

GUIDE TO YOUR YAMAHA ELECTONE B-12 SERIES



SINCE 1887

NIPPON GAKKI CO., LTD.

Hamamatsu, Japan

ELECTONE B-12 SERIES PLAYING GUIDE

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Introduction

We of Yamaha wish to thank you for selecting one of the Electone B-12 series. We feel sure that you will realize many happy years of playing enjoyment with this instrument. Please read this guidebook for more complete enjoyment of all of the B-12's special characteristics. We would suggest that you occasionally re-read it from time to time as you progress.



**A proud possession _____
a responsive musical companion**

Your first moment at the keyboard, first recital—or better still, the priceless gift of music you suddenly see within your child's grasp. At times like this it's suddenly clear how much the stunning Electone B-12 means throughout the years and days.

Some will think first of the rich beauty of its generous voices, some of the emotion-laden sound-in-motion tremolo. Others will gain from its wide range of versatile effects and extras for every musical taste, including the built-in rhythm accompaniment section, special percussion levers and many others. All will gain from the durability of advanced solid state circuitry, including ICs and FET. Whether the Italian Provincial (B-12IR) or Mediterranean Spanish (B-12SR) styling blends best with your decor, hear and see the excitingly new Yamaha Electone B-12 today.



B-12IR

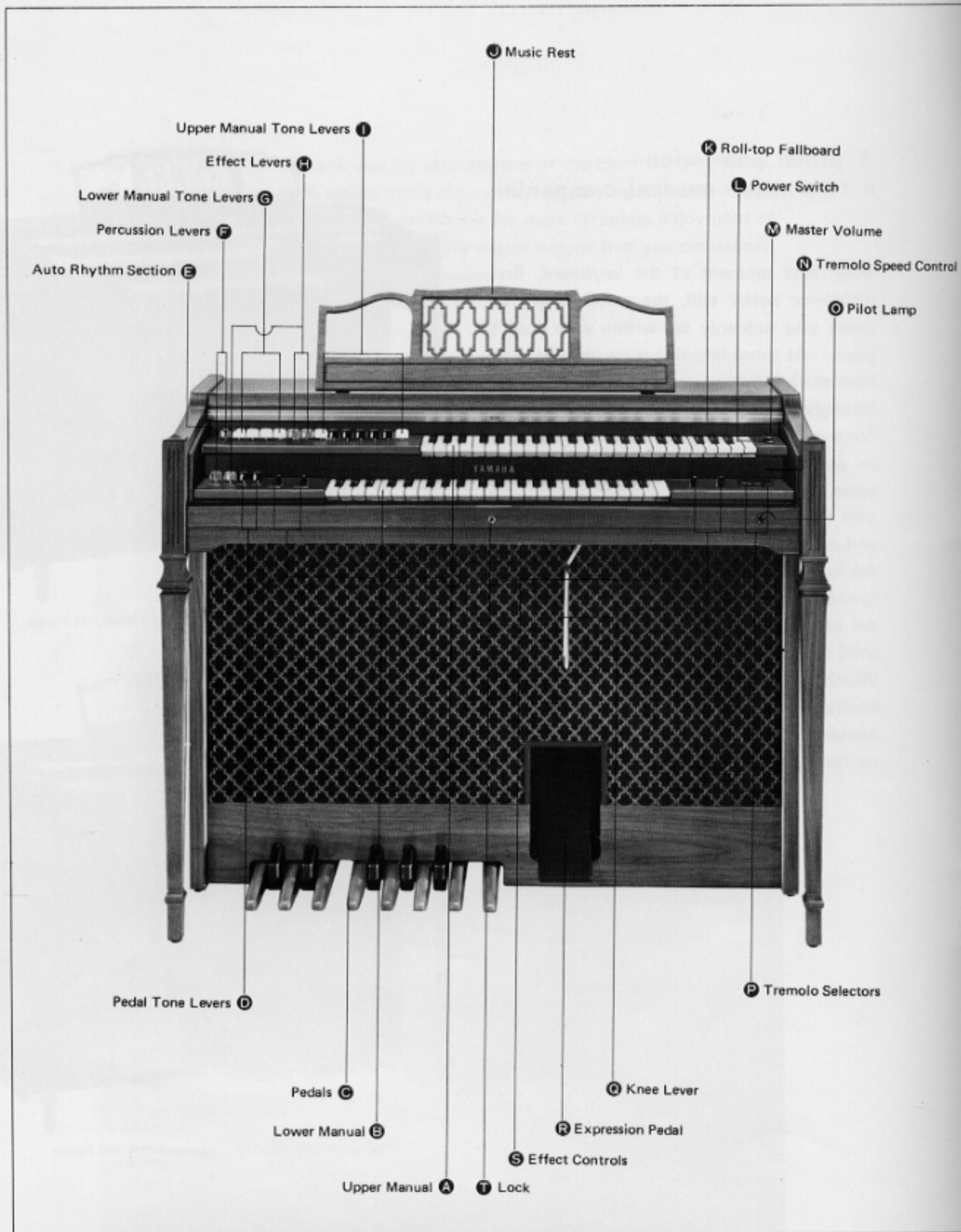
Italian Provincial Natural American Walnut, Oil Finish

