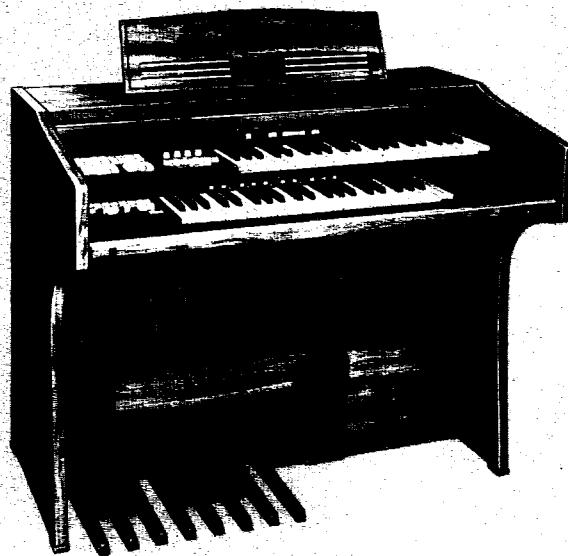


Operating Instructions

Electronic Organ
SX-3800A



Technitone

Before operating this unit, please read these instructions completely.



OPERATING INSTRUCTIONS

Thank you very much for selecting this Organ. We are sure you will enjoy many happy hours of entertainment from this excellent musical instrument.

This organ is a unique musical instruments designed for playing performances from the simplest to the most complex music, and can be easily played by anyone, from the beginner to the most competent musician.

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

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MAIN FEATURES

Tremolo & Chorus

In a conventional mechanism, a tremolo effect can be obtained by turning the speaker itself or by rotating a fan in front of the speaker, which is often accompanied with mechanical noise and troubles. In SX-3800A, it can be electronically obtained due to the Matsushita's unique technique which brings about an effect similar to that obtained by slowly rotating the speaker.

Also, the time until the tremolo gains the specified speed after turning it ON can be freely controlled by using the delay effect in combination. Furthermore, it is possible to use the delay effect in accordance with staccato and legato performances.

Harmonizer

The harmonizer is a feature which has simplified the function of the musical synthesizer being born from a composite of electronic sound technology with which it is constructed. It can be called a mini-synthesizer.

This electronic organ has adopted three music source wave forms (square wave, stair-step wave and sawtooth wave). Being of unique design the harmonizer can vary and mix all these wave patterns thus creating wonderfully varied sounds.

Because it can freely produce sounds that suit your taste from a round and soft clarinet, brilliant or radiant trumpets or mute-like voices, simply by operating two control levels you can effectively use the harmonizer to enjoy performances which are rich in originality.

Auto-play-Chord

The Auto-play-chord (automatic accompaniment) is designed so that accompaniment with the left hand and pedal (which is so often difficult for beginners when learning the electronic organ) can be played with just one finger. Beginners can first use the one finger chord and when this has been mastered proceed to the complete fingered chord system. This way they can improve gradually their proficiency of achieving an organ technique. In addition the 'separated pedal' which is a unique feature from MATSUSHITA enables the player to select automatically either a left hand chord or pedal depending on your musical requirement.

Pre-set Sounds

Pre-set sounds are achieved by simply depressing the relative tone button, thus you can freely obtain the characteristic sounds of the piano, harpsichord or vibraphone; tones which are normally difficult to produce by using combinations of the fundamental tone tablets. A rich reverberations of the piano, delicate percussive string tones of the harpsichord and the sweet sound of the vibraphone can be enjoyed even by a beginner with a one touch operation. When a pre-set button is pressed during a performance all the upper keyboard tablet sounds will be automatically cancelled. Because of the tonal variation and ease of operation, effective contrasts can be added to your music to produce rich performances.

