FS-30
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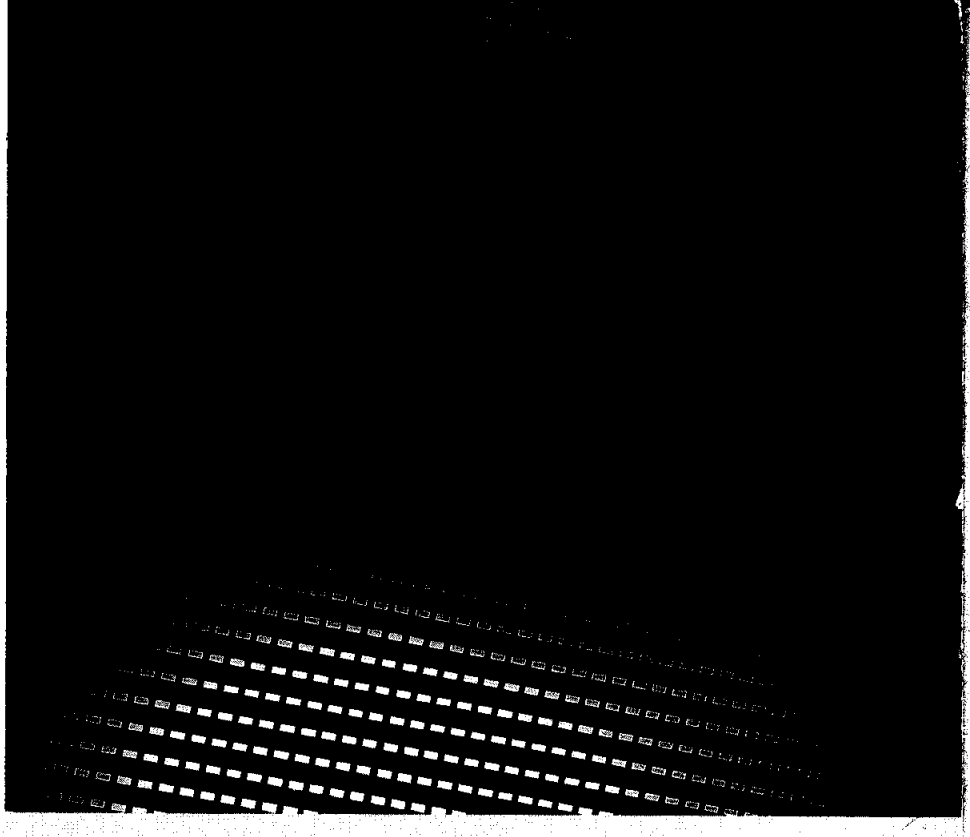

MAKING THE MOST OF YOUR ELECTONE

BEDIENUNGSANLEITUNG, FÜR DIE NEUE YAMAHA-ELECTONE-GENERATION

POUR TIRER LES MEILLEURES PERFORMANCES DE VOTRE ELECTONE

CÓMO APROVECHAR AL MÁXIMO SU ELECTONE

YAMAHA ELECTONE®

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Welcome to Yamaha's spectacular new world of music!

The Electone introduced in this manual is the avant-garde of electronic organs. It has been perfected through Yamaha's concerted efforts to meet the most stringent demands of the professional musician. With increased high-performance capability it produces dynamic sound, has completely new expression functions, and a design which facilitates the musician's concentration on the actual performance. By these and other outstanding features, some of which are explained below, this Yamaha Electone greatly surpasses the performance possibilities of previous electronic organs.

- *FM (Frequency Modulation) System is used as the sound source circuit. Realistic and rich sounds, from acoustic sound to dynamic tones, can be obtained with this new system.*
- *It is provided with a Registration Memory by which the setting for all of the function buttons and sliders can be stored in the Electone's memory. It also has a variety of memory functions.*
- *With touch tone controls, the musician can now change the sound volume and tone to a subtle degree by varying the pressure on the keyboard and can create new musical expressions.*
- *A greater variety and wider range of sound is now possible, as well as a larger number of instrumental combinations.*
- *Clear rhythm sound and a wide variety of rhythm patterns can be realized with the waveform memory system.*
- *Besides Auto Arpeggio, Rhythmic Chord, and Auto Bass/Chord, a new function called Play Assist has been added to make the auto functions even more complete.*
- *A 3 channel multi-sound system has been incorporated to achieve a forceful three-dimensional reverberation.*

With these features, the New YAMAHA ELECTONE has an increased musical capability, power of expression and epoch-making tone quality. Yamaha is certain that this Electone will meet your expectations as a musical instrument which creates a spectacular world of music.
Before playing your Electone, master the instructions given in this

Willkommen in YAMAHA's einzigartig neuer Welt der Musik!

Die in dieser Bedienungsanleitung vorgestellte neue ELECTONE ist die modernste elektronische Orgel, die es heute gibt. Sie ist das Ergebnis langer Entwicklungsarbeit seitens YAMAHA mit dem Ziel, auch die höchsten Ansprüche des professionellen Musikers zu erfüllen. Die Leistungsfähigkeit der neuen YAMAHA-Electone-Generation wurde dabei entscheidend verbessert. Insbesondere der dynamische Sound eröffnet völlig neue Ausdrucksformen. Das neue Design ermöglicht es dem Spieler, sich ganz auf die musikalische Darbietung zu konzentrieren. Die besonderen Merkmale der neuen YAMAHA Modelle möchten wir Ihnen in dieser Bedienungsanleitung vorstellen und erläutern. Sie sollen dazu beitragen, die breite Palette der Möglichkeiten noch besser zu nutzen, denn diese neue YAMAHA-Electone-Generation übertrifft die Leistungsfähigkeit aller bisherigen elektronischen Orgeln bei weitem.

- *Als Klangerzeugung dient das neue FM-System (Frequenz-Modulation), mit dem sich ein breites Spektrum von noch realistischeren Klangbildern, die vom typischen Akustikton bis zum dynamisch modernen Sound reichen, erzielen läßt.*
- *Zur Austattung gehören neben einem Registrierspeicher, mit dem sich die Einstellung aller Funktionstasten und Schieberegler speichern lassen, auch viele andere Speicherfunktionen.*
- *Die auf leichte Berührung ansprechenden Klangregler versetzen den Spieler jetzt in die Lage, Lautstärke und Klangfarbe in sehr kleinen Abstufungen zu variieren, indem er den Druck seiner Finger auf das Manual verändert. Dadurch wird die musikalische Ausdrucksfähigkeit noch vielfältiger.*
- *Die neuen Modelle verfügen über eine noch umfangreichere Auswahl von Klangmöglichkeiten. Auch die Zahl der Instrumentenkombinationen wurde vergrößert.*
- *Mit Hilfe des Wellenform-Speichersystems lassen sich sowohl ein klarer Klang der Rhythmusbegleitung als auch eine Vielzahl von rhythmischen Begleitfiguren realisieren.*
- *Neben automatischem Arpeggio, rhythmischer Akkordbegleitung und automatischer Baßakkordbegleitung gibt es jetzt auch die*

Yamaha vous souhaite la bienvenue dans son monde spectaculaire de la musique!

L'Electone introduit dans ce mode d'emploi représente l'avant-garde des orgues électroniques. Perfectionné grâce au savoir-faire immense de Yamaha, cet appareil répond aux exigences les plus diverses de tout musicien professionnel. Ses possibilités élargies de hautes performances procurent un son dynamique, ouvrent des horizons d'expression nouveaux tout en offrant au musicien un design facilitant sa concentration sur des performances inédites. De plus, grâce à des caractéristiques sans pareilles sur lesquelles nous feront la lumière ci-dessous, l'Electone de Yamaha surpasse de loin toutes les orgues électroniques conçues jusqu'à ce jour.

- *Le système de modulation de fréquence (FM) fonctionnant comme circuit de source sonore permet d'obtenir une gamme sonore riche et réaliste, des sonorités acoustiques aux tonalités dynamiques.*
- *La mémoire des registres permet de stocker dans la mémoire de l'Electone les réglages de l'ensemble des touches et des curseurs. Cet appareil est en outre équipé d'une grande variété de fonctions de mémoire.*
- *Les touches de tonalité permettent au musicien de modifier le volume sonore et la tonalité avec une grande sensibilité par des variations de pression sur le clavier et d'élargir ainsi le champ de ses possibilités d'expression musicale.*
- *Cet appareil offre enfin une grande variété de sons, une gamme sonore large ainsi qu'un nombre plus important de combinaisons instrumentales.*
- *Le système de mémoire à forme ondulaire permet d'obtenir un rythme sonore détaillé et une grande variété de modèles rythmiques.*
- *Outre les fonctions d'arpège automatique, d'accord rythmique et de basse/accord automatique, cet appareil bénéficie d'une nouvelle fonction dite d'assistance à la lecture qui vient compléter l'ensemble des fonctions automatiques.*
- *L'incorporation d'un système multi-sonore à 3 canaux permet d'obtenir un effet de répercussion sonore à trois dimensions de*

¡Bienvenido al mundo espectacular de la música de Yamaha!

El Electone que vamos a presentarle en este manual es lo último en órganos electrónicos. Ha sido perfeccionado por Yamaha para satisfacer la demanda exigente de los músicos profesionales. Gracias a su nuevo funcionamiento de gran calidad, produce un sonido dinámico, posee funciones de expresión totalmente nuevas y un diseño que facilita la concentración del músico en su actuación. Con estas y otras peculiaridades, explicadas a continuación, este Electone de Yamaha supera con mucho las posibilidades de los órganos electrónicos anteriores.

- *Como circuito generador de sonidos se utiliza un sistema MF (modulación de frecuencia) gracias al cual se consiguen sonidos ricos y auténticos, desde los acústicos a los tonos dinámicos.*
- *Va equipado con una Memoria de Registro que permite almacenar los ajustes de los botones y palanquitas de función. Asimismo posee varias funciones de memoria.*
- *Con los controles de toque manual del tono, el músico puede cambiar el volumen y el tono en un grado sutil, variando la presión de los dedos sobre el teclado, y poder crear nuevas expresiones musicales.*
- *Hemos aumentado las variedades y gama de sonidos, además del número de combinaciones instrumentales.*
- *Con el sistema de memoria de formas de onda pueden realizarse sonidos rítmicos claros y una gran variedad de modelos rítmicos.*
- *A las funciones de Arpegio, Acorde Rítmico y Bajo/Acorde, se añade una nueva denominada "Play Assist" para hacer aún más completas las funciones automáticas.*
- *Se ha incorporado un sistema multisonoro de tres canales para conseguir un potente eco tridimensional.*

Con estas funciones se ha aumentado la capacidad musical y el poder de expresión del nuevo ELECTONE YAMAHA con una calidad de tono que hace época. Yamaha está en la certeza de

manual concerning its correct use. Then, you can enjoy playing the instrument to its fullest potential. The section "Looking After Your Electone" (Page 23) is important, so be sure to read it carefully.

CONTENTS

neue Funktion "Play-Assist", die die Automatikfunktion weiter vervollständigt.
- *Neu ist auch das Dreikanal-Multisound-System. Damit wird ein voller dreidimensionaler Halleffekt erzeugt.*

Alle diese Besonderheiten steigern die musikalische Vielfältigkeit, Ausdruckskraft und Klangqualität der neuen YAMAHA-Electone. YAMAHA ist davon überzeugt, daß sich mit dieser Electone-Orgel eine einzigartige Klangwelt schaffen läßt, die alle Ihre Wünsche und Vorstellungen erfüllen wird. Bevor Sie jedoch mit dem Spielen Ihrer Electone beginnen, sollten Sie sich mit den in dieser Anleitung enthaltenen Informationen für die richtige Bedienung gründlich vertraut machen. Wenn Sie anschliessend mit dem Spielen beginnen, werden Sie die vielen Vorzüge dieses Instruments voll ausnutzen können und es um so mehr genießen. Bitte lesen Sie auch den wichtigen Abschnitt "Wartung und Pflege Ihrer Electone-Orgel" (Seite 23) sorgfältig.