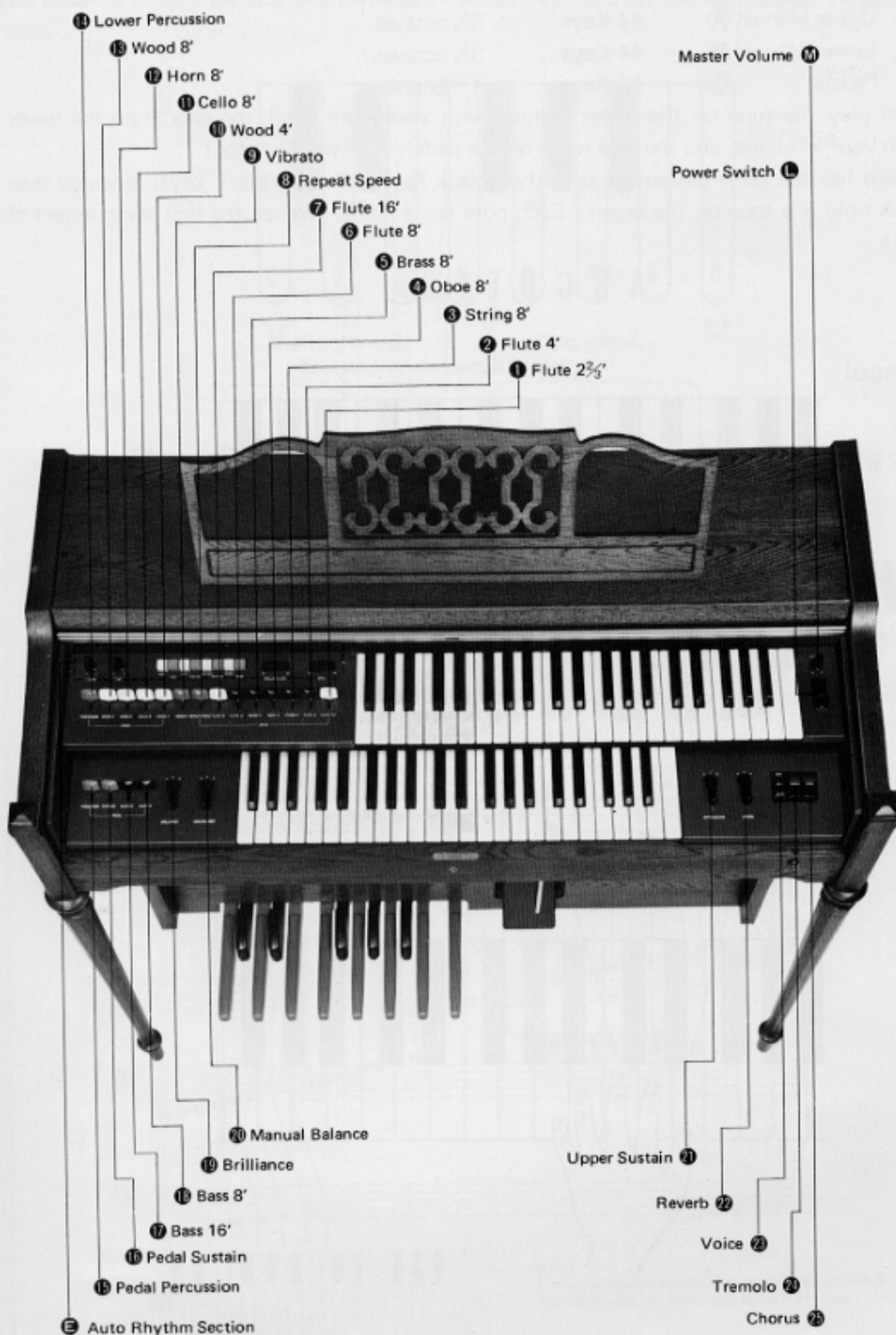


B-12SR

Mediterranean Spanish Antique Oak, Oil Finish

Here is your Yamaha Electone B-12





NOTE: The circled numbers refer to explanatory