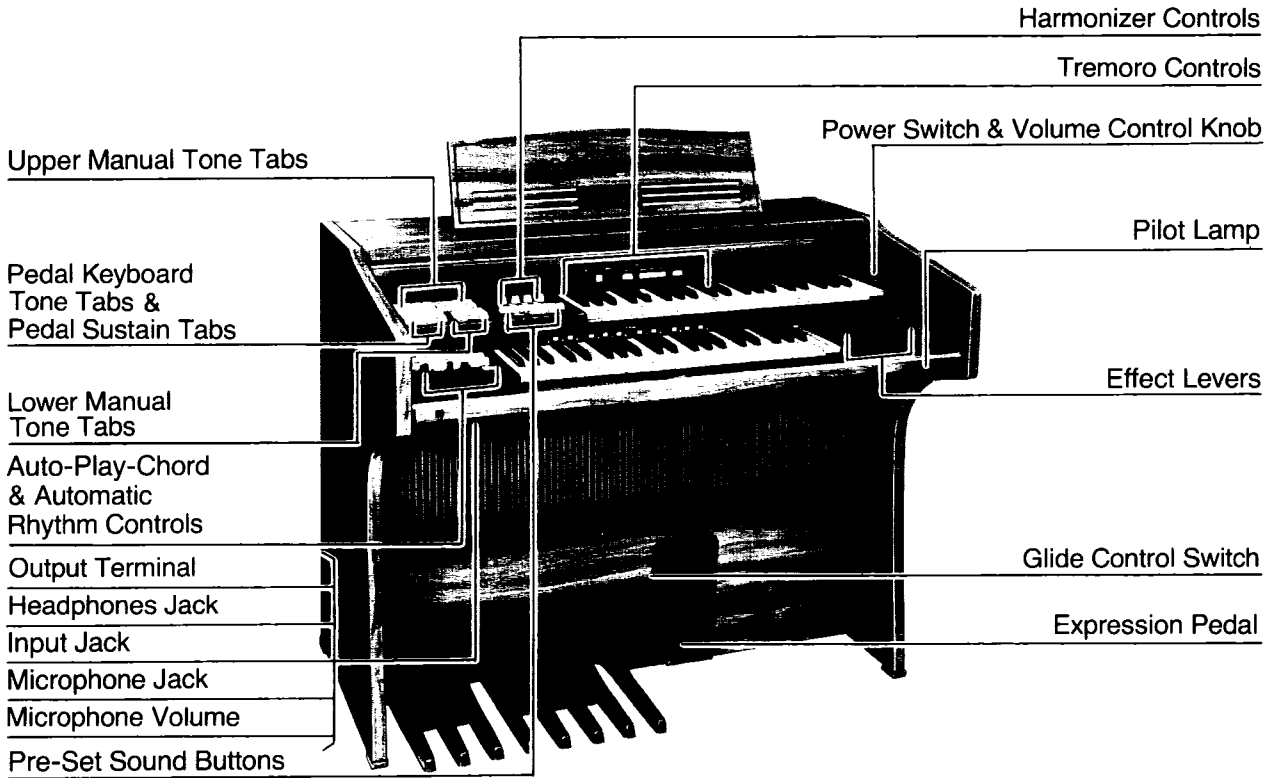
Sustain

This organ is designed to give you sustain to all of the 16' 8' 4' tablet voices and also to the harmonizer voice. You will quickly realise how attractive this effect is and will find many uses for it. It is particularly impressive when creating the sounds of the steel guitar. Using delay tremolo and making use of the glide control a hawaiian guitar can be reproduced in a most realistic manner.

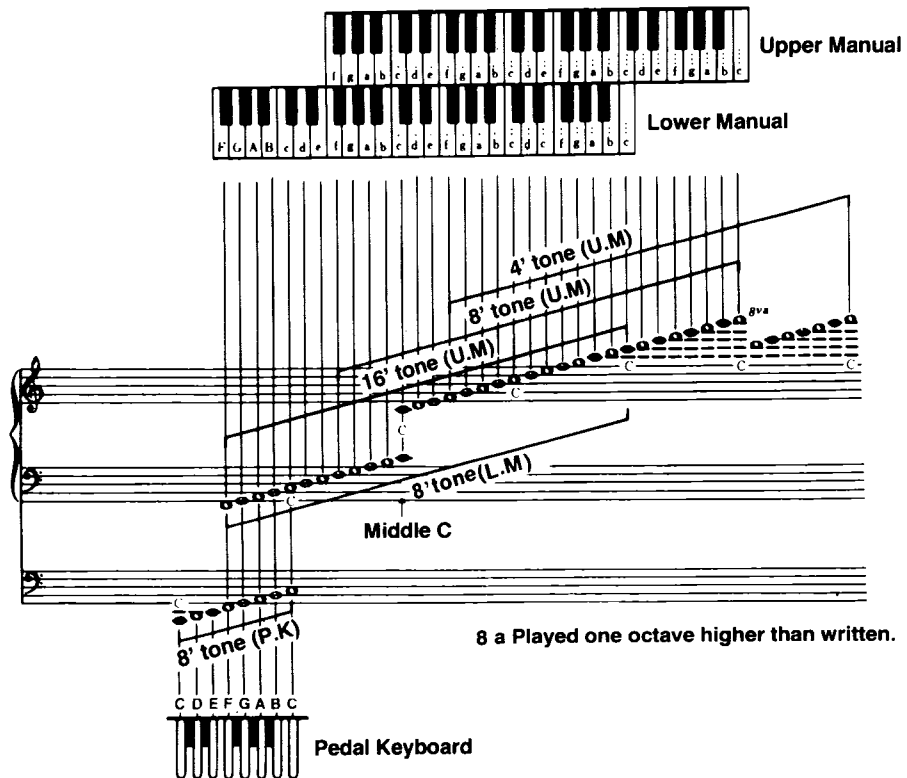
Glide Control

Operated by a switch attached to the left side of the expression pedal the pitch of the organ glides down a half tone. When the switch is released portamento is added and the sound of the organ is returned to the original pitch. This operation produces many sounds including the effect of a steel guitar or the portamento sound similar to that of a slide trombone.

NAMES OF PARTS



COMPASS CHART

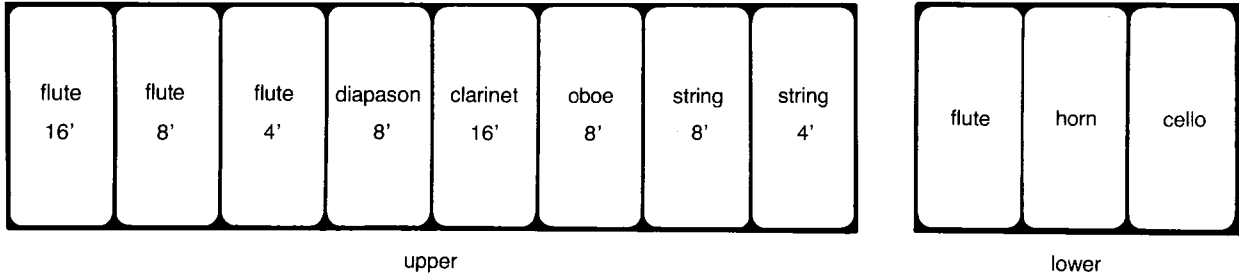


STONE TABS

Before we start explaining the Organ in detail, it is important to examine the make-up of an organ in order that you may fully understand what is meant by Tones, Manuals, Footages, etc.

First, an organ obtains its 'big sound' from the various pitch levels, which can be produced by depressing one key. For example, when you depress a note, say middle C, on a piano, the sound produced in musical terms is one note only in one pitch. If you depress the same note on an organ and select for example, a 16', 8' and 4' tone tab, the sound produced by that one key is in fact three octaves or three C notes.