INHALTSVERZEICHNIS

grande puissance.

L'ensemble de ces caractéristiques a permi à l'ELECTONE YAMAHA de développer ses possibilités musicales, de renforcer sa puissance d'expression et de prétendre à une qualité sonore digne des temps modernes. Chez Yamaha, nous sommes certains que cet Electone répondra à toutes les exigences que l'on est en droit d'attendre d'un tel instrument et nous vous souhaitons la bienvenue dans notre monde spectaculaire de la musique.
Pour tirer le meilleur parti de cet instrument, prière de lire attentivement la section de ce mode d'emploi intitulée "Entretien de l'Electone" en page 23 et en respecter scrupuleusement les recommandations.

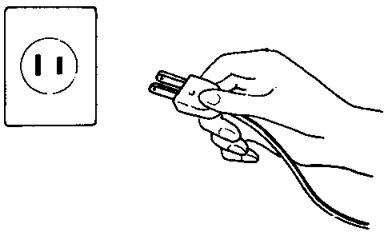
TABLE DES MATIÈRES

satisfacer sus anhelos con un instrumento musical capaz de crear un mundo espectacular de música.
Antes de comenzar a tocar su Electone, domine las instrucciones del manual referentes a su correcto manejo para que pueda disfrutar del mismo en su plena capacidad.
La sección "Cuidados de su Electone" (p. 23) es de gran importancia; recomendamos la lea con detenimiento.

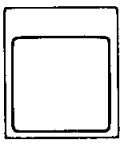
ÍNDICE

I. Producing sound with the keyboards and pedals

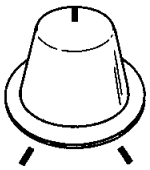
1 **Connect the plug to an outlet.**
Before inserting the plug, make sure the power outlet has the correct voltage. A Yamaha serviceman should be consulted regarding any changes in the voltage system.



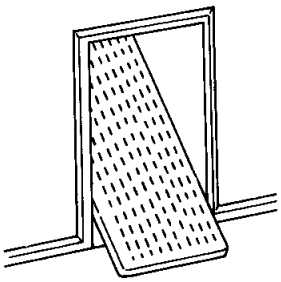
2 **Turn on the POWER SWITCH.**
The power indicator lamp will light up.



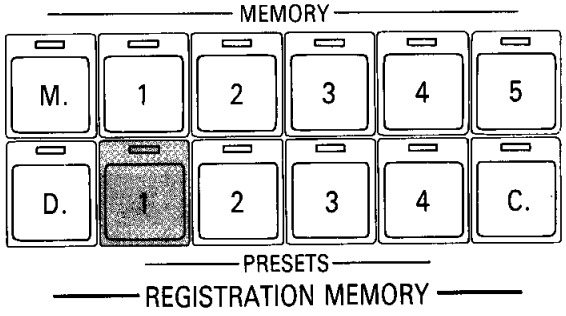
3 **Turn the MASTER VOLUME knob clockwise.**
As you turn the knob the volume will increase. The volume for the entire instrument is controlled with this knob.



4 **Depress the Expression Pedal.**
During a performance, subtle changes in the volume can be controlled by using this pedal.



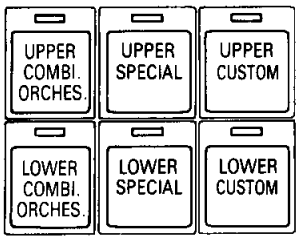
5 **Depress PRESETS 1 button in the REGISTRATION MEMORY section.**
When this button is depressed, the tone for the upper and lower keyboards and pedals is automatically set all at once.
Now try playing each keyboard and pedal. The big band jazz sound which is preset in the Electone will be obtained.



★ Here is a chart for the combination of keyboards and number of keys which can be simultaneously played.
Upper keyboard ┐
Lower keyboard ┘ A maximum of 12 keys on both keyboards
Pedals ——— 1 key, respectively

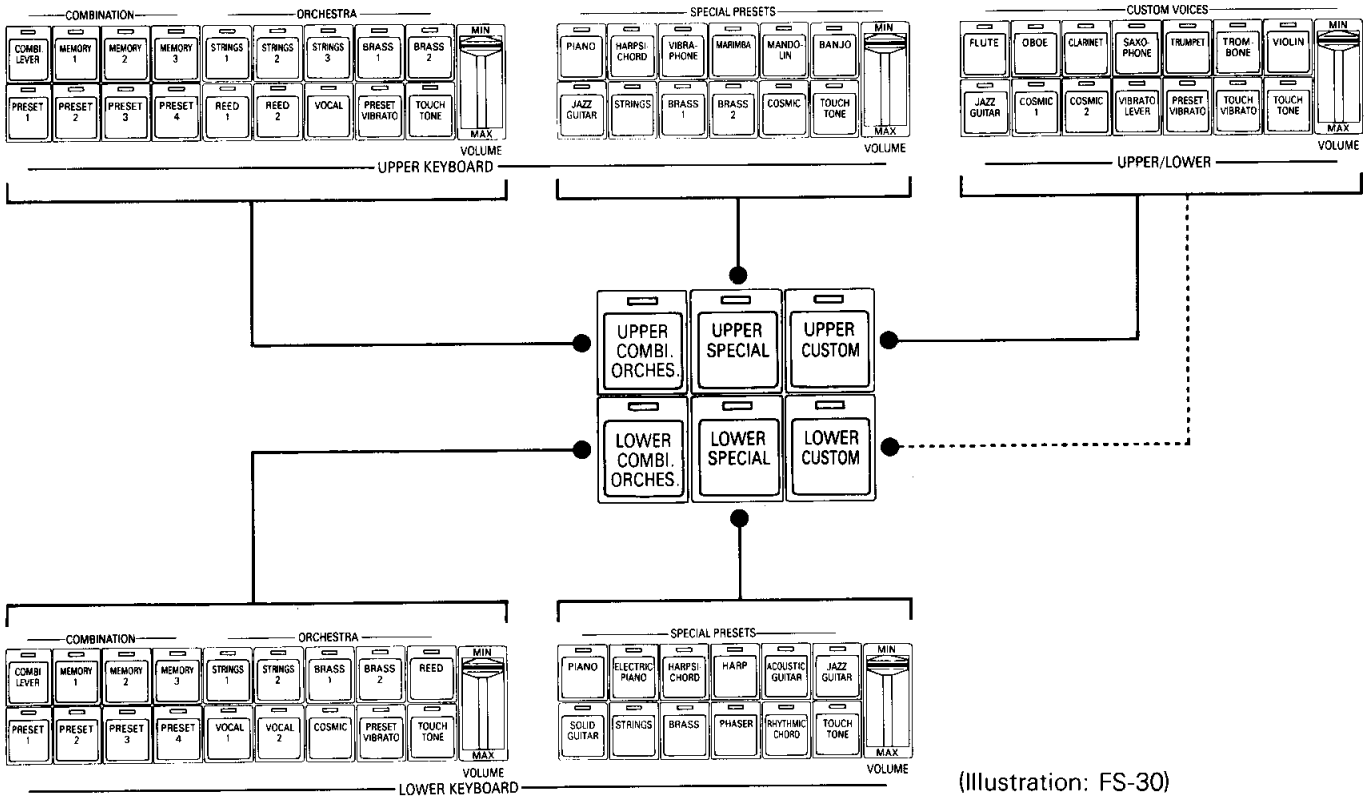
II. Understanding the various functions

Ensemble Section



— ENSEMBLE —

The "ENSEMBLE" section selects the tone group you want to use from the tone groups provided for the upper and lower keyboards. By simply depressing the button for the tone group, you can call out any tone group you are using in your performance and freely combine them, too. When you wish to cancel the tone group or groups you are using, just press the button once again.

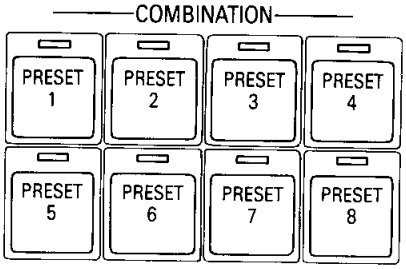


(Illustration: FS-30)

As shown in the above diagram, the upper and lower rows of buttons correspond to the tone groups of the upper and lower keyboards, respectively, and with each keyboard, 1 to 3 tone groups can be called out. In this way the tone groups for the upper and lower keyboards can centrally be controlled, making it possible for you to quickly change the registration during performance.

Here, only one button is to be used for calling out the tone groups for COMBINATION and ORCHESTRA. The UPPER/LOWER CUSTOM VOICES select whether calling out of the tone group is to be done to the upper or lower keyboard.

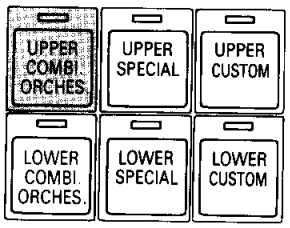
Tone Groups for the Upper Keyboard



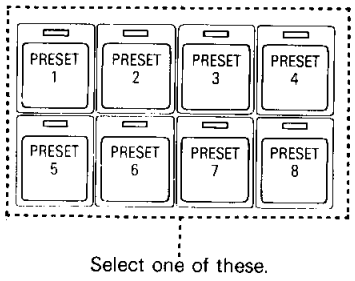
Combination (FS-20)

The COMBINATION tone group of FS-20 contain 8 types of organ sound that are preset. You can freely call out various kinds of organ sound by simply depressing any button. Now try to produce sound.

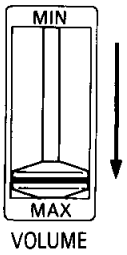
1) Push the UPPER COMBI. ORCHES. button in the ENSEMBLE section to the ON position.



2) Select one of the 8 PRESET buttons by depressing it.

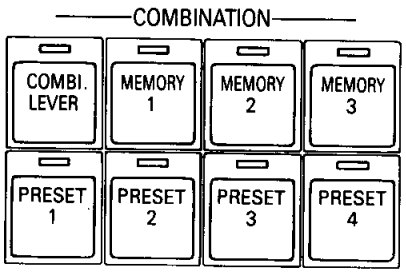


3) Move the VOLUME slider down.



When it is set at the top, the volume is zero. As you move the slider down the volume will increase.

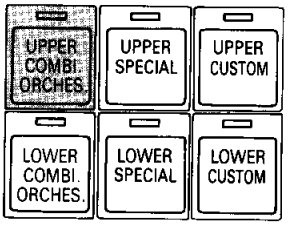
Having set the Electone like this, when you play the upper keyboard, the tone group you selected in Step 2 will be produced. Now change the PRESET tone and compare the sound difference.



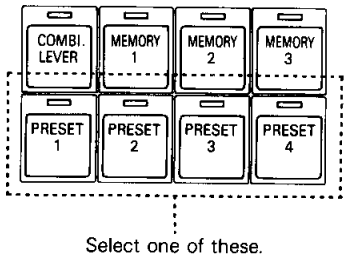
Combination (FS-30)

The COMBINATION tone group of FS-30 not only contain several preset types of organ sound but also can be created by yourself and stored in memory. Now try to produce the tone group of organ sound that are preset.

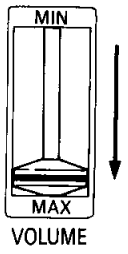
1) Push the UPPER COMBI. ORCHES. button in the ENSEMBLE section to the ON position.



2) Select one of the 4 PRESET buttons by depressing it.

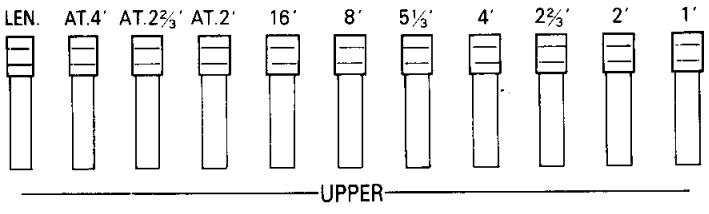


3) Move the VOLUME slider down.