section in the text to follow.

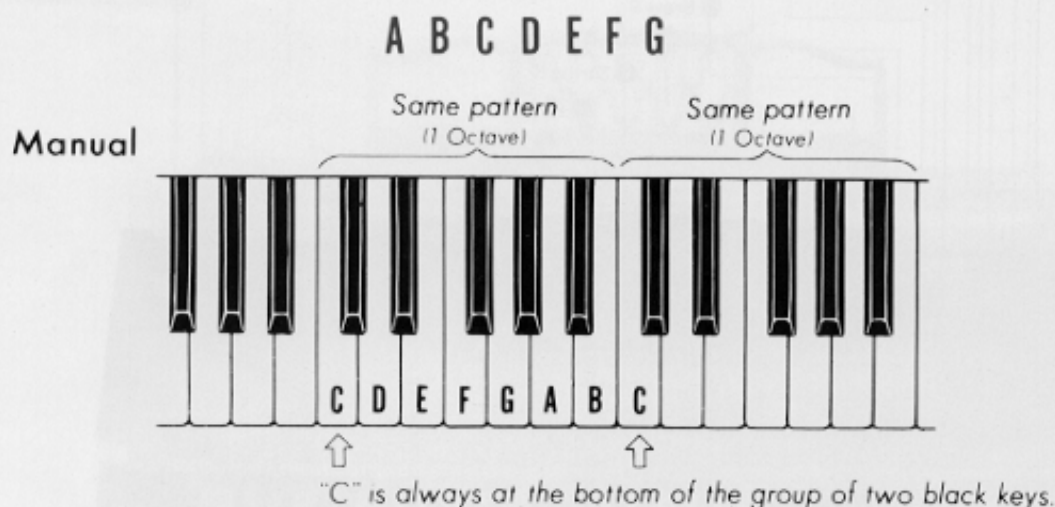
Keyboards

The Electone B-12 has THREE KEYBOARDS. Two of them are called "MANUALS" and the rest is called "PEDALS".