On this organ, you can reproduce three pitch levels: 16', 8', and 4'. The footage classification, by the way, stems from the pipe organ; i.e., the length of pipe required to produce a particular frequency or note. A 16' pipe would produce the sound an octave lower than an 8' pipe, simply because it is twice the length, and so on. Each tone tab on this Organ has a corresponding pitch level.



The four families of tone:— Flutes Upper 16' 8' 4'
Lower 8' ·
Strings Upper 8' 4'
Lower 8' Cello

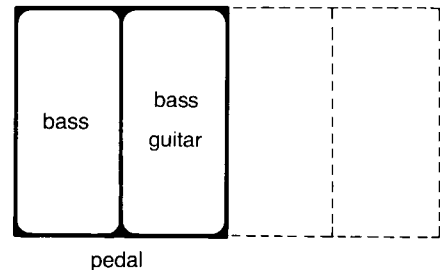
Reeds Upper 16' clarinet 8' oboe
Lower 8' horn
Diapason Upper 8'

Lower Manual Tone Tabs

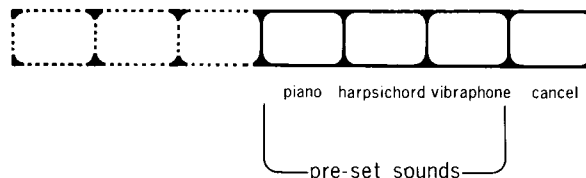
The lower manual provides three 8' voices:— Flute, Horn and Cello. These tones can be played as solo voices but are usually combined to provide a suitable accompaniment to the upper manual voices. Note: the voices on the lower manual do not sustain. When using these tones for solo work, ensure that the manual balance control is set to the lower manual position otherwise the volume of the upper manual tones will be in excess of the lower manual solo voices.

Pedal Keyboard

The pedal keyboard provides one pitch level, bass and bass guitar. To simulate the sound of the string bass add pedal sustain to the bass tablet.



PRE-SET SOUNDS



Pre-set sound means that the voices have been pre-determined. When a pre-set button is pressed, the tones of the upper keyboard are cancelled and only the selected pre-set sound will be produced as you play. To change back to the tones of the upper keyboard during a performance, simply press the Cancel button at the extreme right; the changeover will be automatic. If two pre-set buttons are pressed at the same time, only the one on the right will take effect. Tremolo, Chorus, Vibrato, and Reverberation can be added, but Sustain is already set its best.

PIANO

A pre-set tone which combines the tones of the flute group with an appropriate sustain length; the tone gradually decays when the fingers are lifted from the keyboard.

HARPSICHORD

Most widely used during the 17th and 18th centuries, the harpsichord tone is delicate, yet lively...like the snapping of fingernails on the strings of a chord.

VIBRAPHONE

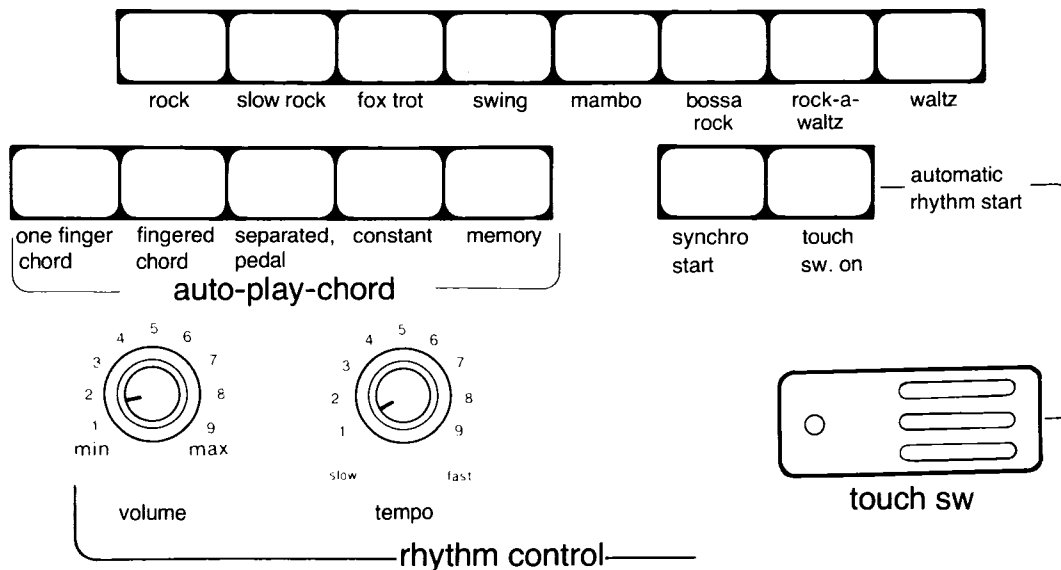
The vibraphone resembles an iron xylophone. The pre-set tone causes the sound to vibrate and decay in the trembling manner characteristics of a vibraphone.

Cancel Button

This control is used when changing over to tablet voices of the upper keyboard from the pre-set sounds or harmonizer. Upon pushing this button the pre-sets or harmonizer buttons will be switched off and the sound will revert to the voices produced by the upper manual tabs. When you wish to switch back to either harmonizer or pre-sets simply depress the button required and the change will be automatic. If you so wish you may combine the voices of the harmonizer and upper manual tone tabs simply by pressing the harmonizer button and then once one has become accustomed to the instrument, it is a simple matter to create wonderfully varied sounds at the touch of a button. For example, if you have selected say, 16', 8' Flute in the organ tone tab section and wish to change in the space of a quaver rest to a solo vibraphone or piano (pre-sets) or solo trumpet (Harmonizer), this will present little difficulty and will add great dimension to your organ playing.