When it is set at the top, the volume is zero. As you move the slider down the volume will increase.

Having set the Electone like this, when you play the upper keyboard, the tone group you selected in Step 2 will be produced. Now change the PRESET tone and compare the sound difference.



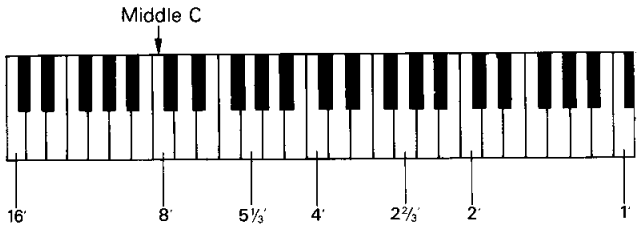
(Preset Panel)

[Setting Tones with the Levers]

When you select the COMBI. LEVER button, you can obtain the tone which is set by the UPPER FLUTE and UPPER ATTACK levers on the preset panel. Click stops are provided for each of these levers. The further you pull them forward, the louder you can set the volume. This enables you to finely set the volume for each of the levers. With these levers it is possible to produce subtle shades of volume just the way you want.

FLUTE levers: You can create various organ sounds by combining the optional levers. The numbers above the levers indicate the respective sound intervals, and 7 possibilities are available for the Upper Flute.

(Sound intervals for the levers when middle C is pressed.)



ATTACK and ATTACK LENGTH levers: Attack tones are short notes with a rapid rising of sound. When they are set together with the Flute tones, a crisp sound can be produced.

The time length of the Attack tones can be controlled with the LENGTH lever.

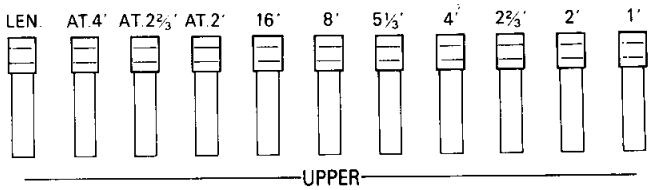
[Storing the Setting for the Levers in Memory]

Using the 3 MEMORY buttons, you can store the tone which was set with the FLUTE and ATTACK levers into memory before a performance. Then without having to set the levers while performing, you can create the tone you want with a single touch.

1) Push the UPPER COMBI. ORCHES. button in the ENSEMBLE section to the ON position.

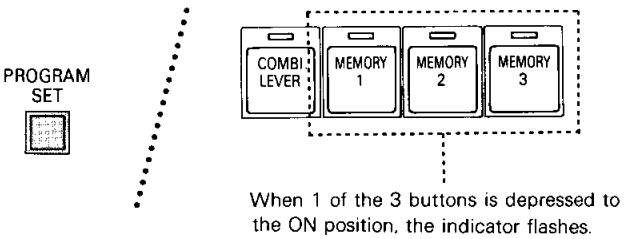
2) Push the COMBI. LEVER button to the ON position.

3) Use the levers to set the tone you want stored in memory.



Set the levers while actually producing sound.

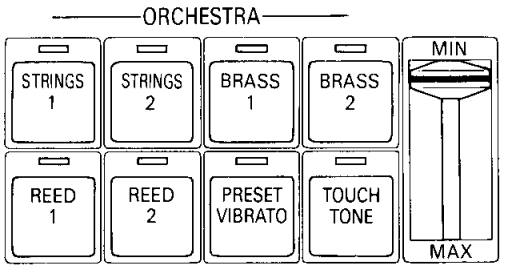
4) While depressing the PROGRAM SET button, push 1 of the 3 MEMORY buttons.



When 1 of the 3 buttons is depressed to the ON position, the indicator flashes.

When the indicator for one of the MEMORY buttons flashes, it indicates that the tone has been stored in memory.

★ Once a tone has been stored in memory, it will not be erased until a new tone is set using the same button, even if the power is turned off.



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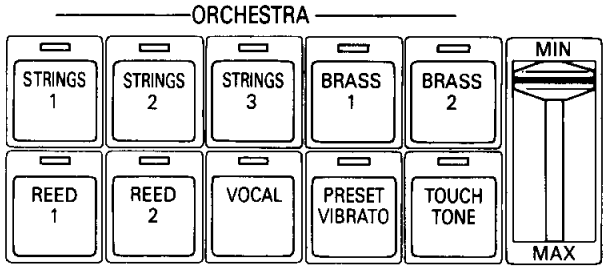
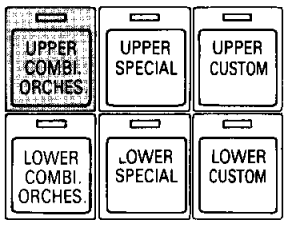


(FS-30)

Orchestra

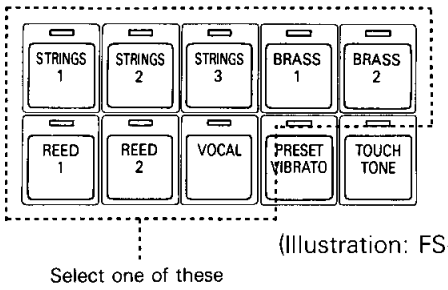
With this tone group a rich orchestral ensemble can be obtained. The buttons which are set represent strings, brass, and the sounds of other major instruments of an orchestra. An appropriate effect for each of these color-tones can be combined before a performance. Now, experiment with these sounds.

1) Push the UPPER COMBI. ORCHES. button in the ENSEMBLE section to the ON position.



— ENSEMBLE —

2) Push 1 of the buttons for the tone of your choice to the ON position.



(Illustration: FS-30)

Select one of these

3) Move the volume slider down.

Having set the Electone like this, when you play the upper keyboard, the tone you selected in Step 2 will be produced. Now depress the other buttons and compare the sounds.

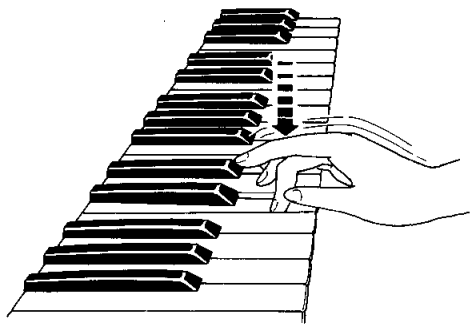
★ When you set the Orchestra button on, the SYMPHONIC effect will automatically be produced for the STRINGS 2 and VOCAL tones.

■ PRESET VIBRATO

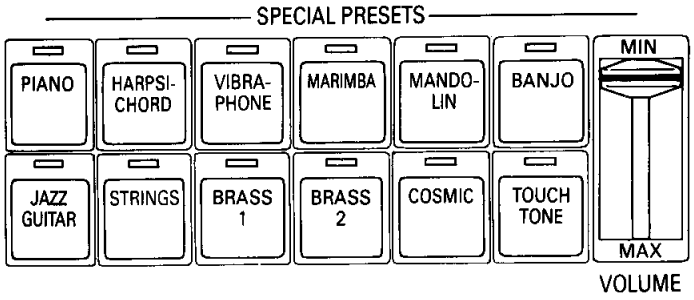
When this button is on, a Vibrato effect, causing minute alterations in pitch for the selected tone, will be produced. The Vibrato depth, speed and delay timing, appropriate for the individual tones, are all preset.

■ TOUCH TONE

When this button is on, the volume and tone can be subtly controlled by the pressure of your touch. In Orchestra tone group, After Touch Control causes changes when after striking the keys you exert further pressure on it. This control can be used to create even more expressive performance. The degree of change differs for each of the tones.



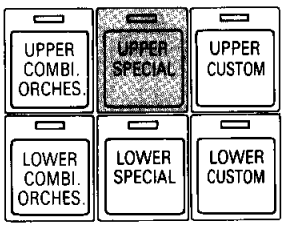
★ You may use either of the UPPER COMBINATION or ORCHESTRA buttons at a time. Both of them cannot be used simultaneously.



Special Presets

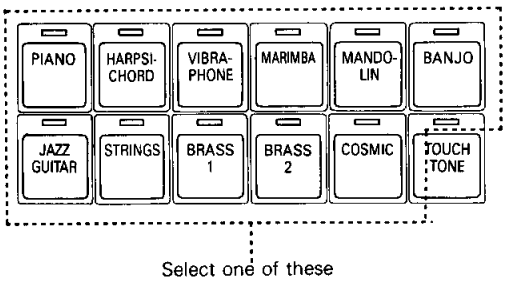
This is a tone group in which the piano, vibraphone and other instrumental sounds are preset. With this group you can recreate the clear sound which is the distinguishing quality of a particular musical instrument, such as the rapid diminuendo of the piano and harpsichord or the repeating effect of a marimba and mandolin. Now, experiment with one of these sounds.

1) Push the UPPER SPECIAL button in the ENSEMBLE section to the ON position.



— ENSEMBLE —

2) Select 1 of the 11 buttons whose tone you prefer by depressing it.

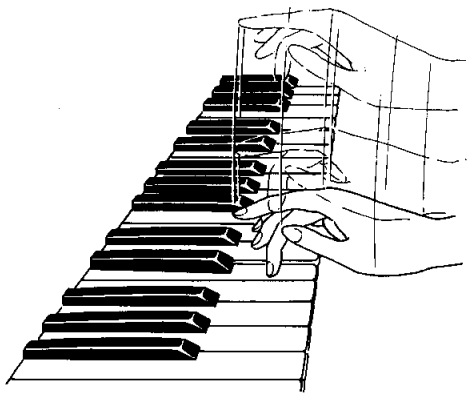


3) Move the volume slider down.

Having set the Electone like this, when you play the Upper Keyboard, the tone you selected in Step 2 will be produced. Now depress the other buttons and compare the sounds.

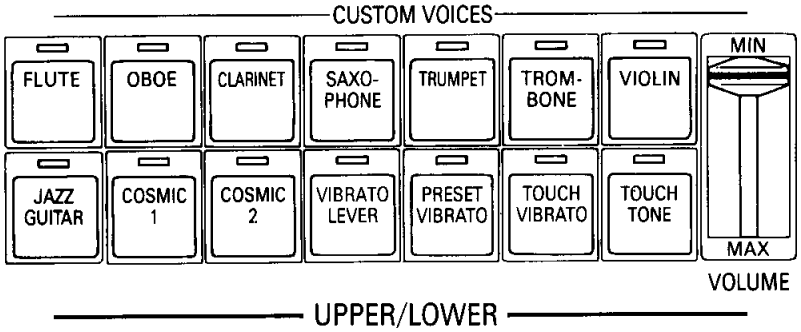
■TOUCH TONE

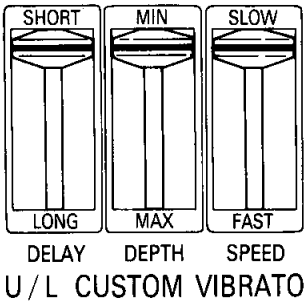
When this button is on, the volume and tone can be subtly controlled by the pressure of your touch, making an even more expressive performance possible. In the Special Presets Touch Tone, only the initial touch control, which causes the volume and tone to change when you first strike the keyboard, is provided. The degree of change differs for each of the tones.



■Twin mallet effect

A twin mallet effect can be obtained for the reverberating sound of the MARIMBA. With this effect, by simultaneously pressing 2 or more keys, a sound will be produced where the highest and lowest tones are finely interrelated.

