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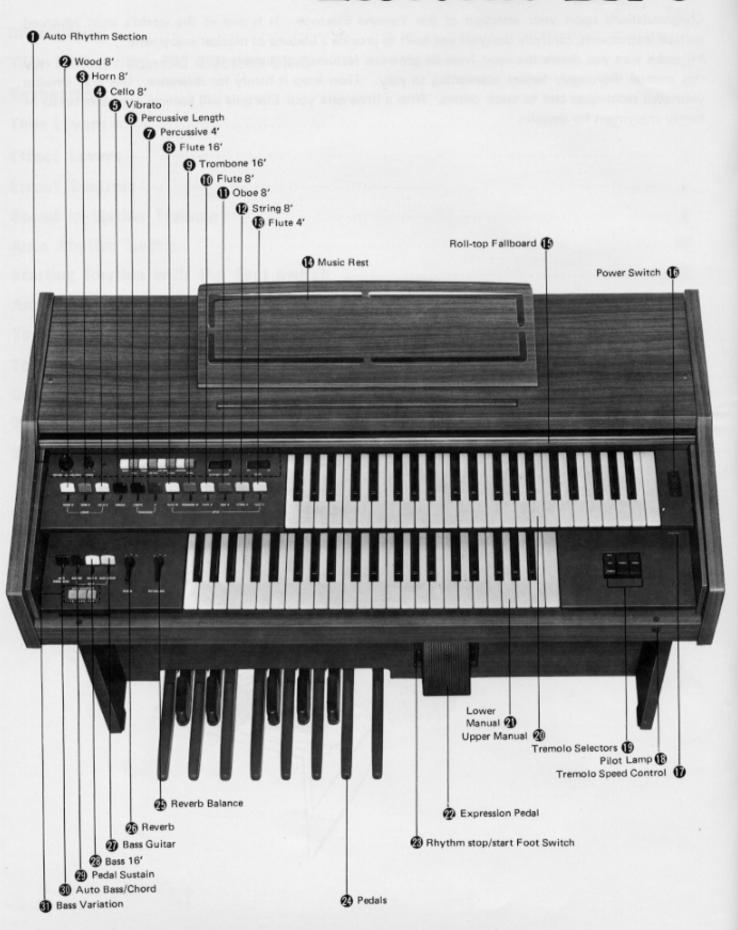
Introduction

Congratulations upon your selection of this Yamaha Electone. It is one of the world's most advanced musical instruments, carefully designed and built to provide a lifetime of musical enjoyment.

To make sure you derive the most from its generous features and durable IC & FET circuitry, please read this manual thoroughly before attempting to play. Then keep it handy for reference. Use it to develop your own techniques and to teach others. With a little care your Electone will become a creative center of family enjoyment for decades.



This is your Yamaha Electone BK-5



Keyboards

The BK-5 has three keyboards. The upper two are called "manuals" and the other, for the feet, composed of "pedals."

Upper Manual

44 keys

(3%') octaves)

Lower Manual

44 keys

 $(3\frac{2}{3})$ octaves)

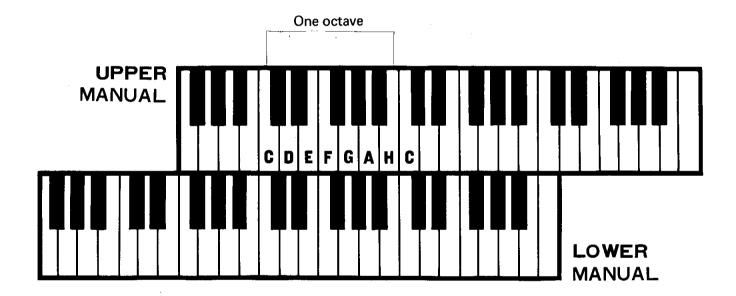
Pedals

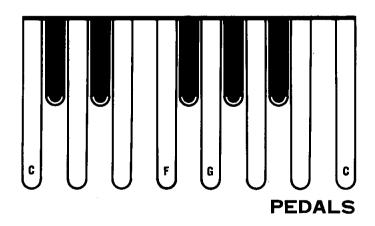
13 pedals

(1 octave)

The Electone is designed to permit playing the melody on the upper manual with the right hand, the chords on the lower manual with the other, and bass notes on the pedals with either foot.

All keys and pedals are arranged in the traditional keyboard method: two black keys, three black keys. Each white key has a name (from A to G), and the blacks are sharps or flats. "C" is always the white key just below the left black key in the two-black-key group. Any complete set of seven white keys is called an "octave."





Tone Levers

To the left of both upper and lower manuals are a series of tone levers which control the voices (instrument sounds) which will sound when the keys are depressed. They are divided into groups for upper, lower and pedals, so that different registrations can be set for each.

