Reverberation, Brilliance, Glide/Rhythm 	
Automatic Rhythm:	<ul style="list-style-type: none"> · 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) 	
Rhythm Computer:	<ul style="list-style-type: none"> · Program Rhythm ... Record, Triplet, 3-beats, Clear · Programed Rhythm Computer Composer I, Composer II, Hi-hat, Cowbell, Snare Drum, Tom-tom, Rimshot, Bass Drum, Lower Manual Rhythm, Pedal Voice Rhythm 	
Auto Play Chord:	<ul style="list-style-type: none"> · Cancel, Composer, One Finger Chord, Fingered Chord, Separated Pedal, Pedal Constant, Memoly · Walking Bass ... Normal, I, II · Arpeggio ... On, Up/Up-Down, Soft/Loud 	
Chord Computer:	<ul style="list-style-type: none"> · Program Chord ... Record, Auto/Manual, Reset, Whole, Half, Back, End 	
Others:	Main Volume, Power Switch, Lighting Switch, Knee Lever, Expression Pedal, Foot Switch, Headphones Jack, Input Jack, Output Terminal, Microphone Jack (with Volume), Pilot Lamp	
IC's:	132	Transistors: 436
		Diodes: 86
Output:	150 W (50 W×3)	
Speakers:	30 cm (12")×1, 20 cm (8")×4, 6.5 cm (2.6")×3	
Power Requirement:	340 W AC 120/220/240 V 50/60 Hz	
	420 VA AC 120 V 60 Hz only for Canada	
Cabinet:	Simulated Rosewood	
	130.4 cm (51.3") (W)×113 cm (44.5") (H)×73.5 cm (28.9") (D)	
Net Weight:	160 kg (352 lbs.) Bench: 14 kg (31 lbs.) Pedal Keyboard: 19 kg (42 lbs.)	

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

SQFG 2500Y

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