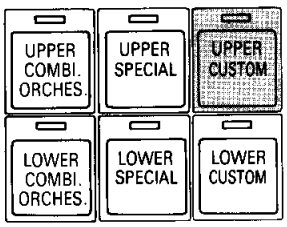




Custom Voices

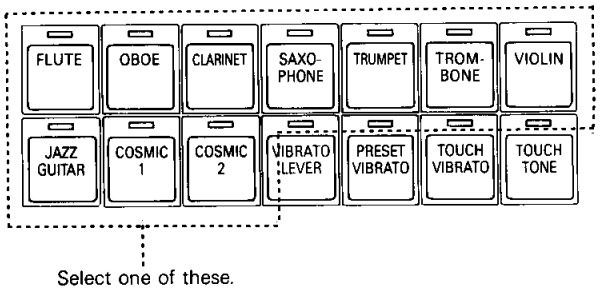
With this tone group various instrumental sounds are obtained one tone at a time. Since the tones and volume can be subtly altered, extremely realistic sounds can be produced. Besides a variety of wind instrumental sounds, the fantastic COSMIC sound can be produced. Now, create one of these sounds.

1) Push the UPPER CUSTOM button in the ENSEMBLE section to the ON position.



You have your choice of using either the upper or lower keyboard for producing the Upper/Lower Custom Voices. Both keyboards cannot be simultaneously used to produce them.

2) Select 1 of the 10 buttons whose tone you prefer and set it on.



3) Move the volume slider down.

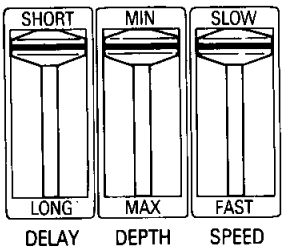
Having set the Electone like this, when you play the upper keyboard, the tone you selected in Step 2 will be produced. Now set the other buttons and compare each of the different tones.

★ With the Custom Voices only one note at a time can be produced. When it is combined with other tone groups and two keys or more are played simultaneously, only the highest pitch will be heard. When it is not combined with other tone groups, the note which was pressed last will be heard.

★ The slide effect is already incorporated in the tones.

■VIBRATO LEVER

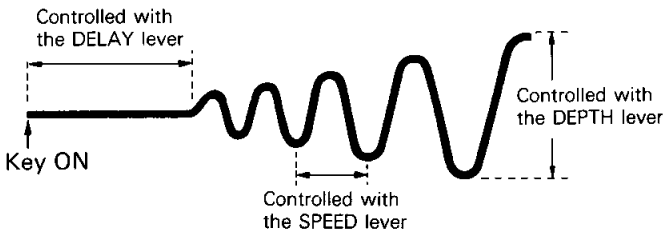
When this button is pushed to the ON position, you can effect the type of VIBRATO which is set with the 3 levers of U/L CUSTOM VIBRATO, on the tone selected at the moment.



DEPTH: The lever controlling the depth of VIBRATO. The more you pull it forward, the deeper the VIBRATO will be.

SPEED: The lever controlling the speed of VIBRATO. The more you pull it forward, the faster the VIBRATO will be.

DELAY: The lever controlling the length of time after a key is depressed until VIBRATO is effected. The more you pull it forward, the longer the delay time will be.



★ By setting the SPEED and DELAY levers only, VIBRATO will not be effected. Be sure to set the DEPTH lever first.

■PRESET VIBRATO

When this button is pushed to the ON position, you can effect the type of VIBRATO which is preset in the Electone, on the tone selected at the moment. The depth, speed, and delay time of the VIBRATO have been preset to match each selected tone.

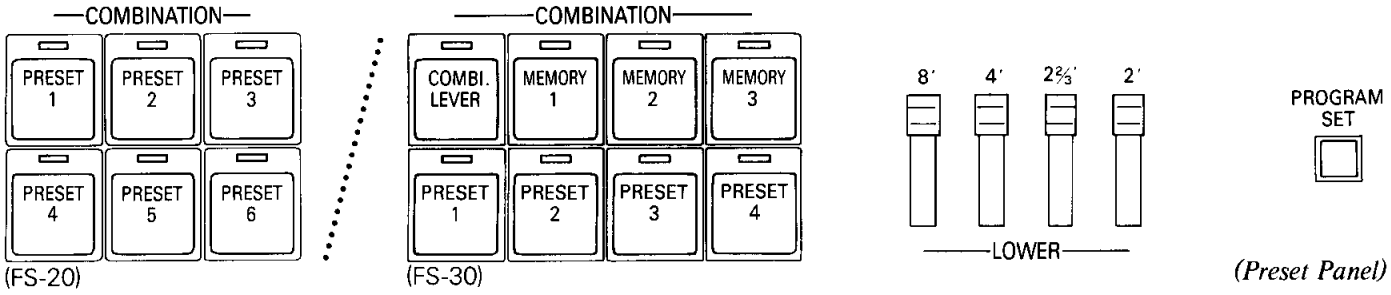
■TOUCH VIBRATO

When this button is pushed to the ON position while the VIBRATO LEVER is pressed or the PRESET VIBRATO button is pushed to the ON position, you can control the depth of VIBRATO by the way you touch the keys on the keyboard. By depressing a key and continuing to depress it further, which is called "after touch," the control is enabled. The stronger you press the key, the deeper the depth will be.
Here, if TOUCH VIBRATO is turned ON together with the VIBRATO LEVER, the control can be performed as far as the depth set by the DEPTH lever; while if it is turned ON together with PRESET VIBRATO, the control can be performed as far as the preset depth.

■TOUCH TONE

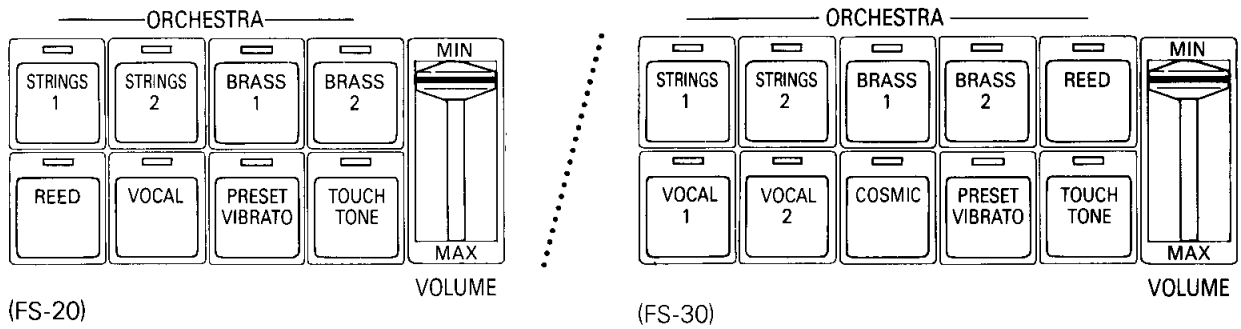
When this button is on, the volume and tone can be subtly controlled by the pressure of your touch. With the Upper/Lower Custom Voices, two types of touch control are possible according to how you strike the keyboard. Initial Touch Control causes the volume and tone to change when you first strike the keyboard. After Touch Control causes similar changes when after striking the keys you exert further pressure on them. The degree of change differs for each tone.

Tone Groups for the Lower Keyboard



Combination

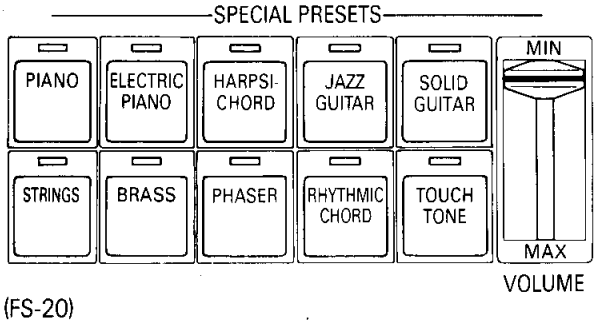
Various types of organ sound are provided in this tone group, which can be obtained by using LOWER COMBI. ORCHES. button in the ENSEMBLE section. In FS-20, 6 types of organ sound are preset, which can be called out easily by simply pushing respective buttons.
For FS-30, besides the 4 types of preset organ sound that are available, you can create your original types of sound and store them in memory by manipulating levers. The memorizing operation method corresponds to that of the Upper Combination. (Refer to page 3 and 4)



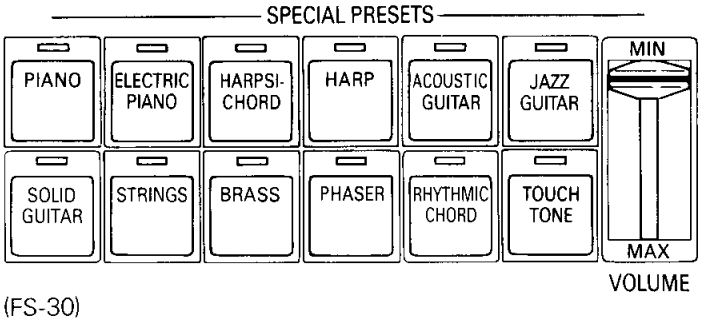
Orchestra

This is a tone group by which you can create types of sound as if several instruments such as the strings and the brasses are playing in concert, which can be called out by using LOWER COMBI. ORCHES. button in the ENSEMBLE section. The functions of PRESET VIBRATO and TOUCH TONE are the same as those of Upper Orchestra.

★ You may use either of the Lower COMBINATION or ORCHESTRA buttons at a time. Both of them cannot be used simultaneously.



(FS-20)



(FS-30)

Special Presets

Sound of musical instruments such as piano and harpsichord is preset in this tone group, which can be called out by using LOWER SPECIAL button in the ENSEMBLE section. The function of TOUCH TONE is the same as that of the Upper Special Presets.

■PHASER

When this button is pushed to the ON position, the Phaser effect can be created on the tone selected at the moment. The effect will provide the sound with a feeling of gentle rotation and expanse, creating a unique effect.

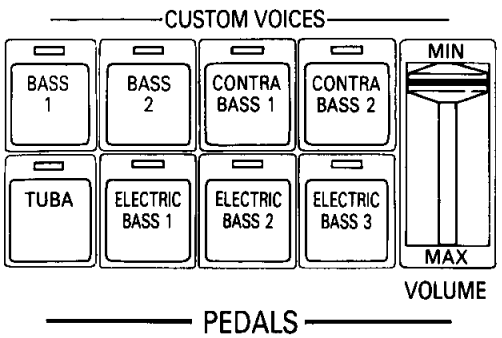
■RHYTHMIC CHORD

When this button is pushed to the ON position when AUTO RHYTHM is actuated, the sound selected by Lower Special Presets will be produced, synchronized with the rhythm selected at the moment. A cutting accompaniment suitable to the selected rhythm can be obtained automatically, enabling you to enjoy a gorgeous performance.

Custom Voices

When the LOWER CUSTOM button in the ENSEMBLE section is on, Custom Voices can be played on the lower keyboard. When the lower keyboard is being used, Custom Voices cannot be played on the upper keyboard. (Refer to Pages 7, 8.)

Tone Group for the Pedals

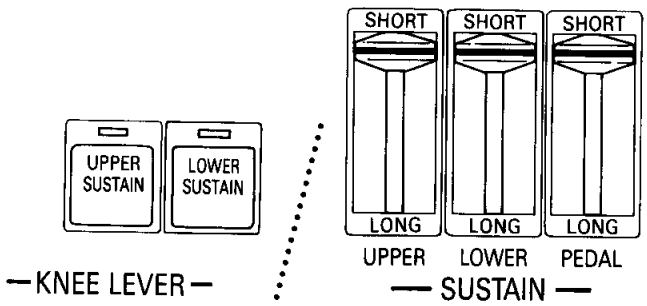


Custom Voices

This section sets the tone for the Pedals. By pressing a select button and manipulating the VOLUME slider, you can create the sound of your choice for the Pedals.

Besides the tone of organ type BASS sound, those of contrabass and electric bass are also preset.

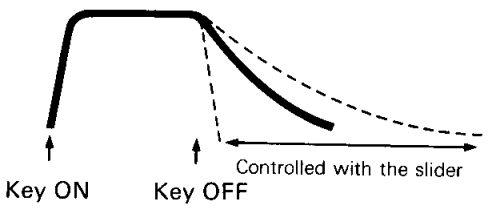
Effects and Controls



Sustain

With this effect there is a natural diminuendo after your finger leaves the keyboard. You can use this effect for each of the keyboards by operating the 2 buttons and 3 sliders.