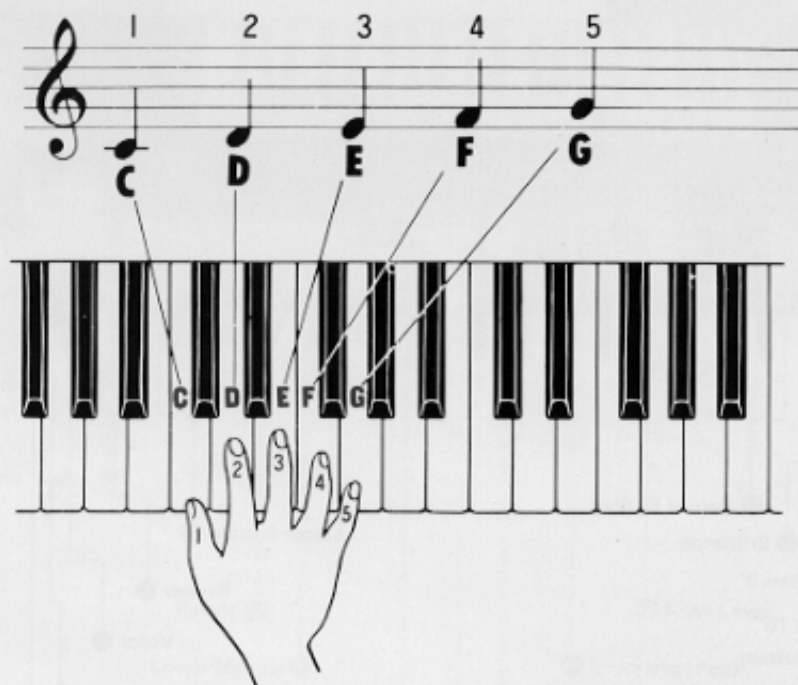
Upper Manual (A)	44 Keys	3 $\frac{1}{2}$ octaves
Lower Manual (B)	44 Keys	3 $\frac{1}{2}$ octaves
Pedals (C)	13 Keys	1 octave

So, you can play the tune on the upper manual with your right hand, the chords on the lower manual with your left hand, and the bass notes on the pedals with your left foot.

The keyboard has the same pattern of keys (two black keys and three black keys) repeated over and over. A note is a tone on the organ. Each note has a name. We use the first seven letters of the alphabet:

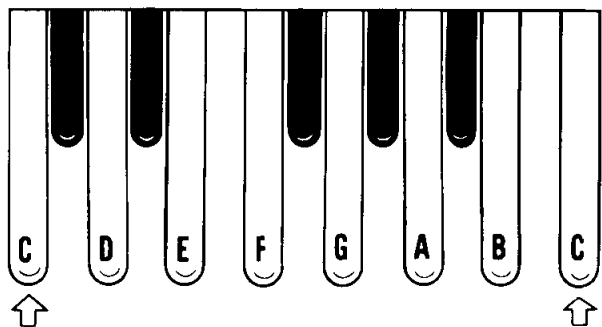


Let's see how the letter name of the notes match the letters on the keys.



Pedals

The pedal keyboard (pedals) is an enlarged manual keyboard for the foot containing one octave of notes.



Both ends of the pedals are "C"

The Compass of the Electone B-12 Series

Upper manual
FGABCDEF GAB C DEFGABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF

Lower manual
FGABCDEF GAB C DEFGABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF GABCDEF

Middle C

Tuned to 440 Hz

Pedals
C₁ C C

Note
The pedal keyboard notation is one octave higher than the actual notes, as in the case of the contrabass

Tone Levers

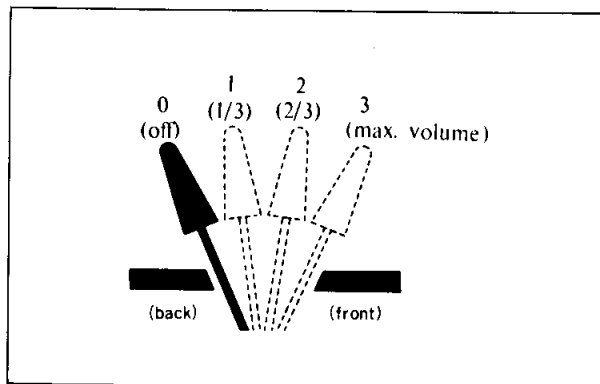
On the control panel to the left of the upper and lower manuals of the Electone are arrayed the tone levers. They are divided into three groups:

- (1) Upper Manual Tone Levers ①: 7 voices
- (2) Lower Manual Tone Levers ②: 4 voices
- (3) Pedal Tone Levers ③: 2 voices

Yamaha's Exclusive Tone Lever System

Each tone lever serves to impart a distinctive tonal quality to each note played. However instead of the usual simple on-off action of other systems, the Yamaha tone lever offers the unique advantage of continuously variable control. This means that even the finest shadings of volume control can be obtained from each and every lever, surely an amazing advantage in breadth of expression and ease of playing. For quick changes, another aid to precision is provided: As the tone lever is pulled, two 'click-stop' positions are felt, where the lever catches slightly. These indicate 1/3 and 2/3 of the maximum setting attained when the lever is fully depressed.