Upper Manual Levers

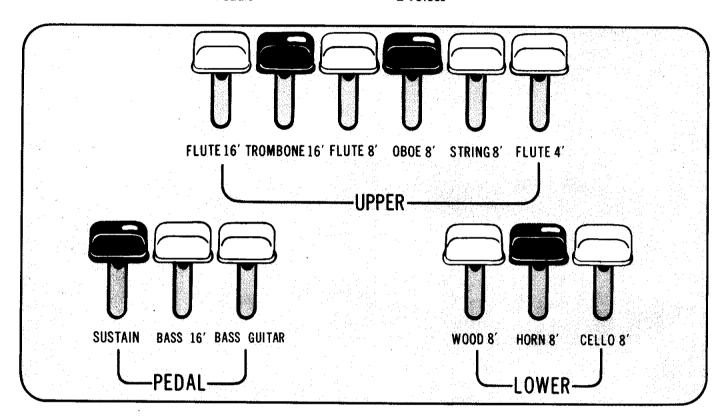
6 voices

Lower Manual Levers

3 voices

Pedals

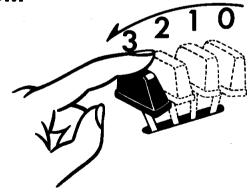
2 voices

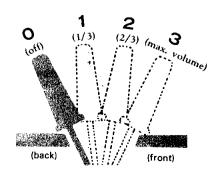


Exclusive Yamaha Tone Lever System

Each lever provides two methods of control. One is by continuously moving the lever from off to full, to achieve the exact setting for that tone, and thus balancing the overall tone setting with perfect precision. Each lever also has two easy-to-feel click stops, at 1/3 and 2/3 positions. This lets you refind any setting with mathematical precision and no guesswork in a matter of seconds.

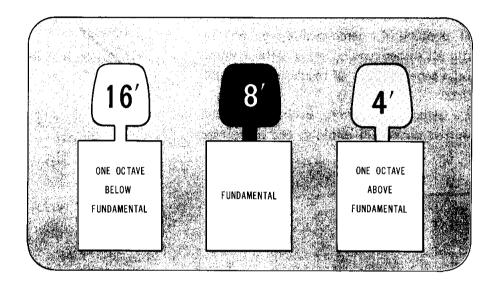
Bear in mind that the total tone lever settings for a particular manual will affect that manual's overall volume. This will be an expressive aid if used properly, a drawback if it is forgotten.



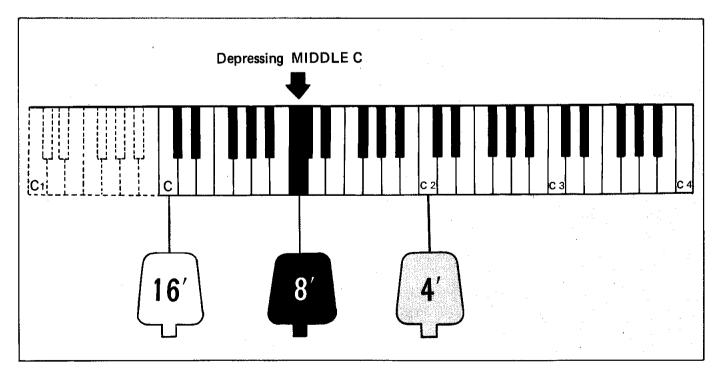


Harmonics

The BK-5 has three different tonal harmonics, indicated by the numbers 16', 8', 4'. These are standard organ abbreviations showing the tone's pitch in relation to the fundamental (written note). An 8' tone will sound just as it has been written. A 16' tone (meaning that the wave length of the vibrations are twice as long as 8', or half as fast) will provide a tone exactly one octave lower than the written note. Similarly, 4' tones are one octave higher than the written note.



For example, if you press middle C, corresponding to the keys in the chart below will sound be produced.



In other words, the 16' lever extends the lower manual a full octave as shown by the dotted line in the illustration.

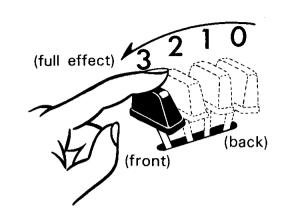
Effect Levers

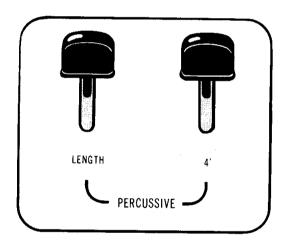
These levers control a variety of effects which add a host of tonal variations to the Electone's voices. Each lever works in the same way as the tone levers, with both infinitely-variable continuous control and click-stop settings.

Upper Percussive: 6, 7

Changing the beginning of some or all notes can do wonders for lively selections. Your Electone's percussive effects provide subtle but important shading at the moment each note is heard. The special popping 4' percussive drive can be smoothly blended into all upper manual tones with a single variable lever 7, and a separate lever 6 regulates the length of decay for these effects.

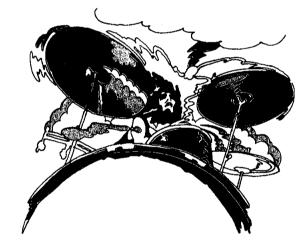
With percussive, use a detached fingering. Each note should be played cleanly; slurred notes will diminish the percussive impact.







Vibrato is a scarecely noticeable waving of the tone. You will see violin and cello players use it freely by an oscillating motion of the left hand. It increases the emotional quality of the violin tone. This vibrato lever produces the same vibrato effect. Use of this lever will add a charming and lively air to the tone of your Electone.





Tone Levers Registration.

For the best result of your performance, you should always take into consideration the correlative tone volume balance among the three keyboards i.e., upper manual, lower manual and pedals.

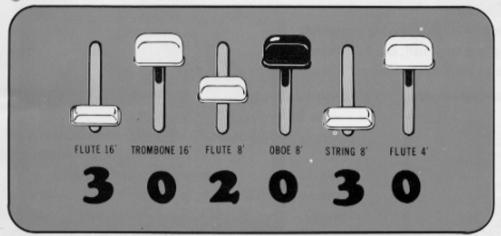
When you wish to emphasize the melody played on the upper manual, for example, the volume of the lower manual and pedals should be kept under that of the upper manual. On the contrary, if you want to stress the accompaniment part on the lower manual or pedals the volume of that particular keyboard should be adjusted relatively larger than the others.