(Sustain button for the Combination tones)

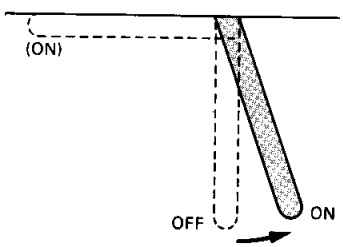


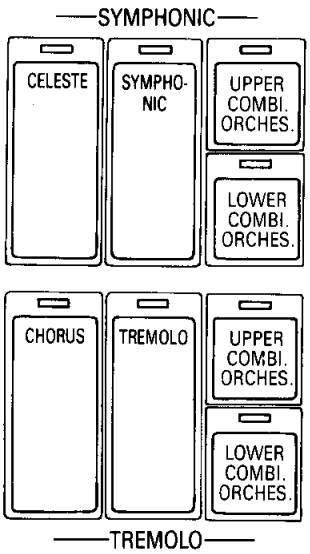
1) **Push the UPPER SUSTAIN or LOWER SUSTAIN button to decide which keyboard you want SUSTAIN to be effected on, or SUSTAIN may be effected on both keyboards at the same time.**
When you wish to effect SUSTAIN on the Pedals, the buttons need not be pushed.
2) **Control the diminuendo for each of the keyboards and the pedals by using the 3 sliders: UPPER, LOWER, or PEDAL.**
When the slider is in the uppermost position, it is off. As you move it downwards, the length of the diminuendo increases.

★ For tones which already have a long diminuendo, such as the HARP tone in the Lower Special Presets section, the diminuendo length can be decreased by moving the slider upwards.

■Knee Lever Control

By using the Knee Lever you can switch the Upper Sustain and Lower Sustain on or off. First, push either or both of the Upper Sustain and the Lower Sustain buttons to the ON position, control the diminuendo by using the sliders, and then pull the Knee Lever down vertically. When you arrive at a point in a musical performance where you want to create the sustain effect, press the Knee Lever to the right. The sustain effect will only be produced during the time you are pressing the lever.





Symphonic

With this effect you can create an expansive sound as if a number of instruments were playing as an ensemble.

1) **Push either the SYMPHONIC or CELESTE button to the ON position.**
An effect more sedate than the one achieved using the SYMPHONIC button, can be obtained with the CELESTE button, as well as a majestic sound.
2) **Choose the tone group you wish the SYMPHONIC or CELESTE effect to be created on, using the UPPER COMBI. ORCHES. and LOWER COMBI. ORCHES. buttons.**
Both buttons can be pushed to the ON position together.

★ Depending on type of tone, there are some which have the Symphonic effect automatically.

Tremolo

With this effect there is a rapid repetition of a single tone creating a rich breadth of sound.

1) **Push either the TREMOLO or CHORUS button to the ON position.**
A gentler repetition can be obtained by using the CHORUS button.
2) **Choose the tone group you wish the TREMOLO or CHORUS effect to be created on, using the UPPER COMBI. ORCHES. and LOWER COMBI. ORCHES. buttons.**
Both buttons can be pushed to the ON position together.

■TREMOLO SPEED

TREMOLO SPEED.

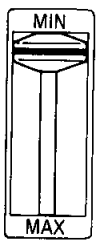
When the TREMOLO buttons are on, the speed of the repetition can be controlled with this knob.

★ It is not possible to create both a Symphonic and Tremolo effect for the same tone group.

RESPONSE FAST

Response Fast

When this button is pushed to the ON position, the rise and diminuendo of the Upper and Lower COMBINATION tones become sharp. Use this feature when you wish to create clear and crisp organ sound.



REVERB

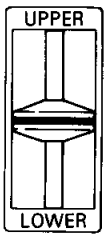
Reverb

By using this sound reverberation effect, an echo can be created as if performing in a concert hall. This effect can be produced for all the keyboard tones. The length of the reverberation can be increased by moving the slider forward.

—FOOT SWITCH—

Glide

With this effect, the upper and lower keyboard tones as a whole can be lowered by approximately half a step. This effect is produced by setting the GLIDE button on and pressing to the left the Foot Switch located on left side of the Expression Pedal. While the Foot Switch is being pressed, whole steps will be lowered approximately by a half step. When the Foot Switch is no longer pressed, the musical interval will slowly return to normal. This can be used to play a glissando effect.



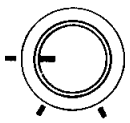
MANUAL BALANCE

Manual Balance

The MANUAL BALANCE slider controls the balance of the volume between the upper and lower keyboards. The volume for the upper keyboard increases when it is set in the UPPER position, while the volume for the lower keyboard increases when it is set in the LOWER position.

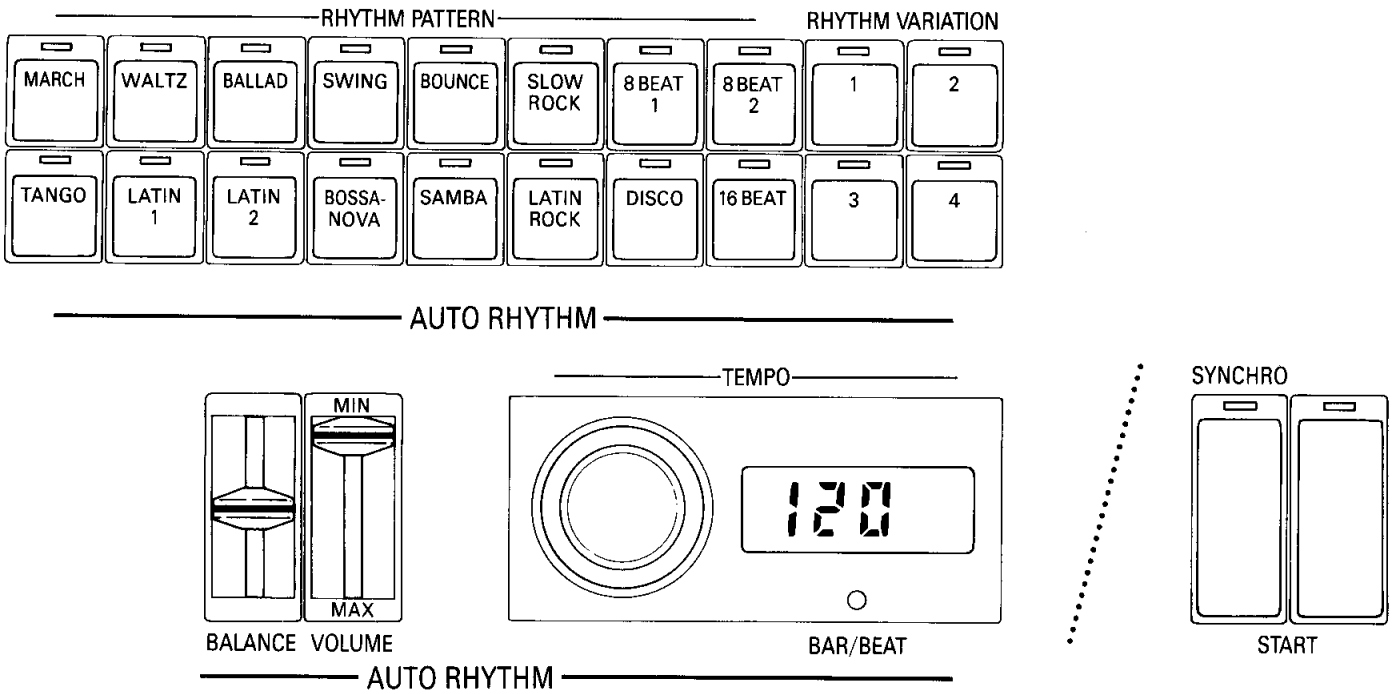
■ PITCH CONTROL

The pitch for the entire Electone can be subtly controlled with the PITCH CONTROL knob. The pitch will become higher as the knob is turned to the right.



PITCH CONTROL

Auto Rhythm Section



Rhythm Pattern and Variation

With 16 basic rhythm patterns you can create realistic rhythmic sounds similar to those of any percussion instrument. Each of the 16 rhythm patterns have four variations. Therefore, a total of 64 different patterns can be produced. Now try making some rhythm sounds.

1) Select 1 of the 16 Rhythm Pattern buttons and 1 of the Variation buttons by depressing them.
2) Move the VOLUME slider downwards.
3) Push the START button to the ON position.

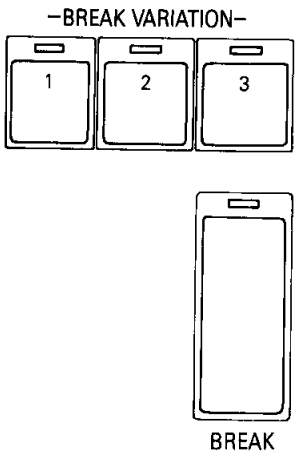
Subsequently, the rhythm which you selected during Step 1 will start. Now, set the other buttons for the Rhythm Patterns and Variations and listen to the various rhythms.

■ START and SYNCHRO START
When the START button is on, the rhythm will start immediately. If the SYNCHRO START button is on instead, when the lower keyboard or pedals are played, it will simultaneously start the rhythm immediately.

■ TEMPO control
The TEMPO knob is used to control the rhythm speed. The tempo increases as the knob is turned to the right. A tempo which has been set will be displayed as digits on the Digital Display. The set tempo is also indicated by the flashing of the indicator lamp.

■ BALANCE control
The BALANCE slider is used to control the balance of the percussion instrument sounds forming the rhythm. When it is in the central position, the balance is normal. As the slider is moved downwards, the sound of the main percussion instrument keeping the rhythm is emphasized.
When the slider is moved upwards, all the other percussion instrument sounds are emphasized.

■ Digital Display
According to how the Rhythm section is being used, various indications such as the rhythm tempo will appear on the Digital Display.
Tempo display: Before starting the rhythm, the rhythm tempo will be displayed in number of quarter notes per minute. If the tempo is changed after the rhythm has been started, this changed tempo will be indicated on the display just for a short period of time.
Bar/Beat display: After the rhythm has been started, the number of bars from the start and the beat are displayed.
★ When the rhythm is stored in memory, only the number of bars is displayed. (Refer to Page 15.)



Break Variation

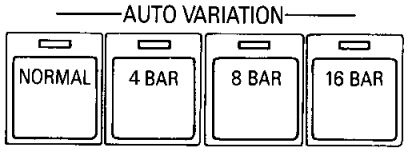
With this function, you can break to an effective variation while the rhythm is playing. Used for such aspects as phrase change points, accent on the rhythm can be created. Now actually try using this function.

1) Start the rhythm.
2) Push 1 of the 3 BREAK VARIATION buttons to the ON position.
A total of 48 different break variation patterns can be produced since there are 16 rhythms for each of the 3 buttons.
3) Depress the BREAK button.

Now, until the bar ends the Break Variation selected in Step 2 will be produced. With the next bar, the original rhythm will be resumed. When you want to create a longer Break Pattern, continue pressing the BREAK button.

■ Producing an Introduction
An introduction can be produced by using the Break Variation before starting the rhythm.
First, select the rhythm, and set the BREAK button. Then, if you start the rhythm with the START button, a 1-bar BREAK VARIATION pattern will be produced.

There will be cases, though very rarely, when the memorized contents are changed or when the control panel will not function normally due to thunderbolts, etc. In such cases, turn the power switch OFF once. Then, while depressing the BREAK button, turn the power switch ON. If, even after performing this operation, the Electone does not function normally, call a service person.