AUTOMATIC RHYTHM CONTROLS

The automatic rhythm section has two rhythm control knobs, eight rhythm selector buttons, two rhythm start switches, one tempo lamp and touch start switch.



Rhythm Selection Buttons

The rhythm section has eight selector buttons. They are:—Rock, Slow Rock, Fox-Trot, Swing, Mambo, Bossa Rock, Rock-a-Waltz and Waltz. Select your choice of rhythm to suit the music played and push the corresponding button. The selected drum rhythm will start once the rhythm start switches have been operated. The rhythm buttons are interlocking switches so that when a new rhythm is selected the previous selection turns off automatically. By pushing two or more rhythm selector buttons simultaneously many interesting rhythm patterns can be created.

Rhythm Volume Knob

When the RHYTHM VOLUME knob is turned to the right (Clockwise) the volume of the rhythm increases. Adjust the volume of the rhythm to suit the overall volume of the organ.

It should be noted that the main volume and expression pedal of the organ effects the volume of the rhythm.

Tempo Control Knob

If you turn the TEMPO CONTROL knob clockwise, the tempo of the rhythm increases. Set the tempo of the rhythm to suit the music you are playing.

The Tempo Lamp in the touch start switch is designed to illuminate on the first beat. You can easily pre-set the tempo by watching the tempo lamp if the synchronous start switch is depressed to the ON position. In this position the tempo lamp indicates a beat interval even though the rhythm is not sounding.

Rhythm Start Switches

There are two starting methods for the rhythm as shown below. In each case the rhythm begins always on the first beat.

SYNCHRONOUS START BUTTON

When the SYNCHRONOUS START button is depressed, the rhythm will start when either the lower manual or the pedal keyboard is played. By using the Touch Start switch, you can stop the rhythm.

If a performance is conducted without using the synchronous start button, this button should be pressed again and set to the OFF position. Note that the rhythm will stop by pushing this button during a performance.

TOUCH START SWITCH

This TOUCH START switch is especially convenient because on-off control of the rhythm can be quickly accomplished by simply touching it (when the Touch Switch button is set to the ON position). Note that, even when the Synchronous Start button is ON, the Touch Start switch can be used to control on-off operation.

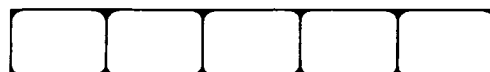
TOUCH SWITCH ON-OFF BUTTON

This button is to prevent mistaken operation of the Touch Start Switch, located on the control panel. When not using the rhythm, it should be set to the OFF position. When so set, the rhythm cannot be started even if the Touch Start switch is accidentally touched. To use the rhythm, press this button to the lower position and use the touch start switch. The touch start switch can, however, be used to stop the rhythm no matter to which position this button (ON or OFF) is set.

AUTO-PLAY-CHORD CONTROLS

The Auto-Play-Chord is a function which makes the rhythm accompaniment (lower manual and pedal) fully automatic. The organist can play the melody on the upper manual in the normal way and the rhythm accompaniment will be automatically played with a pre-selected rhythm, by simply playing an accompanying chord on the lower manual and a bass note on the pedal keyboard. Accordingly, even those who are just beginners can play the organ easily and effectively within a short space of time.

Because this Auto-Play-Chord is connected to the automatic rhythm, if one of the rhythm selection buttons is not pushed, the automatic accompaniment will not be obtained, in other words only when the automatic rhythm is operating does the Auto-Play-Chord function. When you don't require the percussion instrument tones of the automatic rhythm, turn the 'Rhythm Volume' knob completely counterclockwise (min.) and only the lower manual and pedal tones will play the rhythm. Control the speed with the 'Tempo' knob. The starting function of the Auto-Play-Chord is the same as that for the automatic rhythm.



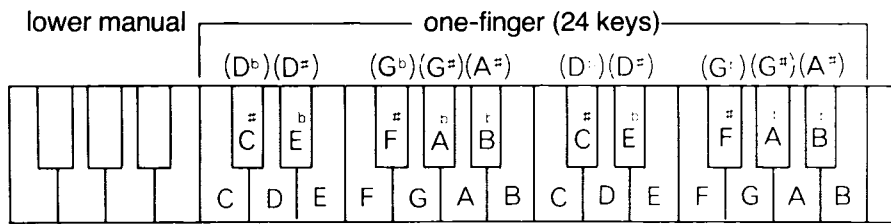
onefinger chord fingered chord separated pedal constant memory



Auto-Play-Chord Controls

MATSUSHITA engineers have designed the auto-play system in such a way as to ensure a) the easy and rapid progress of the beginner and b) a most satisfying automatic accompaniment to the advanced organist. Therefore with this organ all the family can enjoy creative music, even the youngest member of the family will quickly learn to play the SX-3800A even if he or she cannot reach the pedals.

●When auto-play-chord is in use, pressing keys other than the 24 keys shown in the figure below will not cause any sound to be created.



One Finger Chord

When with this button ON and only one key of the lower keyboard is depressed a triad (a chord of doh me soh or in the Key of C—C E G) and the bass note doh or pedal C will sound and be played fully automatically. The chord in this instance is a major chord but it becomes minor when any black pedal of the pedal keyboard is depressed simultaneously. In other words it is possible to produce two different types of chords complete with pedal notes as follows:—

Major chord—finger one key only (lower manual)

Minor chord—as above plus any black pedal

examples of chord

major chord	minor chord
C F G	Am Dm Gm

lower manual

pedal

When you select the Rock rhythm for example with the Auto-Chord, the sound from the lower manual and pedal is follows:

Lower Manual Sound

Pedal Sound

Fingered Chord

With this button on any chord, that is a combination of keys played on the lower keyboard, will sound automatically. In addition the corresponding pedal note that is C if the chord of C is being played with the left hand will also be heard. Once one has mastered a performance by using the one finger chord method the fingered chord system can be used to practice the playing of fuller chords such as Major 7th, augmented and diminished chords etc.