Yamaha's unique variable volume control tone levers enable you to control this correlative tone volume among three keyboards. Judge by your own ears and adjust the position of tone levers in advance. Each tone lever slides continuously from off to full volume for sensitive balance control.

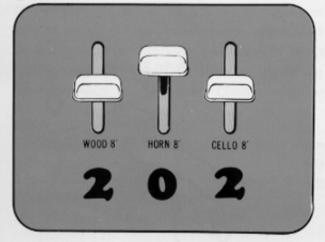
Three distinct stops also convenient to click your favorite tonal combinations into place for quick, easy settings.

(EXAMPLE)

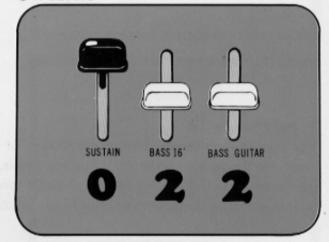
UPPER



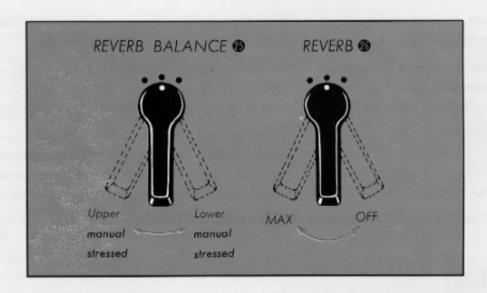
LOWER



PEDALS

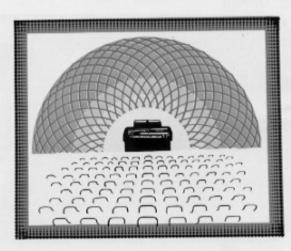


Effect Controls



Reverb : @

The reverberation effect, which makes your playing sound full and rich as if you were playing in a large hall, can be adjusted continuously and smoothly to suit your interpretation.



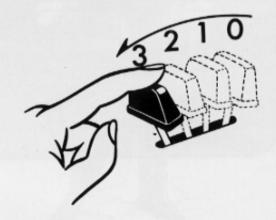
Reverb Balance : 49

To balance the Reverb effect between the upper and lower manuals; when used to strengthen the upper manual, it brings you an effect similar to SUSTAIN on more expensive models.

Pedal Sustain : @

This control provide continuous adjustment of the sustain effect on the pedals concerned. For the pedals, this is the only sustain control, and it affects all pedal tones with the exception of Bass Guitar with sustains Automatically.

Pedal Sustain



Sound-in-Motion Tremolo_

The Electone's special throbbing tremolo is produced by a smaller-size Natural Sound speaker that really spins just behind the tremolo speaker grille on the side of the cabinet.

On the BK-5 there are three tremolo selectors, located on the right side of the lower manual, each with an an on/off function. They are complemented by a continuous tremolo speed control knob just above them.





When the speed control is set to its central position, the Tremolo tablet will turn the speaker at seven revolutions per second. The Chorus tablet will turn it at one revolution per second.

Once either tablet is switched on, it takes several seconds for the tremolo speaker to attain the standard speed. This is also true when switching to a slower speed (Tremolo to Chorus). If one of the other tremolo control tablets is switched on during this speed change period, the speed variation will be heard in the music.

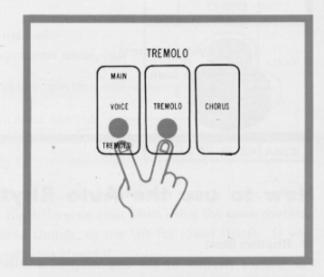
If you wish an instant tremolo or chorus sound, be sure to switch on that tablet well in advance of one of the speaker selectors (§). For special selections you can use this speed variation by switching the speaker on first, the Tremolo or Chorus switch later.

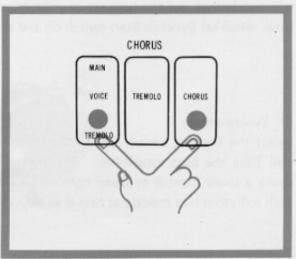
Upper Voice (Main/Rotary) :

Lets you divert upper manual tones from the main to the tremolo speaker.

Lower Voice (Main/Rotary) :

Does the same for lower manual tones.

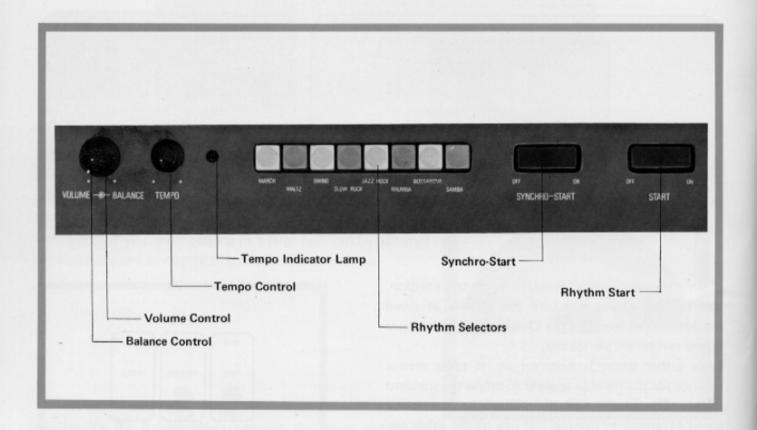




Auto Rhythm Section

This section provides eight catchy rhythms, each one called forth by a simple button.