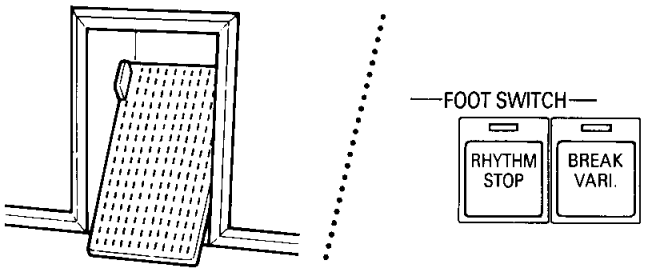


(Illustration: FS-30)

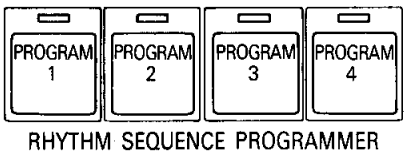
Auto Variation

With this function, there is an automatic change in rhythm at a phrase change point without depressing the BREAK button. The new pattern becomes the Break Variation selected at that time. Select the bar where you want the rhythm changed by using the 4 BAR, 8 BAR and 16 BAR buttons.
★ When the NORMAL button is turned on, the Auto Variation, and PROGRAM buttons go off.

■ Foot Switch controls

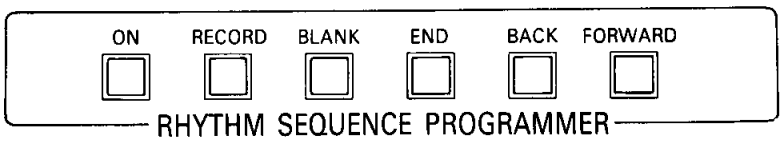


By using the Foot Switch located to the left of the Expression Pedal, you can stop the rhythm or switch to a Break Variation without using your hands.
RHYTHM STOP button: If this button is turned on, the rhythm will stop when the Foot Switch is pushed to the left. If the Foot Switch is pushed once more, the rhythm will start again.
BREAK VARIATION button: When this button is turned on, you can make the Break Variation start by pushing the Foot Switch to the left.



RHYTHM SEQUENCE PROGRAMMER

(Preset Panel)



Rhythm Sequence Programmer (FS-30)

Various rhythm patterns can be stored in memory before a performance. These patterns can be played back during a performance by using this function. Since the rhythm will automatically change while the music is being played, it becomes possible to create a more colorful performance.

1) Push 1 of the 4 PROGRAM buttons to the ON position.
The rhythm pattern to be subsequently programmed will be stored in memory under the button which has been set on. Up to 64 bars can be stored in memory under each of the 4 buttons.

2) Depress the ON button.
The lamp will light, indicating that the rhythm pattern can now be stored in memory.

3) Set the rhythm you want stored in memory.
You can store 16 x 4 (64) rhythm patterns, and 16 x 3 (48) Break Variation Patterns in the Electone's memory. The Introduction pattern can also be stored. Set the START button and monitor the rhythm to be stored in memory.

4) Press the RECORD button the same number of times as the number of bars you want stored in memory are displayed.
Press the RECORD button while watching the digital display. At first, <1> will be displayed. Each time you press the button, the digits will increase by one. These digits indicate the number of bars which will be stored in memory.

★ To store the BREAK VARIATION in memory, set the RECORD button while pressing the BREAK button. To store the Introduction in memory, set the RECORD button while the Introduction is playing.

5) To change the rhythm push the RECORD button to the ON position.
When the number of the bar for the new rhythm is shown on the Digital Display, the rhythm setting will be changed and entered into memory.

6) For just a required number of bars stored in memory, depress the END button.
Subsequently, the ON button lamp will turn off, indicating that playback is now possible.

★ When up to 64 bars have been stored in memory, <F> will be shown on the Digital Display. This indicates that no more bars can be stored in memory.

7) Push the START button again to the ON position.
Subsequently, the rhythm stored in memory will be played back from the first bar. When the playback arrives at the point where the END button was set, it will return again to the first bar, and this playback can be repeated indefinitely.

★ When 2 or more PROGRAM buttons have been used to store rhythms in memory and at playback the buttons are simultaneously turned on, there will be consecutive playback starting from the rhythm stored under the lowest numbered button. If all 4 buttons have been used to store rhythms in memory, up to 256 bars of consecutive playback is possible.

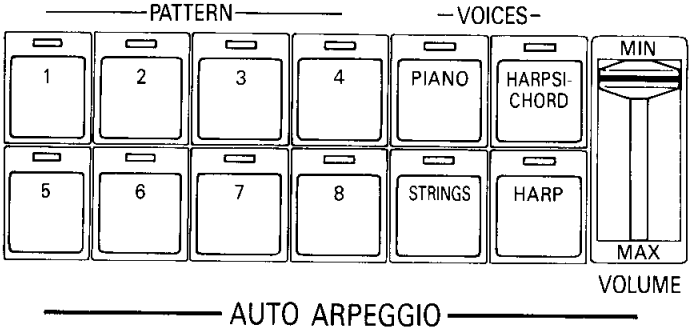
★ Once a rhythm is stored in memory, it will not be erased even when the power is turned off, until a new rhythm is stored using the same PROGRAM button.

■ BLANK

By using the BLANK button, a bar without any rhythm can be entered into a program. Depress the RECORD button while pressing the BLANK button.

■ BACK and FORWARD

These buttons are used to revise portions of the program as it is stored in memory. First, while watching the digital display, press the BACK button until the digits appear which indicate the bar number you want to revise. After putting the new rhythm into memory, press the FORWARD button until the original bar is reached.



Auto Arpeggio

With this function an Arpeggio based on tones played on the lower keyboard can be automatically produced. When it is used as a background sound effect giving the impression of rippling waves, a more impressive performance can be enjoyed. Now, experiment with the Arpeggio sound.

1) Set the Rhythm. (Refer to Page 16.)
The Auto Arpeggio operates in synchronization with the Rhythm. Be sure to start it after setting the Rhythm. By setting the SYNCHRO START on, it is possible to simultaneously start the Rhythm and Arpeggio.

2) Select 1 of the 8 Pattern select buttons by depressing it.
The patterns which can be produced with these 8 buttons can be respectively altered according to the selected rhythm.

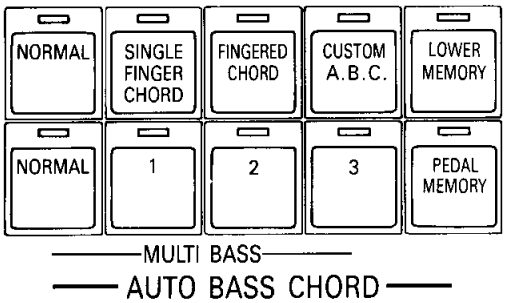
3) Select 1 of the 4 Voice select buttons by depressing it.
Arpeggio will be produced for the tone of the button which was set on.

4) Move the VOLUME slider downwards.
When Auto Arpeggio is not required, move the slider to the uppermost position.

When the electone has been set like this, if the lower keyboard is played, an Arpeggio based on the played tones will be automatically produced. If a chord is played on the lower keyboard, there will be a broader range for the Arpeggio. Change the setting to different patterns and tones, then compare each of them.

★ If the LOWER MEMORY button for the Auto Bass/Chord function is turned on, the Arpeggio will continue playing even after your fingers leave the Lower Keyboard. Moreover, if a SINGLE FINGER CHORD is used together with this function, Arpeggio based on the Auto Chord will be produced. (Refer to Pages 17, 18.)

★ When the Break Variation is operating, the Auto Arpeggio will temporarily stop.



Auto Bass/Chord

Automatic accompaniment of chords and bass can be obtained with this function. There are 3 ways to use it: Single Finger Chord, Fingered Chord, and Custom A.B.C. Variations for the automatic bass accompaniment can be produced by using the Multi Bass. Now try and play an automatic accompaniment with the Single Finger Chord button.

[Single Finger Chord]

1) Set the Rhythm. (Refer to Page 16.)
After setting the Rhythm, make it start. If the SYNCHRO START has been pushed to the ON position, it will make the automatic accompaniment start together with the rhythm.

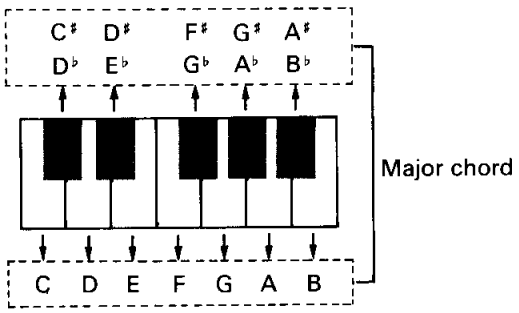
2) Push the SINGLE FINGER CHORD button to the ON position.

3) Set the Tone for the Lower Keyboard. (Refer to page 9 and 10)
You may also push the RHYTHMIC CHORD button of Lower Special Presets to the ON position.

4) Set the tone for the pedals. (Refer to Page 10.)

With the Electone set like this, if you press one key on the lower keyboard, a Major Chord based on the depressed key as the root note will be produced.
Only Rhythmic Chord tone will be superimposed on the Rhythm.
Automatic bass accompaniment can also be produced for the sound from the pedals. It is determined according to the chord from the lower keyboard and the Rhythm.

★ The diagram below shows the relationship between the key which is pressed and the major chord which is produced. For the Single Finger Chord, the musical range of the subsequent accompaniment is the same for any musical range played on the lower keyboard.



★ A Minor chord, Seventh chord, and Minor Seventh chord can all be produced by simultaneously pressing 2 or 3 keys of the lower keyboard.

Minor chord: Simultaneously press the key for the root note of the chord and any black key lower than the root note.

Seventh chord: Simultaneously press the key for the root note of the chord and any white key lower than the root note.

Minor Seventh chord: Simultaneously press the key for the root note of the chord and any black and white keys lower than the root note.

[Fingered Chord]

With this function there is automatic accompaniment based on the chord played on the lower keyboard. Set the FINGERED CHORD button, Rhythm, and tones, then play a chord on the lower keyboard.

Subsequently, the sound from the lower keyboard will be just like the chord which was played. Automatic bass accompaniment based on the chord from the lower keyboard can be obtained in synchronization with the rhythm for the sound from the pedals. You can also create automatic accompaniment based on a variety of other chords besides Major, Minor, and Seventh chords.

[Custom A.B.C.]

Separate automatic accompaniments for the pedals and the lower keyboard can be obtained with this function. Set the CUSTOM A.B.C. button, Rhythm, and tones. Then, while playing the chord on the lower keyboard, press the pedals.

Subsequently, a chord corresponding to the keys played on the lower keyboard will be produced. Automatic bass accompaniment in synchronization with the Rhythm based on the notes played on the pedals can be obtained for sound from the pedals.

★ Rhythmic Chord sound will no longer be produced when the Rhythm is turned off. By using the Single Finger Chord button, other sounds from the lower keyboard will automatically become chords. Also, with the Single Finger Chord and Fingered Chord buttons, the sound from the pedals will be automatically produced as continuous sound.

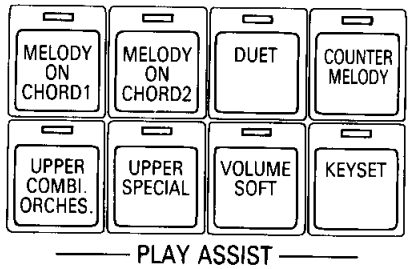
■ MULTI BASS

The MULTI BASS buttons are used to select a pattern for the automatic accompaniment when any of the Single Finger Chord, Fingered Chord, or Custom A.B.C. buttons are used. After one of the 4 buttons is selected, the bass pattern can be altered by changing to another button. Moreover, the change in pattern is also affected by the selected rhythm.

■ LOWER MEMORY and PEDAL MEMORY

When these buttons are used, the automatic accompaniment will continue even after you have stopped playing the lower keyboard and pedals. The buttons can be used either individually or simultaneously. The LOWER MEMORY can be used together with the Rhythmic Chord, Auto Arpeggio, and Play Assist, even without setting the Auto Bass/Chord.