Separated Pedal

There will be occasions when you will prefer to play the pedalboard separately but still have the use of auto-chord on the lower keyboard. To do this simply depress the separated pedal button.

Constant

This function can be used either with the one finger chord or the fingered chord.

When used with the one finger chord, sustained sounds of a chord of the lower keyboard and the corresponding bass sound can be played by simply depressing one key.

When used with the fingered chord, sustained sounds of a chord which is played on the lower keyboard and the corresponding bass sound can be played.

Memory

This button is used together with the one finger chord.

When this button is ON, the sound of any chord, produced by depressing the appropriate key on the lower keyboard can be memorized. This will give an automatic accompaniment even when the finger is released from the key.

If another key is pushed, the sound of that key is newly memorized. When a button other than the one finger chord is used with this memory function, only bass sound can be memorized.

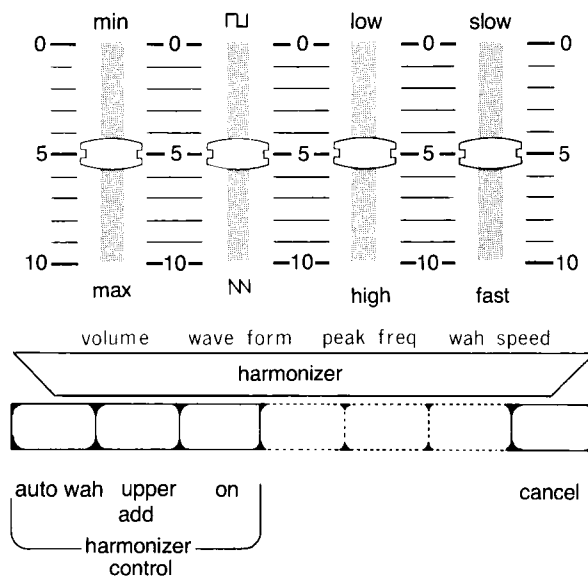
With the MATSUSHITA auto-chord system, it is easy to progress rapidly by starting with the 'one fingered' method, to the 'fingered chord' and finally to reach the stage where you have mastered the electronic organ. It must be mentioned that because the MATSUSHITA system allows the player to select auto-accompaniment either on to chords or pedal, the advanced player can use to excellent effect the auto-chord facility.

HARMONIZER CONTROLS

This ingenious tone generation system designed by MATSUSHITA offers tone colors rarely found on organs at any price, and we are quite sure that once you have accustomed yourself to using this feature, you will enjoy it. The following examples indicate a few recommended positions which will produce good examples of the many varied sounds of which the Harmonizer is capable. The principal of the Harmonizer is similar to a musical synthesizer except that the synthesizer is monophonic (only plays one note at a time). The Harmonizer is polyphonic (can play more than one note, i. e., a chord) which is a great advantage over normal synthesizers. When a harmonizer is used, first set the harmonizer button at the left side of the pre-set sounds, to ON.

You can then enjoy the creation of sounds according to your own liking. Special sound effects can be added to this harmonizer, such as vibrato, chorus, tremolo, reverberation, sustain, etc. Further, these effects can be mixed freely with tones of the upper keyboard for additional enjoyment. Note, however, that a combination of the harmonizer and the pre-set sound cannot be used.

When a change is made from the harmonizer to a tone tablet, push the pre-set sound cancel button. Also, when changing to pre-set sound, simply push the pre-set sound button; the harmonizer will be automatically turned off.



Waveform

The many varied sounds of which the Harmonizer is capable are due to the infinite control of waveforms. MATSUSHITA has designed the Harmonizer unit to enable you to vary the frequency shape from the square-wave (□) to the sawtooth-wave (∇) patterns. The result is a very pleasing and versatile sound effect. To produce the soft tones of the tube system (like the clarinet), slide and set the control to the squarewave side and, for a strong tone full of harmonics (like a trumpet), set the control to the sawtooth-wave side.

Peak Frequency

Tones consist of waveforms containing various components. By sliding this control either to the low or high, the characteristics of the music area you wish to emphasize will be changed. To stress and "round-out" the tone of the Waveform you have selected, slide the control to the **low** side; to give gayness and brilliance to the selected waveform, slide the control to the **high** side.

Auto Wah

With this button ON, and Speed set to zero, the muted effect of a "wah" trumpet can be obtained. If, on the other hand, Speed is set to 10, the Auto Wah effect can be selected.

Volume

The volume of the harmonizer can be freely adjusted and will be most useful when "mixing" with upper manual voiced tabs. Note that no sound will be produced if the volume is set to zero. When the harmonizer is not required simply depress the cancel button, or set the volume control to zero.

Wah Speed

By using this knob in combination with the auto wah button, the repetition speed can be adjusted.

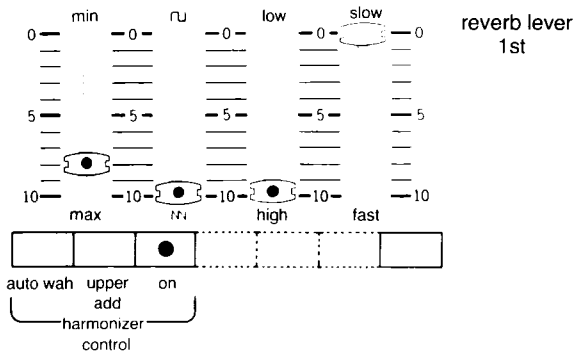
Shifting the knob towards you increases the repetition speed.