This exclusive Yamaha tone lever system allows the combination of these tones giving a virtually limitless range of tone, with a full spectrum of rich harmonics. The Electone B-12 is thus able to satisfy even the most demanding professional organist.



The most important point in developing good tone registration is the early mastery of the tone levers. Make it a practice to listen to good music and build your "taste" for sounds so that you can use the tone levers in combination. Experiment in the creation of tone colors to suit your own taste.

This use of the tone levers for volume control is also useful in adjusting the balance among the three keyboards.

How does each Tone Lever sound?

Upper Manual Tone Levers ①

Flute 16' : ⑦

In the Electone B-12 an even greater richness and vibrancy has been added to the flute voice. A new harmony and beauty can also be achieved with other voices, as the result of the unstinted use of transistorized components in designing a completely new tone filter. When the Flute 16' tone lever is pulled together with any 8' voice, a flute tone one octave lower will be added to the fundamental 8' tone (i.e., the note as played on the manual). This lower note will give added harmonic breadth, and provide great depth to a selection of music.

Flute 8' : ⑥

The flute is originally an open-pipe woodwind with a strong fundamental and relatively small harmonic component. It thus gives a simple yet darkened feeling to the mood of the music.

Flute 4' : ②

The sound of the flute one octave higher than 8' tone. When this tone is added to the fundamental, the sound becomes more vivid, and by lessening the 8' component or playing the 4' alone, the range can be extended one octave higher.

Flute 2 $\frac{2}{3}$ ' : ①

This gives a flute tone a fifth above the octave of the fundamental and the resulting richness of tonal quality brings a new dimension to the interpretation.

Brass 8' : ⑤

Harmonics multiply and remultiply toward the upper registers to produce a rich, penetrating sound that recalls the brilliant clarity of the brass instruments.

Oboe 8' : ④

This lever lessens the fundamental and enriches the harmonics to produce the plaintive, haunting timbre characteristic of the double reed woodwinds. It is excellent in adding harmonic color to quiet passages and, when combined with a string tone, produces an extremely clear but penetrating effect.

String 8' : ③

The wealth of harmonic color which can only be achieved by the higher stringed instruments.

Lower Manual Tone Levers ⑥

Wood 8' : ⑬

This is a characteristic tone of the woodwind instrument. It is rather simple, but with a slightly stronger harmonic component to produce a brighter tone than the Flute 8'.

Wood 4' : ⑩

An octave higher wood wind tone. Particularly suited to bringing out with clarity, melodic played on the lower manual. Of course, it may also be used to broaden the range of the lower manual.

Horn 8' : ⑫

Overtone multiply to produce the rich, smooth texture of the horns.

Cello 8' : ⑪

Rich harmonics blend to produce the soft, mellow tone characteristic of the cello.

Pedal Tone Levers ⑬

Bass 16' : ⑰

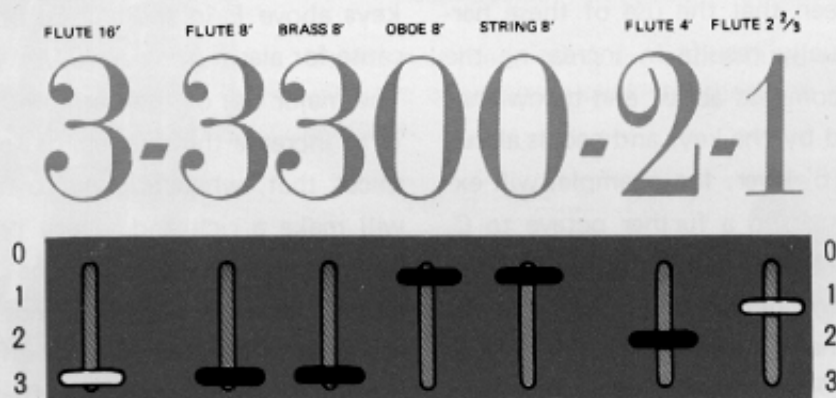
With great penetrating power, this lever sounds the lowest reaches of the B-12's compass.