★ When the NORMAL button is on, the Single Finger Chord, Fingered Chord, and Custom A.B.C. functions are cancelled.



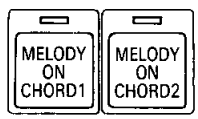
Play Assist

With this function a variety of supplementary sounds can be automatically added to the melody line which is played on the upper keyboard. There are four ways to use this function: Two types of Melody On Chord, Duet, and Counter Melody.

[Melody On Chord 1·2]

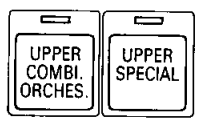
With this function, a harmony is added to the melody creating a deep sound. The notes that compose the chord played on the lower keyboard are picked up, and are automatically added as harmony beneath the melody line played on the upper keyboard.

1) Push the button for either MELODY ON CHORD 1 or MELODY ON CHORD 2 to the ON position.



MELODY ON CHORD 1: When this button is selected, the automatically supplemented harmony is derived from a fairly different musical range than the one for the melody. The harmony sound is simultaneously produced up to the maximum of two notes.
MELODY ON CHORD 2: When this button is selected, the automatically supplemented harmony is derived from a musical range close to the one for the melody. The harmony sound is simultaneously produced up to the maximum of three notes.

2) Call out the tone groups of the supplemented sounds.



Use these 2 buttons to call out the tone groups of the supplemented sounds. Both switches can be pushed to the ON position simultaneously. Use the VOLUME slider on the main panel for controlling the volume.

After setting the Electone like this, play chords on the lower keyboard and melodies on the upper keyboard. A lovely harmony will be added beneath the melody automatically.

[Duet]

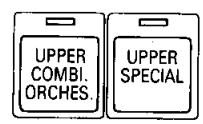
A melody in 2 parts can be easily enjoyed with this function. The Electone reads the melody being played on the upper keyboard and the chord being played on the lower keyboard. It then automatically adds the correct note to the melody line as the supplementary sound.

1) Push on the DUET button to the ON position.

2) With the KEY SET button, have the key of the musical composition stored in memory.

On the lower keyboard, first play the 3 notes composing the tonic chord for the key of the musical composition to be performed. (For example the 3 notes composing the C major chord if the musical composition is in the key of C major; the 3 notes composing the A minor chord if the musical composition is in the key of A minor.) Turn on the KEY SET button while playing the Tonic chord. When the lamp flashes, it indicates that the key has been stored in memory.

3) Call out the tone groups of the supplemented sounds.



Use these 2 buttons to call out the tone groups of the supplemented sounds. Both switches can be pushed to the ON position simultaneously. Use the VOLUME slider on the main panel for controlling the volume.

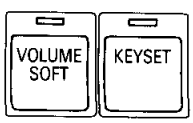
When the Electone has been set like this, try playing a melody on the upper keyboard and a chord on the lower keyboard. A lovely melody in two parts will be automatically played, matching the flow of the musical composition.

[Counter Melody]

With this function a counter melody can be obtained merely by playing a melody and chord. The Electone determines the correct note as the supplementary sound from the chord played on the lower keyboard. A counter melody is then automatically produced according to the progression of the melody and chord.

1) Push the COUNTER MELODY button to the ON position.

2) Call out the tone groups of the supplemented sounds.



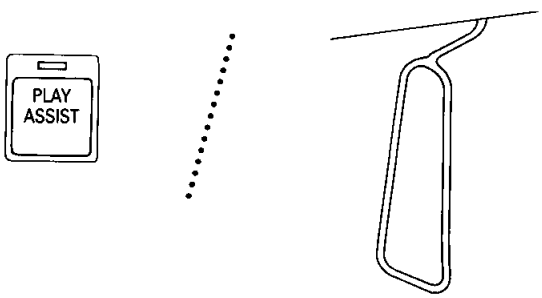
Use these 2 buttons to call out the tone groups of the supplemented sounds. Both switches can be pushed to the ON position simultaneously. Use the VOLUME slider on the main panel for controlling the volume.

With the Electone set in this way, try playing a chord on the lower keyboard and a melody on the upper keyboard. A fine Counter Melody, at a different timing from the melody itself, will be produced.

■VOLUME SOFT

By pushing this button to the ON position, volume of the supplementary sounds of MELODY ON CHORD, DUET, COUNTER MELODY which are automatically obtained can be fractionally reduced.

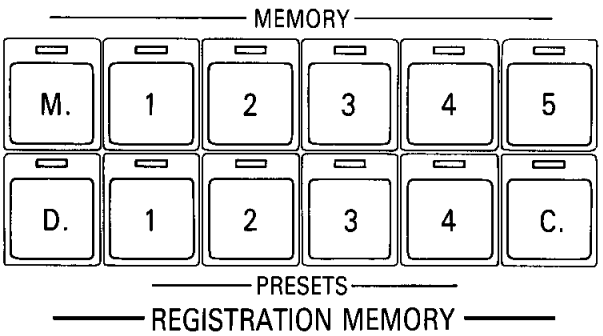
■Knee Lever control



By using the Knee Lever you can switch the Play Assist on or off.
First, turn on the PLAY ASSIST (KNEE) button located in the Sustain section, and then pull the Knee Lever down vertically. When you arrive at a point in a musical performance where you want to create supplementary sound, press the knee lever to the right. Supplementary sound will only be produced while you are pressing the lever.

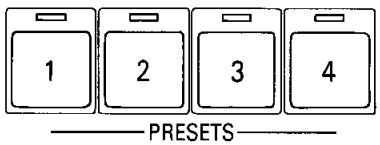
★ The Play Assist can be used together with the Auto Bass/Chord. If the Single Finger Chord is turned on, it is even easier to enjoy a performance accented with supplementary sound. Supplementary sound will continue even after your fingers leave the lower keyboard if both the Rhythm and Lower Memory are set on.

Registration Memory



Using this section, you can store in memory the selections of tones, effects, and rhythm as well as volume setting you made on the main panel all at once. Any of these memorized registrations can be called out any time by pressing the respective buttons.
4 types of registrations have been stored in memory which can be called out by the 4 buttons at the lower row. Try these preset registrations first.

[Registration of PRESETS buttons]



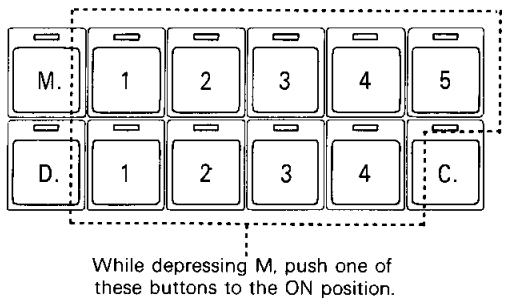
Using the PRESETS buttons at the lower row, you can call out the registrations which have been preset in the Electone onto the panel board. Depress 1 of the 4 buttons. At the same time the button is pressed, tone, effect, and rhythm, etc., are automatically set.

★ Using the 4 PRESETS buttons, you can also store the registration you have set yourself in memory through the operation explained below. However, when any registrations are stored in memory with the PRESETS buttons, the memorized information will be erased if the power is turned off; and when the power is turned on again, the registrations will have returned to those of the preset ones. If you wish that your memorized information does not get erased, first call it out on the panel and store it with 1 of the 5 buttons at the upper row.

[Operations for Storing Registrations in Memory]

1) Set the registration to be memorized on the panel board.
The button selections for each tone, effect, rhythm, and Auto functions as well as the volume slider setting and the rhythm tempo can be stored in memory.

2) While depressing the MEMORY (M) button, push 1 of the 5 buttons at the upper row or of the 4 buttons at the lower row to the ON position.



The pushed button will blink, indicating that the registration has been stored in memory. Try other buttons to store various types of registrations.

★ With FS-30, the Combination MEMORY button and the PROGRAM button of Rhythm Sequence Programmer provide the function to memorize the information you have set using these features.
★ REVERB, START and SYNCHRO START of Rhythm as well as MASTER VOLUME, TREMOLO SPEED and PITCH CONTROL have no relation with the MEMORY operation.
★ The registrations memorized with buttons 1-5 at the upper row will not be cancelled even when the power is turned off. When any new registration is stored in memory with any of these buttons, the previous information will automatically be erased.

[Operation for Calling out Registrations Stored in Memory]

1) Store the registrations to be used in your performance in memory using the MEMORY 1-5 buttons, and the PRESETS 1-4 buttons.

2) Depress 1 of the memorizing buttons to call out the registration to be used first in your performance.

The depressed button will light up, and the memorized selection of buttons will automatically be set on the main panel.

3) When you come to the point in your performance where you wish to alter your registration, press the button with which the desired registration has been memorized.

Each time you press a button, the setting is changed to that of the button, thereby enabling you to alter registrations instantaneously.

★ Sliders for VOLUME, etc., will not change their positions when one of MEMORY 1-5 buttons and PRESETS 1-4 buttons is pressed. But by pressing the button, the memorized amount will be called out.

★ When you are using one of the memorized registrations, you can change part of the registration such as tone or sound volume by manipulating on the panel. Here, the change you made on the panel will not influence the content of the information in memory.

■DISABLE (D.)

By pushing this button to the ON position when calling out a memorized registration, you can fix the settings for Auto Rhythm, Auto Arpeggio, Auto Bass/Chord, and Play Assist. Use this feature when you wish to change only the registrations of tones and effects.

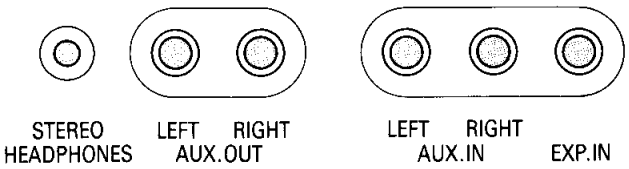
■CANCEL (C.)

By pushing this button to the ON position when a memorized registration is called out on the panel board, the memory of Volume slider, etc., will be cancelled and the sound volume and others which are set on the panel at the moment will be produced.
When you call out a memorized registration by pushing one of MEMORY 1-5 or PRESETS 1-4 buttons, though the sliders on the panel board do not move, the memorized sound volume, etc., will be obtained. This means that the sliders' positions on the panel and the actual volume, etc., are not corresponding with each others. The CANCEL button is to be pressed if you wish to cancel the memorized slider volume when you have called out a registration. The button will light up, and the volume, etc., set on the board at the moment will be produced.

■Memory when Power is off

When the power is turned off, the setting of buttons on the panel at the moment will be stored in memory. Therefore when the power is turned on again, the last setting can be enabled once again.

III. Useful Information about Using the Electone



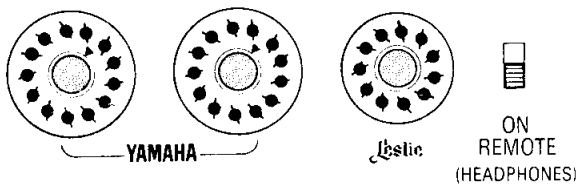
Accessory Jacks

•STEREO HEADPHONES jack
This jack is used for connecting the Stereo headphones. When the headphones are connected, there will be no sound from the Electone's speakers. This allows you the freedom to enjoy playing your Electone at any time without disturbing others. You can also use this jack for connecting monaural headphones.

•AUX.OUT LEFT-RIGHT jacks
These jacks are used to connect an amplifier or tone cabinet when a more powerful volume is needed for a performance. Also by connecting it with the line-in jack of a tape deck, you can record music produced by the Electone. If you want to record in stereo, both the LEFT and RIGHT jacks should be connected.

•AUX.IN LEFT-RIGHT jacks
These jacks are used to produce sound from a stereo or tapes through the Electone's speakers. By using these jacks you can perform together with music from records and tapes.

•EXP.IN jack
This jack is used for connecting a synthesizer or rhythm box. The volume of the attached equipment can be controlled with the Electone's expression pedal.



Tone Cabinet Connectors

•YAMAHA connectors (13 pins)
These are used for connecting the YAMAHA Tone Cabinets.