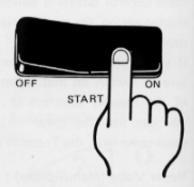
In addition to a combined volume and balance knob, tempo control and tempo indicator light, there are two other switches: ordinary Start and the exclusive Yamaha Synchro-Start which begins the rhythm accompaniment on the first beat of a measure when the first lower manual or pedal note is struck. A foot switch fitted on the expression pedal lets you cut and restart the rhythm at any point during play.



How to use the Auto Rhythm

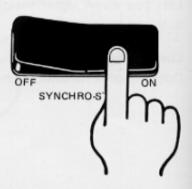
Rhythm Start

For instant rhythm at the beginning of a selection. Push the rhythm selector desired, get the beat set in your mind by watching the indicator lamp, when set Synchro-Start switch on and then turn the Start switch on.



Synchro-Start

Select the rhythm, switch on the Synchro-Start and begin to play once you have the beat established. The rhythm will begin as soon as you strike a lower manual or pedal note. This switch permits you to lead in with a rhythm-free melody at first if so desired.



Rhythm Stop (Foot Switch) :

This switch is located in the expression pedal housing to the left of the pedal. Once the rhythm is on, push this switch once to instantly stop it, once again to restart. It lets you stop and restart the rhythm in the middle of a selection without using your hand.

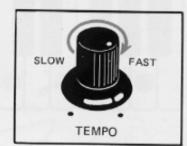
Note:

After the foot switch has been used, be sure it is reset to normal after you finish playing your selection, and then make sure both Start and Synchro-Start switches are off. Otherwise you may turn on one of the switches in the middle of a new number only to find the rhythm still canceled.



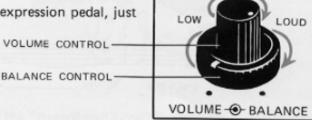
Tempo Control

The tempo of the Auto Rhythm section can be adjusted by a continuous control knob. This is best accomplished by turning on the Synchro-Start switch. Although no sound will be produced, the indicator lamp will flash each quarter note letting you visually check the tempo while you adjust.



Volume Control

Use it to balance the volume of the rhythm section and the manuals. This volume is then varied during the selection by the expression pedal, just like that of the other tones.



Balance Control

This control lets you balance the low rhythm sounds, such as drums, and the high sounds (i.e. cymbals) according to your mood and the selection. It can make a big difference even when using the same rhythm. Turn the knob to the right to accentuate the higher (treble) sounds, to the left for lower (bass). If you accentuate the treble sounds the rhythm becomes brighter and more cheerful. Check the playing hints for specific settings.

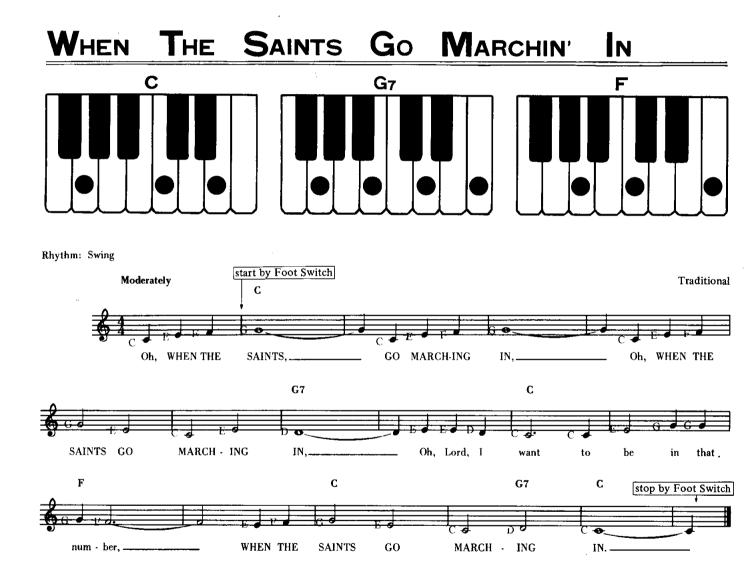


Starting Rhythm with the Foot Switch

Although the foot switch is mainly for stopping and then restarting the rhythm, you can turn on the rhythm with either start switch, then shut it off with the foot switch before beginning to play. This way, when you are ready for the rhythm you can switch it on with your foot.

Lets you stop and then restart the rhythm in the middle of a selection without using your hands.

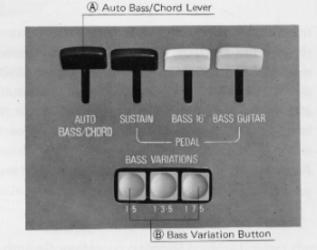
For this reason, be sure that both Start and Synchro-Start switches are turned off after each selection.