Mute trumpet sounds can be created by setting the knob to "0" position.

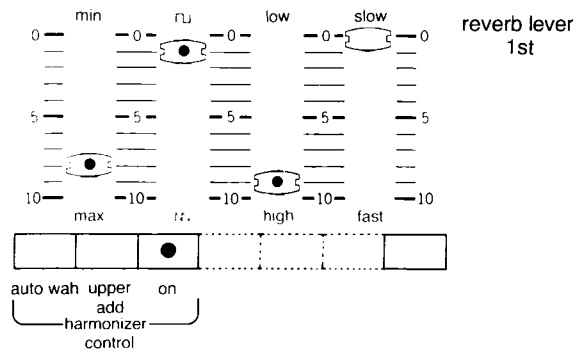
Upper Add

When this button is ON, sounds of the tone tablets can be mixed with the sounds of the harmonizer. Some examples of the tones which can be created with Harmonizer are shown below.

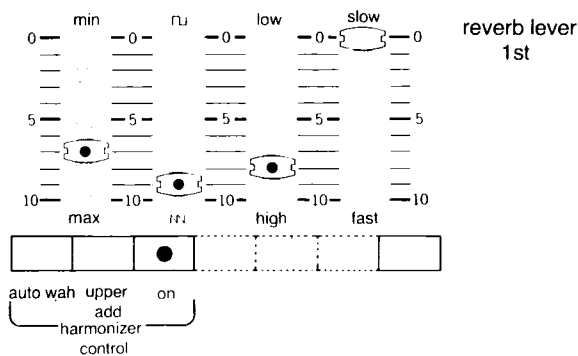
Brass ensemble



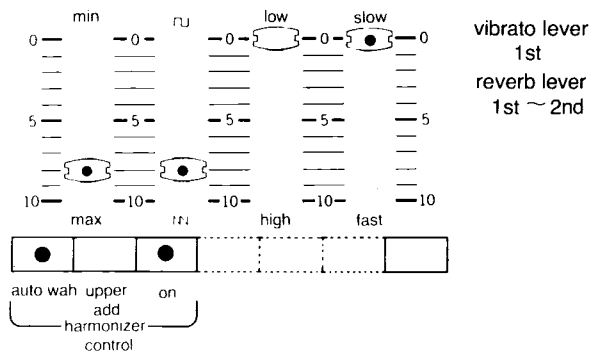
Clarinet



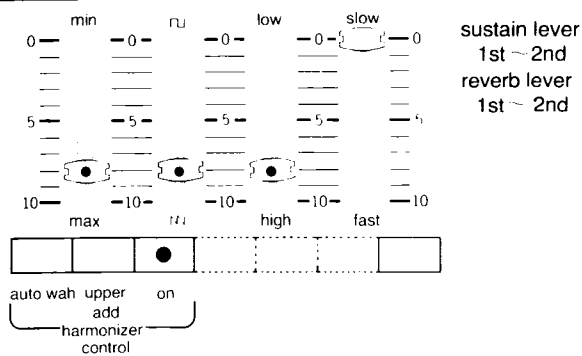
Trumpet



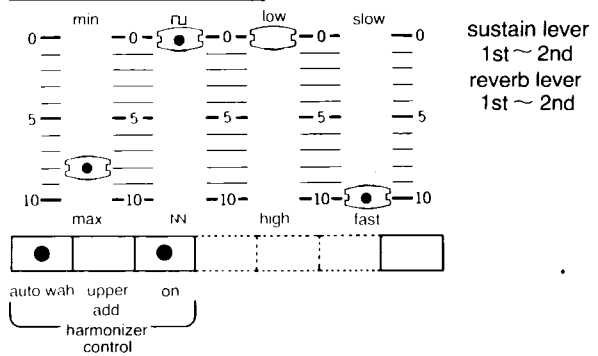
Wah trumpet



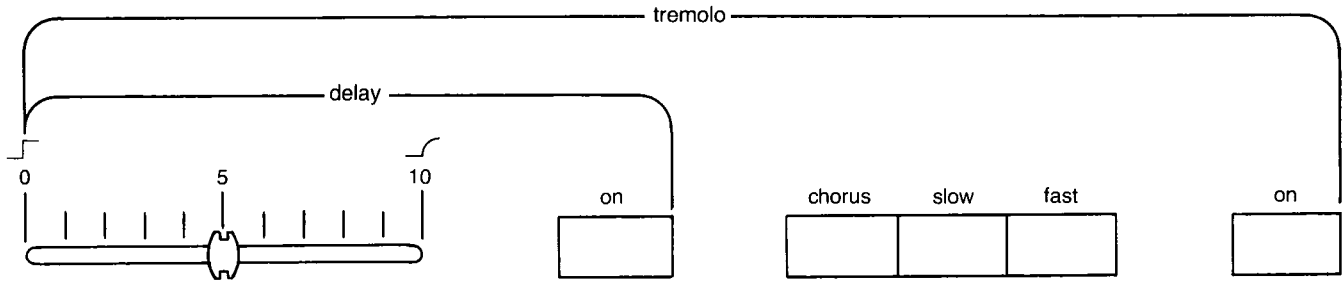
Koto



Auto wah sound



EFFECT CONTROLS



Tremolo

This produces an electronic tremolo effect using the phase of sound, which adds three-dimensional quivering effect to various sounds such as flute and string, thus creating thick and expansive sounds.

Also, impressive sounds can be obtained by using the chorus effect.

TREMOLO ON

When the button is ON, the tremolo and chorus effects are given to the sound as if the speaker slowly starts rotating. The effects will not work, however, if all the speed control buttons explained in the following are OFF.