Bass 8' : ⑳

By pitching the note an octave above the Bass 16' this lever allows a clearer penetration of bass sound, and thus permits melody to be played on the pedals.

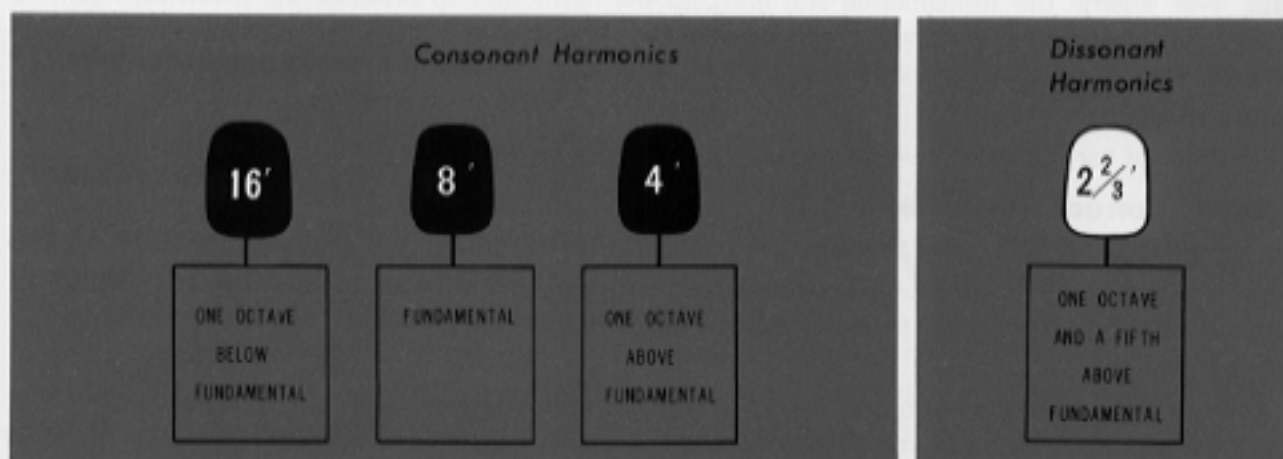
Tone Lever Registration

Tone lever registration is given by numerical indications which show the click-stop position of each lever, as illustrated below. The indications are in the order in which the levers appear on the control panel, with hyphens separating harmonic groups.