Instructions for Operation of "Auto Bass/Chord"

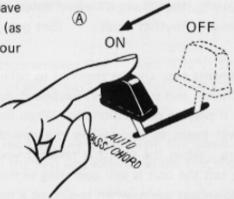
Your new Yamaha Electone, Model BK-5, is equipped with a lever marked "Auto Bass/Chord" (A). When used in conjunction with the "Automatic Rhythm" (see page 10). It enables you to play just about any combination of alternating bass-chord rhythms simply by sustaining (holding down constantly) a chord on the



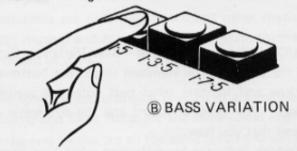
lower keyboard. From your very first, simple melody, you will be sounding like a pro. Here is all you have to do.

Move the Auto Bass/Chord

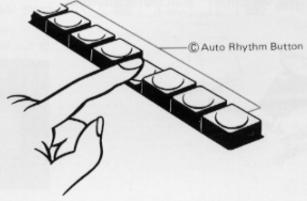
Move the "Auto Bass/Chord" lever toward you (A). You have now engaged the memory system and deactivated the pedals (as long as this lever is in the engaged position, you cannot play your BK-5 as a conventional organ).



Push the Bass variation button marked 1-5 right below the "Auto Bass/Chord" Button (B) .



 Select one of the automatic rhythm patterns and push the corresponding button down until it clicks and stays down (C).



Immediately to the right of the rhythm button you will find two rocker type switches ① . Push the "on" side (right) of the one marked "Synchro-Start" (the one marked simply "start" is to be used when you wish to continue hearing the automatic rhythm even after releasing your chord on the lower keyboard). Now, be sure you have at least one stop for each: Upper Keyboard, Lower Keyboard, and Pedal. You are now ready to play.

Form one of the following type of chords on the lower manual with your left hand in any inversion:

Major

Seventh

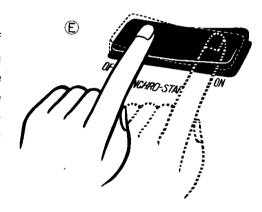
Minor

Minor Seventh

(These are the only chord types for which the memory unit can supply the proper bass note.) Play all the notes in the chord at the same time. The unit should now be working. Adjustments may be necessary to the "Tempo" and "Volume" knob to the left of the "Automatic Rhythm" unit (See page 11).

Adjustments may also be required to balance the relative volume of bass, chords, and solo (upper) keyboard; do this in the same way you would if playing conventionally. When the first chord is played, the unit will begin to operate on the downbeat, or first beat of the measure. When the chord is released you will not hear any more sound, but the unit is still operating within it's cycle. To start unit on a downbeat again, when beginning a new song, it is necessary to re-set the "Synchro-Start" switch (E)

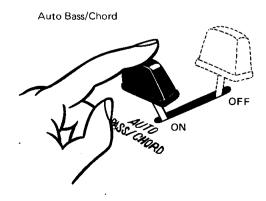


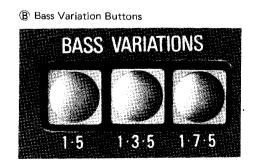


Bass Variation Buttons:

Just below the "Auto Bass/Chord" lever are three "Bass Variation Buttons" B, marked $1 \cdot 5$ (left) $1 \cdot 3 \cdot 5$ (center), and $1 \cdot 7 \cdot 5$ (right). The numbers under the buttons correspond to the notes on the musical scale in any given key and indicate what bass notes are available in the memory unit when a particular button is depressed. The type of chord and the automatic rhythm used will determine the actual note (and their sequence) that you hear.

There now follows a chart which indicates by scale step what bass notes will sound with each possible combination (Note: for the unit to perform correctly, at least one but not more than one button should be down in each section), "Bass Variation" "Automatic Rhythm".





SOUNDS and EFFECTS

To completely familiarize yourself with the various sounds and effects possible with the Auto Bass/Chord, hold the G7 chord down and try changing the Rhythm buttons (example: Swing to Bossa Nova to Samba). With each change, try each of the three Bass Variation buttons and listen to the bass pedal pattern changes. While you're experimenting with the rhythm patterns, use the Volume knob (upper left) to increase and reduce the volume of the Auto Rhythm Section and listen to the changing balance between the percussive rhythms and the chords and pedals. Strive for a good balance. The speed of your rhythm accompaniments can be controlled precisely with the use of the "TEMPO" control and will depend on your musical taste and ability to maintain the tempo (speed) of the right hand melody.

SYNCHRO-START

The unique Yamaha Synchro-Start lets you set the rhythm volume and speed (separate controls), select the beat, then automatically begins the instant you strike the first note or chord on the lower keyboard.

Here is one very effective use of the Auto Bass/Chord. Set the START rhythm selector to "OFF". Have the SYNCHRO-START selector "ON". The rhythm and accompaniment will now start to play only when the keys on the lower keyboard are played, and when the keys on the lower keyboard are released, the rhythm accompaniment will stop.

IMPORTANT: Before starting any rhythm, press the Synchro-Start selector "OFF" and "ON". This will re-set the computer and the bass pedals and left hand chord rhythms will always start correctly, on the down beat, when the left hand chord is played.

When the Synchro-Start selector is in the "OFF" position, the red light (-\(-\frac{1}{2} - \)) will blink the speed of the rhythm. When the rhythm is playing, the red light will blink on the first and sometimes the first and third beats of the measure depending on the rhythm chosen.

RHYTHMS AND REGISTRATIONS

The suggested rhythms and registrations are only suggestions and other rhythms and registrations may be used. It is fun to experiment with rhythm and sound. However, when the fraction at the beginning of the song is 3/4, only the Waltz Rhythm can be used.