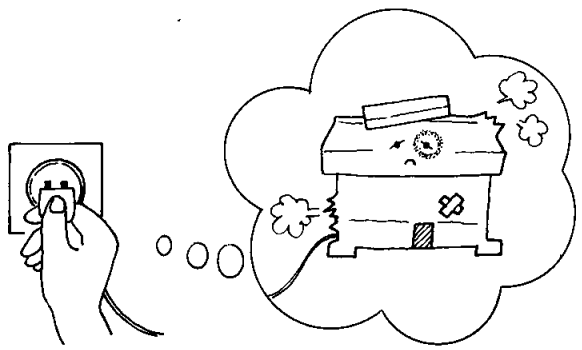
•LESLIE connector (11 pins)
This is used for connecting the LESLIE speaker.

•REMOTE
When the headphones are connected and this switch is turned on, there will be no sound from either the Electone or Tone Cabinet. Turn this switch off when you want to produce sound only from the Tone Cabinet and not from the Electone.

Looking After Your Electone

Always treat your Electone as a fine musical instrument. Use the following procedure to keep your Electone looking and sounding its best.

1) Make sure you are using the correct power voltage. If any changes are required, consult your Yamaha serviceman first.



2) Your Electone does not have any user serviceable components. Rely only on qualified service technicians for repairs.

3) Always turn the power switch OFF after you have finished playing the Electone.

4) Clean the cabinet and keys of your Electone with a clean cloth moistened only with a mild detergent. Never use any strong chemical solvents such as thinner or alcohol.

5) Keep your Electone away from direct sunlight, excess humidity and heat in order to preserve the cabinet finish and joints.

6) Do not hit or scratch the cabinet with any hard objects.

7) Do not set heavy objects on the rolltop fallboard.

8) Never put any objects made of vinyl on your Electone, since the finish reacts chemically to vinyl.

9) Remove the electric plug from the power outlet when you will not be using the Electone for some time or if there is any thunder.

Troubleshooting and Misleading Phenomena

Phenomenon	Cause	Solution
Radio frequency interference, static noise	(1) Noise is caused when home appliances such as refrigerators and washing machines go on and off. (2) May be caused by the failure of a neon sign in the neighborhood, an electric drill, etc.	(1) Use a power outlet located farthest from the appliance you suspect is causing the problem. (2) If possible, have the neon sign repaired. (3) If you cannot discover the source of the noise, phone your local Yamaha dealer.
TV or radio reception is adversely affected when the Electone is turned on.	The radio or TV set is being used in the immediate vicinity of the Electone.	Move the radio or TV set as far away from the Electone as possible. Upgrade the TV or radio antenna system.
Occasional interference from radio or TV broadcasts.	A broadcasting station with a high signal strength or an amateur radio station is located nearby.	Try to identify the type of station: TV, FM radio, AM radio, "ham" operator, CB operator, etc.
Sound resonation or vibration	Since the Electone produces a continuous sound, the surrounding cupboards, window panes and other objects may resonate.	(1) Turn down the sound volume. (2) If possible, remove the resonating objects.
The pitch feels high when using the pedals and low when using the treble section for the upper and lower keyboards.	This seems particularly so in comparison to a piano. However, the overtone construction of a piano is complex, particularly in the treble and bass. For a piano, melodies are not formed with the actual direct vibrations but when the overtones are heard. The formation of melodies is exactly the opposite for the Electone.	
A rhythm different from the one you set is produced. (FS-30)	The PROGRAM buttons for the Rhythm Sequence Programmer are on.	Keep the PROGRAM buttons off when you are not using the Rhythm Sequence Programmer.
Sound from the lower keyboard or pedals continues playing.	The LOWER MEMORY button for the Auto Bass/Chord section or the PEDAL MEMORY button are on for using the Rhythm.	Set off the LOWER MEMORY or the PEDAL MEMORY buttons.
The automatic supplementary sound for the Play Assist is not produced even when the upper and lower keyboards are played.	(1) All the tone select buttons for the supplementary sound are off. (2) The lowest musical range of the upper keyboard is being played.	(1) Make sure that 1 or several of these buttons are set on, and that the VOLUME slider is moved downwards. (2) There may be cases when supplementary sound is not produced for the lowest musical range of the upper keyboard.
When calling out a memorized registration, the Rhythm and Auto function settings do not change.	Because the DISABLE button is pushed to the ON position.	When you wish to change all the registrations, push the DISABLE button to the OFF position.

Specifications/Technische Daten
Caractéristiques Techniques/Especificaciones

KEYBOARDS
Upper: 49 keys c ~ c_4 (4 octaves)
Lower: 49 keys C ~ c_3 (4 octaves)
Pedals: 13 keys C ~ c (1 octave)

COMBINATION · ORCHESTRA
[FS-20]
Upper Combination: Preset 1 · 2 · 3· 4 · 5 · 6 · 7 · 8
Upper Orchestra: Strings 1, Strings 2, Brass 1, Brass 2, Reed 1, Reed 2,
(Effects · Control) Preset Vibrato, Touch Tone, Volume
Lower Combination: Preset 1 · 2 · 3 · 4 · 5 · 6
Lower Orchestra: Strings 1, Strings 2, Brass 1, Brass 2, Reed, Vocal,
(Effects · Control) Preset Vibrato, Touch Tone, Volume
[FS-30]
Upper Combination: Combi. Lever, Memory 1 · 2 · 3, Preset 1 · 2 · 3 · 4,
(Levers) 16′, 8′, 5⅓′, 4′, 2⅔′, 2′, 1′,
Attack 4′ · 2⅔′ · 2′, Attack Length, Program Set
Upper Orchestra: Strings 1, Strings 2, Strings 3, Brass 1, Brass 2, Reed 1, Reed 2, Vocal,
(Effects · Control) Preset Vibrato, Touch Tone, Volume
Lower Combination: Combi. Lever, Memory 1 · 2 · 3, Preset 1 · 2 · 3 · 4,
(Levers) 8′, 4′, 2⅔′, 2′, (Program Set)
Lower Orchestra: Strings 1, Strings 2, Brass 1, Brass 2, Reed, Vocal 1, Vocal 2, Cosmic,
(Effects · Control) Preset Vibrato, Touch Tone, Volume

SPECIAL PRESETS
Upper: Piano, Harpsichord, Vibraphone, Marimba, Mandolin, Banjo, Jazz Guitar, Strings, Brass 1, Brass 2, Cosmic,
(Effect · Control) Touch Tone, Volume
Lower: [FS-20] Piano, Electric Piano, Harpsichord, Jazz Guitar, Solid Guitar, Strings, Brass,
[FS-30] Piano, Electric Piano, Harpsichord, Harp, Acoustic Guitar, Jazz Guitar, Solid Guitar, Strings, Brass,
(Effects · Controls) Phaser, Rhythmic Chord, Touch Tone, Volume

CUSTOM VOICES
Upper/Lower: Flute, Oboe, Clarinet, Saxophone, Trumpet, Trombone, Violin, Jazz Guitar, Cosmic 1, Cosmic 2,
(Effects · Controls) Vibrato Lever, Preset Vibrato, Touch Vibrato, Touch Tone, Volume
Pedals: Bass 1, Bass 2, Contra Bass 1, Contra Bass 2, Tuba, Electric Bass 1, Electric Bass 2, Electric Bass 3,
(Control) Volume

ENSEMBLE
Upper Combi. Orches., Upper Special, Upper Custom,
Lower Combi. Orches., Lower Special, Lower Custom

EFFECTS · CONTROLS
Sustain: (Switches) Upper Sustain, Lower Sustain,
(Controls) Upper, Lower, Pedal
Symphonic: Celeste, Symphonic,
Upper Combi. Orches., Lower Combi. Orches.
Tremolo: Chorus, Tremolo, Upper Combi. Orches., Lower Combi. Orches., Tremolo Speed
U/L Custom Vibrato: Delay, Depth, Speed
Response Fast, Reverb, Glide (Foot Switch control)

AUTO RHYTHM
Pattern Selectors: March, Waltz, Ballad, Swing, Bounce, Slow Rock, 8 Beat 1, 8 Beat 2, Tango, Latin 1, Latin 2, Bossanova, Samba, Latin Rock, Disco, 16 Beat, Rhythm Variation 1 · 2 · 3 · 4
Break Variation: 1 · 2 · 3 (16×3 patterns), Break, Break Vari. (Foot Switch control)
Auto Variation: Normal, 4 Bar, 8 Bar, 16 Bar
Controls: Synchro Start, Start, Tempo, Volume, Balance, Rhythm Stop (Foot Switch control), Digital Display (Tempo · Bar/Beat), Tempo Lamp
Rhythm Sequence Programmer [FS-30]: Program 1 · 2 · 3 · 4, (64 Bars × 4), On, Record, Blank, End, Back, Forward

AUTO ARPEGGIO
Pattern Selectors: 1 · 2 · 3 · 4 · 5 · 6 · 7 · 8
Voice Selectors: Piano, Harpsichord, Strings, Harp
Control: Volume

AUTO BASS/CHORD
Mode Selectors: Normal, Single Finger Chord, Fingered Chord, Custom A.B.C.
Multi Bass (Normal · 1 · 2 · 3), Lower Memory, Pedal Memory

PLAY ASSIST
Mode Selectors: Melody On Chord 1, Melody On Chord 2, Duet, Counter Melody
Voice Selectors: Upper Combi. Orches., Upper Special
Controls: Volume Soft, Keyset (Duet control), Play Assist (Knee Lever control)

REGISTRATION MEMORY
Memory: 1 · 2 · 3 · 4 · 5
Presets: 1 · 2 · 3 · 4
Controls: Memory, Disable, Cancel

MAIN CONTROLS
Manual Balance, Master Volume, Expression Pedal, Knee Lever, Foot Switch, Power Switch, Power Light, Pitch Control

OTHER FITTING
Stereo Headphones jack, Aux. Out Left-Right jacks, Aux. In Left-Right jacks, Exp. In jack, Yamaha Tone Cabinet connectors (13 pins · 13 pins), Leslie Tone Cabinet connector (11 pins), Remote (Headphones), Music Rest, Matching Bench, Rolltop Fallboard

MAIN AMPLIFIER
Center: 60W(rms), Left: 30W(rms), Right: 30W(rms)

SPEAKERS
Center: Woofer 30cm (12″), Mid-range 20cm (8″), Tweeter 5cm (2″),
Left: Mid-range 20cm (8″), Tweeter 5cm (2″),
Right: Mid-range 20cm (8″), Tweeter 5cm (2″)

CIRCUITRY
Solid State (incl. LSIs and ICs)
Power Consumption: See the Nameplate
Power Source: 50/60Hz AC

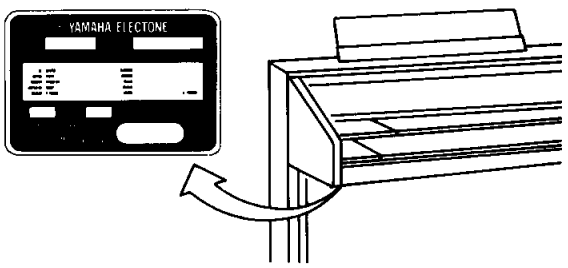
DIMENSIONS
Main unit: 117(W) x 67(D) x 104(H)cm (46″ x 26⅓″ x 40″)
Bench: 66(W) x 32(D) x 56(H)cm (26″ x 12½″ x 22″)

WEIGHTS
Main unit: 90kg (198 lbs.)
Bench: 7.5kg (16.5 lbs.)

FINISH
American Walnut Grain

★ *Specifications subject to change without notice.*

[Where to find the nameplate]
[Hier ist das Typenschild angebracht]
[Emplacement de la plaque signeleitique]
[Dónde locarizar el membrete]



Special Instructions for British Standard Model
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

IMPORTANT
THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:
BLUE: NEUTRAL
BROWN: LIVE

SINCE 1887 YAMAHA

NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN

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