Speed Control Buttons

The desired quivering speed can be selected with this control buttons when using the tremolo effect.

Select the speed before pushing the tremolo ON button.

TREMOLO FAST

When this button is pressed, a fast tremolo effect can be obtained.

TREMOLO SLOW

When this button is pressed, a slow tremolo effect can be obtained.

CHORUS

When this button is pushed, the tremolo obtained is slower than that obtained with "Tremolo Slow", making it rather solid and magnificent.

This is effective for music of slow tempo in particular. Incidentally, better acoustic effects can be achieved by properly shifting the quivering speed during the performance while using the above-mentioned effects.

Delay

This is a completely new delay effect which was not included in any conventional tremolo functions (including the National's Multi-tremolo).

The new function serves to electronically control the time until the tremolo gains the specified speed after pressing the key on the upper keyboard.

This delay effect works on the individual sounds when the performance is staccato but only on the initial sound when the performance is legato.

This is therefore very convenient for performances.

DELAY ON

When this button is pressed, the delay effect can be obtained every time the key on the upper keyboard is pressed even during performance.

DELAY TIME CONTROL

This lever is used to control the time until the tremolo gains the specified speed after pressing the key on the upper keyboard.

At 0 (\lrcorner), the tremolo gains the specified speed soon after the key is pressed.

At 10 ($_$), the tremolo gains the specified speed slowly after the key is pressed.

Therefore, the time can be controlled according to the music.

The tremolo effect can be slowly stopped, if desired during performance, by setting all the speed control buttons to OFF without touching the Tremolo ON button.

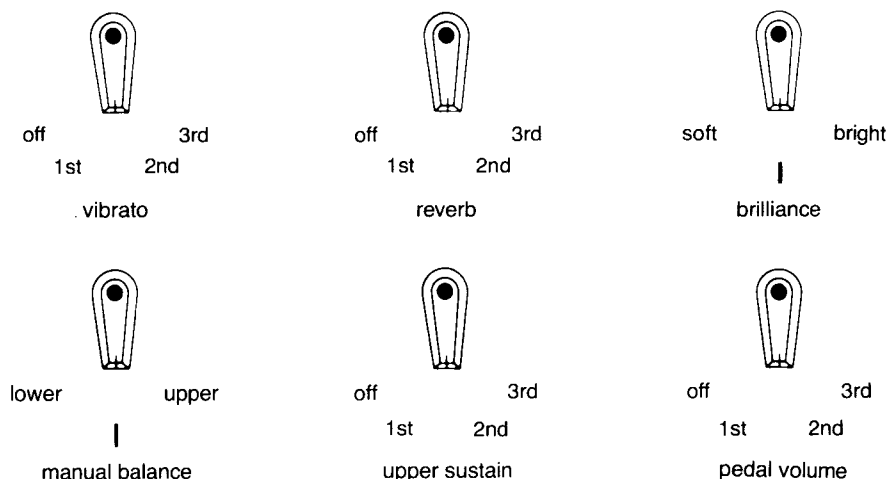
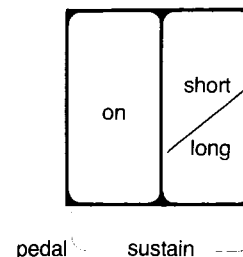
Pedal Sustain Tabs

PEDAL SUSTAIN ON-OFF

The PEDAL SUSTAIN ON-OFF tab gives sustain to the pedal notes. Pedal sustain means that a bass tone produced by the pedal keyboard decays gradually after the pedal is released.

PEDAL SUSTAIN SHORT-LONG

The PEDAL SUSTAIN SHORT-LONG tab changes the duration of the sustained bass notes. By operating this tab you can select long or short pedal sustain, to suit the music being played.



Reverberation Lever

The reverberation lever can change the length of the reverberation effect, giving a speciousness and warmth to the music from OFF to 3rd degree. By changing the degree of the reverberation effect, you can bring various special effects to the music.

Vibrato Lever

The vibrato lever can change the depth of the vibrato effect from OFF to 3rd degree. Although any degree of vibrato effect can be obtained at the discretion of the player, some music is more effective without it.

Brilliance Lever

The brilliance lever is similar to the brilliance knob or the tone control knob on a good highfidelity amplifier system. It can control the upper harmonics of tones from SOFT to BRIGHT, and its normal position is the center point. When turned to the BRIGHT position, the brilliance of tones of the manual keyboards is emphasized, and when turned to the SOFT position, the brilliance is reduced completely. This lever is particularly effective in making the String tone and the Oboe tone more brilliant.

Manual Balance Lever

The manual balance lever can control the volume balance between the Upper Manual and the Lower Manual at the discretion of the player. When this lever is set to the center point, the volume of both manuals becomes nearly equal. The lever set to the Upper position causes the volume of the Upper Manual to exceed that of the Lower Manual, and vice versa with the lever set to the Lower position.

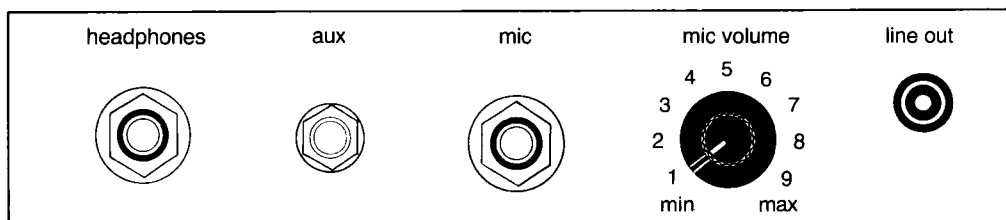
Pedal Volume Lever

The pedal volume lever can control the volume of the sounds of the Pedal Keyboard from OFF to 3rd degree. Set the Pedal Volume lever to the proper position to balance the sound volume of the Pedal Keyboard with those of the Upper and Lower Manuals.