Try changing rhythms in the same song. When changing rhythm in a song the rhythm used must remain at the same tempo (speed). Both Swing and Slow Rock are the same speed and can be used interchangeably. The Jazz Rock, Bossa Nova, Rhumba and Samba are all the same speed and can be used interchangeably.

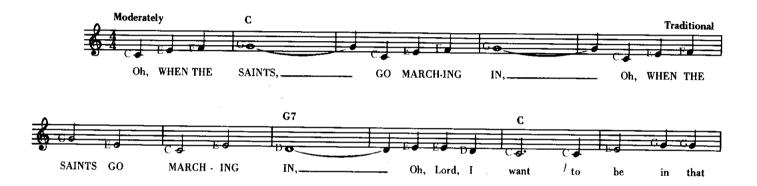
The rhythms that use three bass pedals (not	es) are Slow Rock	c, Rhumba and S	amba. To use the three bas
pedals, the Bass Variations selector must be			
placed in the "ON" (J) position.			

TO PLAY A MELODY

Pull forward all the tone levers for both the lower and upper keyboards (manuals) and add the Bass 16' for the Bass Pedals. (NOTE: The Auto Bass/Chord should be "OFF" at this time). Play the melody on the upper keyboard by following either the numbers or letters. (NOTE: Both "play by number" and "play by letter" systems are used to permit non music readers to enjoy playing the different types of chord organ books available.)

Add the left hand chords, shown over the melody, on the lower keyboard and hold each chord until the next chord is shown. (NOTE: When the Auto Bass/Chord is added, the left hand chords will play in rhythm.)

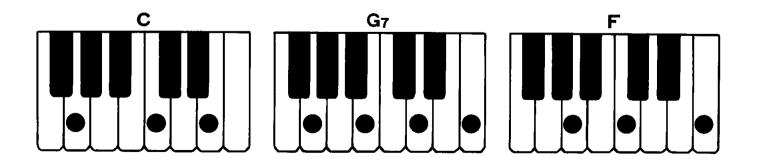
WHEN THE SAINTS COME MARCHING IN



TO PLAY IN RHYTHM

Press the "SWING" selector button on the Auto Rhythm Section. To play with the Auto Bass/Chord, pull the Auto Bass/Chord lever forward to "ON". Set the Synchro-Start switch to "ON" and the Start switch to "OFF".

Watch the blinking red light to determine the Tempo of the rhythm. Adjust the Tempo to SLOW in the beginning. Play the melody and when you play the left hand chord C, both the left hand and bass pedal will start to play in rhythm.



Bass Variation	Type of Chord	Rhythms Effected	Bass Notes Played
1.5	Major Minor Seventh Minor Seventh	Swing, Waltz, Bossanova Slow rock, Rhumba	1.5

Explanation: This is the basic pattern and alternates the root (1) and fifth (5) in the bass regardless of rhythm chosen for type of chord. The one exception is the "jazz rock" rhythm, which never plays anything but the root in the bass.

Bass Variation	Type of Chord	Rhythms Effected	Bass Notes Played
1.3.5	Major Minor Seventh Minor Seventh	Swing, Waltz, Bossanova Slow rock, Rhumba	1.5 1.3.5

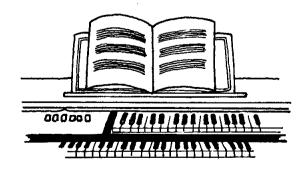
Explanation: This selector effects only the Slow Rock, Rhumba rhythms with which it will play a root (1), third (3), fifth (5) pattern. All other rhythms function as with the (1.5) selector.

Bass Variation	Type of Chord	Rhythms Effected	Bass Notes Played
1.7.5	Major	Swing, Waltz, Bossanova	1.5
	Minor	Slow Rock, Rhumba	1.3.5
	Seventh	Swing, Waltz, Bossanova	1.5
	Minor Seventh	Slow Rock, Rhumba	1.7.5

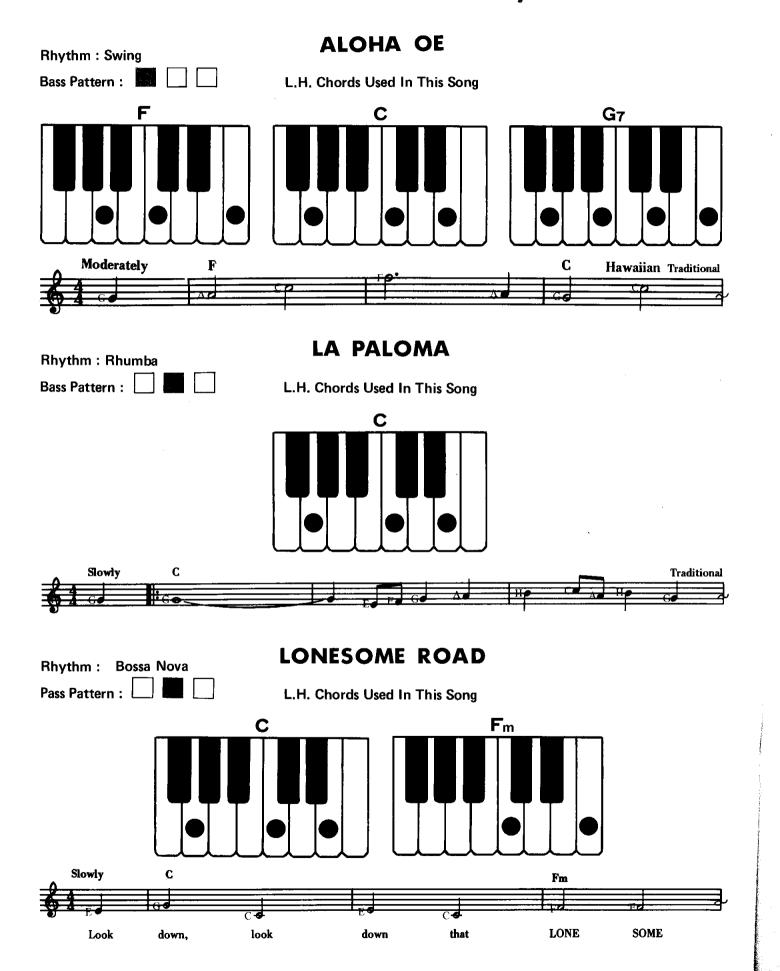
Explanation:

This selector effects only the Slow Rock, Rhumba rhythm when a seventh or minor seventh chord is being played, with which you will hear the root (1), seventh (7), and fifth (5) bass rootes. When playing a major or minor chord the unit will perform exactly as it does with the second "Bass Variation" selector (1.3.5).

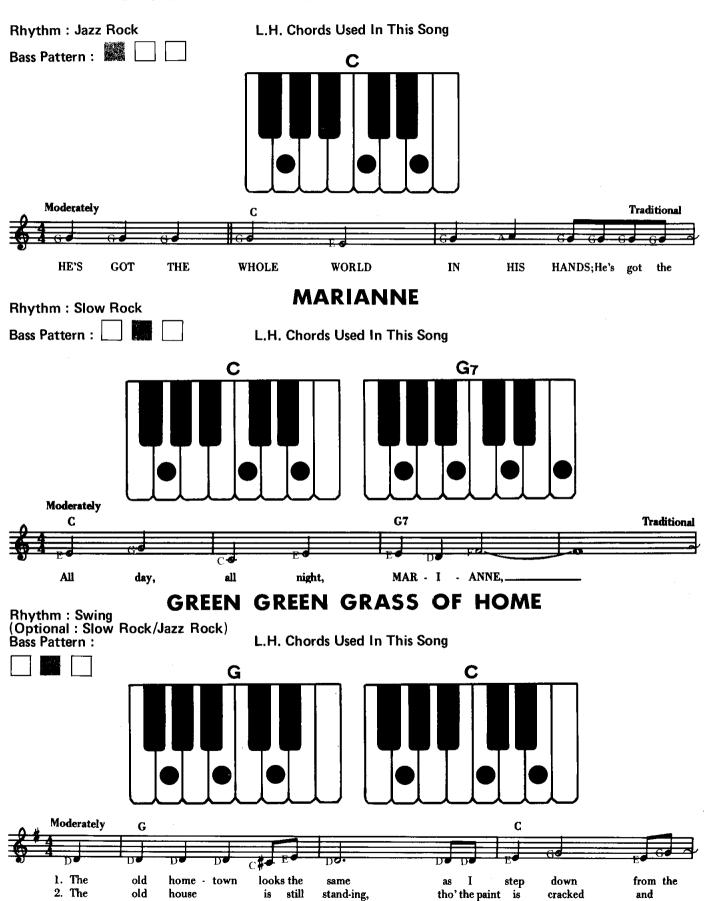
Remember, the Jazz Rock rhythm is not affected by the "Bass Variation" selector, it plays only the root (1).



To Play in Rhythm



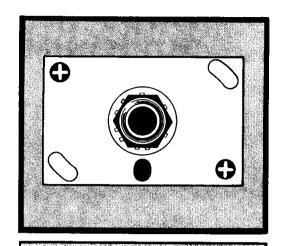
HE'S GOT THE WHOLE WORLD IN HIS HANDS



To Fully Enjoy Your Electone

Headphone Jack

Plug a headphone set (optional accessory) into the jack under the keyboard and you can play with the volume as high as you like without disturbing anyone, even in the middle of the night.



External Input Jack (EXT, IN)

Can be used to feed any sound source through the Electone Natural Sound Speaker: radio, record player or tape recorder. Since the volume of these sound sources is not affected by the expression pedal, you can play along on the Electone with any other performance.

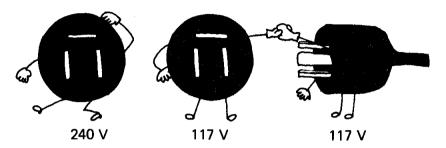


Care of Your Electone.

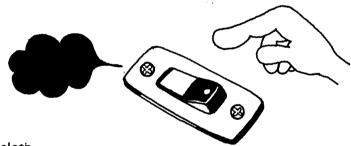
In general you should treat your Electone with the same care you would give any fine musical instrument. However, the following points are suggested to assure optimum enjoyment.

1. Be sure to use your Electone only on the correct voltage.

If any changes are required, please consult your Yamaha Electone service agent.



- If any trouble develops, contact your service agent.Never touch the circuits or the internal elements of the Electone yourself.
- 3. When you have finished playing, be sure to turn off the power switch.