Upper Sustain Lever

The upper sustain lever controls the length of sustain heard after the key or chord has been released. Sustain is effective on all 16' 8' 4' voices but it does not affect the pre-set sounds. By setting this lever to a selected position you can obtain many degrees of sustain to suit the musical work being played.

OTHER CONTROLS & FACILITIES



Headphones Jack

All MATSUSHITA organs have a facility for using headphones for silent practice. When plugged in, the organ speaker system is automatically cut off: the only sound heard in these conditions is through the headphones.

Input Terminal (aux)

If the organ is to be used for professional purposes or in conjunction with other electronic equipment, the Auxiliary Input Terminal will be a useful advantage. Among the many items which can be connected to this are Tape/Disc pre-amps, portable synthesizers and electric guitars. It is suggested that bass guitars not be used.

Because the input impedances of some guitars vary, better results may be achieved by plugging into the microphone terminal (input level 25mV, 20k Ω).

Microphone Terminal (mic)

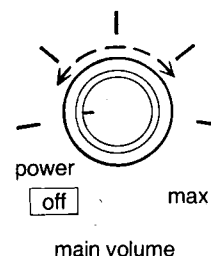
The input impedance of this Terminal is 20k ohms at 5mV and is therefore ideal for use with dynamic microphones of the uni-directional type. There is a volume control included at the microphone terminal in order to balance the voice with organ volume. There is a volume control included at the microphone terminal in order to balance the voice with organ volume. Increase the volume of the microphone by turning the control to the right (clockwise).

Output Terminals

The organ is designed to enable the player to use it most successfully for professional work if required. By plugging into a high-power amplifier via the Output Terminals, the complete organ sound, including microphone and auxiliary instruments, can be reproduced at a very high volume level. Furthermore, the sound of this organ can be tape recorded most successfully by using this method of connection. The output terminals are located under the left side on the keyboard (output level 360mV, 600 Ω).

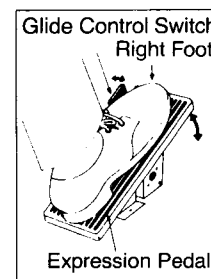
Power Switch & Volume Control Knob

You will have found that by turning the knob to the right, the organ is switched on and, by continuing to turn the control, the volume of the organ increases. It was mentioned earlier that the expression pedal also acts as a volume control. However, the main purpose of the Main volume control is to allow you to preset the maximum volume of the organ to suit the room in which the organ is being played, or the conditions under which the organ is used. The advantage of this control is that it enables the player to control the maximum volume desired, but yet still allowing him to use the expression pedal effectively. After playing the organ, the Volume Control is turned counterclockwise to a position at which the power is switched off.



Glide Control Switch

The GLIDE CONTROL SWITCH is on the left of the expression pedal. (Refer to the figure at the right.) This switch is operated by the toe of the right foot. If this switch is pushed to the left the sound glides down approximately one—half of a tone. When the switch is no longer operated, the sound will return to the original tone by portamento.



Expression Pedal

The volume pedal operated by the right foot is above all, what the feature implies, i.e., an expression control. In other words, it is there to enable the player to express a feeling for the music by controlling the volume of the organ. Remember not to beat time with your right foot on the Expression Pedal because to do so will have a detrimental effect on your performance.

MAINTENANCE & SPECIFICATIONS

Maintenance

This Organ is a very high quality product and built to a standard to ensure good performance, long life and 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 in order to satisfy yourself 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 a rub with a soft cloth will normally suffice.

Specifications

Keyboards:	Upper Manual	44 keys	F2-C6
	Lower Manual	44 keys	F1-C5
	Pedal Keyboard	13 keys	C1-C2
Tones:	Upper Manual	Flute 16', Flute 8', Flute 4', Diapason 8', Clarinet 16', Oboe 8', String 8', String 4',	
	Pre-Set Sound	Piano, Harpsichord, Vibraphone, Cancel	
	Harmonizer	harmonizer on-off, wave form, peak frequency, wah speed, auto wah, upper add, volume.	
	Lower Manual	Flute, Horn, Cello	
	Pedal	Bass, Bass Guitar	
Effects:	Tremolo	on. slow/fast, chorus, delay on, delay time	
	Vibrato (Depth), Pedal Sustain (On-Off, Short-Long), Upper Sustain (Length), Manual Balance, Reverberation, Brilliance, Pedal Volume, Glide Control.		
Automatic Rhythm:	Rhythm Selectors	Rock, Slow Rock, Fox Trot, Swing, Mambo, Bossa Rock, Rock-a-Waltz, Waltz,	
	Rhythm Volume, Tempo, Synchronous Start, Touch Start, Touch Switch On-Off, Tempo Lamp.		
Auto-Play-Chord	one finger chord, fingered chord, separated pedal, constant, memory		
Others:	Power Switch & Volume Control, Expression Pedal, Headphone Jack, Input jack Microphone Terminal (with Volume), Output Terminals (line out), Pilot Lamp,		
Output:	35W (Peak power)		
Speakers:	20cm(8'')×2, 8cm (3'')×1		
L.S.I.:	2		
IC's:	67 (Hi-Mic 45) Transistors: 196 (FET 10)		
Diodes:	307 Power Requirement: 90W AC110/120/220/240V 50-60 Hz		
Cabinet:	Simulated Oceanian Rosewood: 111cm (43.9'') (W)×92cm(36.4'') (H)× 59cm(23.3'') (D)		
Net Weight:	63kg. (138 lbs.)		

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

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