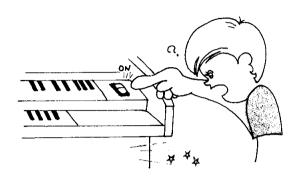
- In order to clean the keys, tabs, etc., use a damp cloth.
 Never apply organic solvents such as alcohol, for they will damage the materials.
- 5. Do not expose the Electone cabinet to the direct rays of the sun. This can bleach the finish and lead to separation along the joints. It is also best to choose a location free of humidity and currents of heated air.



7. In opening and closing the fallboard, grasp the front lip with both hands and slide it gently in its groove. Never attempt to raise the fallboard directly upwards. Do not place heavy objects on it.

Do Not Be Alarmed If

A note should sound the instant you turn on the switch.
 This merely indicates normal operation consequent to a surge of electricity in the main amplifier.

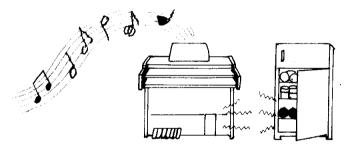


- 2. Only one note is produced even when two pedals are depressed simultaneously.
 In order to achieve tonal clarity, the Electone is designed so that a note is electronically supressed the instant the next note is struck. If two pedals are struck simultaneously, only the higher one sounds.
- 3. Occasional unpleasant static occurs.

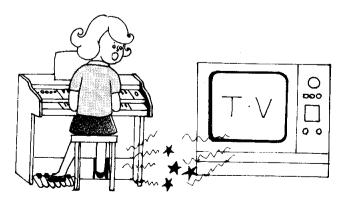
In the majority of such cases, the cause can be traced to the turning on or off of refrigerators, washing machines, electric pumps or other household appliances. Electrical fault in a neighboring outdoor neon sign may also be to blame.

When the cause is a home appliance, connect the Electone to an outlet as far as possible away from the offending appliance. This phenomenon, although annoying, poses no danger to the Electone circuitry. If the cause is a fault in a neon or fluorescent lighting fixture, it should be repaired. When the cause is

unknown, or in case of doubt, contact your Yamaha dealer.



4. The Electone can at times reproduce radio or TV sound signals.
This can occur when there is a powerful radio or TV transmitter, or an amateur radio operator located in the vicinity. If the situation is distracting, contact your Yamaha dealer.



5. Sound rattling (sympathetic vibration) occurs.

All materials have critical resonance frequencies at which they vibrate. Since the Electone produces continuous tones, it is only normal that some will cause windows, shelves, etc. to rattle.

6. Pedal notes sound too high, and upper manual notes too low.

This feeling may be especially strong for players who switch from the piano, because of the difference in tonal construction. Each piano note is a combination of complicated harmonics, and can be heard only in its interaction with the surroundings. But Electone harmonics are only multiples of the integral (base) tone, and so the instrument cannot be tuned in the same way as a piano. The same is true of other organs, pipe and reed types.

7. Brilliance does not function with Flute sounds.

In order to reduce multiple harmonics in the high range, special resistors and condensers are used. They unfortunately limit the Brilliance effect for flute and wood sounds, as well as pedal tones. Brilliance really shines for strings, oboe and brass, where the harmonics are desired and therefore left untouched.

8. There is a bit of noise when the rotary speaker is switched on.

This too is a mechanical noise stemming from the spinning speaker. Special mountings help keep this sound at an absolute minimum.

Specifications

■ KEYBOARDS

Upper Manual 44 keys $f \sim c_4$

(3% octaves)

44 keys $F \sim c_3$ Lower Manual

(3% octaves)

Pedals 13 keys $C_1 \sim C$

(1 octave)

TONE LEVERS

Upper Manual Flute 16'

Trombone 16'

Flute 8' Oboe 8'

8' String

Flute 4'

Lower Manual Wood 8'

8' Horn

Cello 8'

Pedals Bass 16'

Bass Guitar

EFFECT LEVERS

Vibrato

Percussive Length (Upper)

Percussive 4' (Upper)

Pedal Sustain

■ EFFECT CONTROLS

Reverb

Reverb Balance (Upper/Lower)

■ TREMOLO SELECTORS

Voice (Main/Tremolo)

Tremolo

Chorus

■ AUTO RHYTHM SECTION

Rhythm Selectors

March

Jazz Rock

Waltz

Rhumba

Swing

Bossanova

Slow Rock Samba

Rhythm Controls

Rhythm Start

Rhythm Stop/start (Foot control)

Synchro-Start

Tempo

Volume

Tone Balance

Tempo Indicator Lamp

■ AUTO ACCOMPANIMENT SECTION

Auto Bass/Chord Lever

Bass Variation Selectors

1.5

1.3.5

1.7.5

■ OTHER CONTROLS

Expression Pedal

Tremolo Speed Control

Power Switch

Pilot Lamp

■ OTHER FITTINGS

Headphone Jack

External Input Jack

Roll-top Fallboard

Music Rest

Matching Bench with Music Storage Space

SPEAKERS

Main: Yamaha JA-3055

Tremolo: Yamaha Natural Sound JA-1701A

Electro-control 2-speed

■ CIRCUITRY

Solid State (Incl. ICs and FETs)

Output Power: 15 Watts (RMS)

Power Consumption: 100 Watts

100/110/117/125/220/240V AC,

50/60Hz

DIMENSIONS

Width:

111cm (43½")

Depth:

56cm (22")

Height:

90cm (35½")

■ WEIGHT

56kg (136 lbs.)

FINISH

American Walnut Grain

Specifications subject to change without notice.