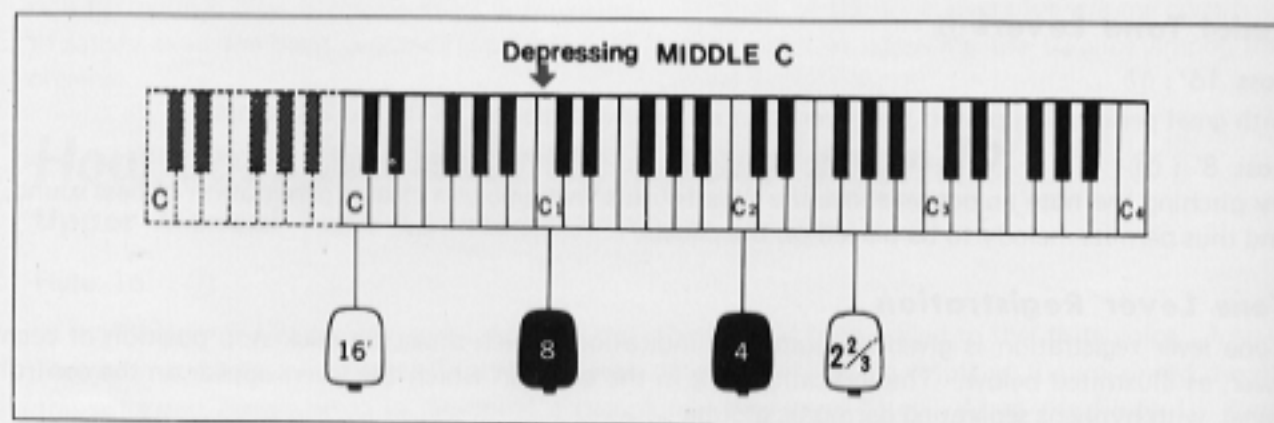


Harmonics

Tone levers are of several varieties: 8', 16', $2\frac{2}{3}'$, etc., each variety having a different pitch. The 8' tone levers are "fundamentals", that is, they have the same pitch as the written note (see the *Compass Chart, page 7*). The others, called "harmonics", are pitched a certain interval above or below the fundamental. Harmonics can be further subdivided into *consonants*, at octave intervals from the fundamental, and *dissonants*, separated by a third or a fifth from the fundamental.



As an example of what this means when you play, let us see which note can be produced by using one of the tone levers and pressing the key of middle C (c_1). Pressing middle C and using the 4' tone lever, for example, will result in the same note as would be produced by pressing c_2 (using the 8' tone lever, i.e., its fundamental)



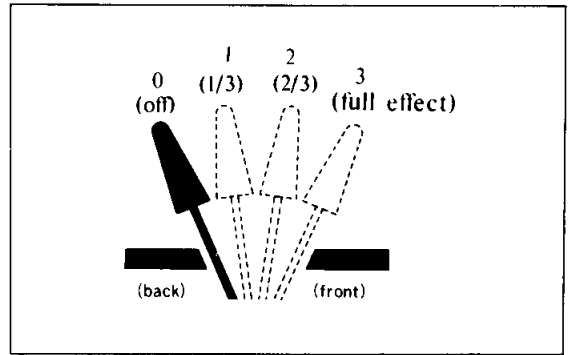
It can thus be seen that the use of these harmonic levers actually results in increasing the Electone B-12's compass above and below that which is indicated by the keys and pedals alone. The use of the 16' lever, for example, will extend the manuals down a further octave to C, (see dotted line above). Similarly the $2\frac{2}{3}'$ lever raises the tone one octave and a 5th but, in actual practice, the highest note on the B-12 is c_3 . Thus Flute $2\frac{2}{3}'$ voice is not obtainable from

keys above F in the highest octave. This is no cause for alarm (see page 21).

The major use of the harmonic levers, however, is to increase the richness of tone—they are the spices that, when applied to the fundamental, will make a rich and savory performance. Let your ear be your guide to the creation of good music. Always remember not to overuse this effect as it may weaken its effectiveness. Use it primarily only for special effect.

Effect Levers

Red effect levers ⑨ of the Electone B-12 provide a wide range of tonal effects which add to the breadth and variety of possible interpretations. These levers have the same operation as the tone levers and allow the organist to vary the depth of their effects according to their stop positions, as illustrated.



Vibrato : ⑨

Vibrato is a scarcely 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.



Repeat Speed : ⑧

Everyone will enjoy the fun of the many thrilling and exciting sounds that are possible with repeat percussion. Use of this lever 'chops up', so to speak, notes played on the upper manual, deriving a double-strummed effect similar in sound to the mandolin.

The lever gives a continuous spectrum of speed adjustment.

What's more, this effect can be combined with Sustain for many life-like instrumental sounds (marimba, banjo, etc.).

Pedal Sustain : ⑩

This lever works with the 8' and 16' bass voices.

The same Yamaha Variable Lever System works to provide longer bass pizzicato effects plus a continuous selection down to an expressive staccato.



Effect Lever Registration

	abbr.
Vibrato	Vib.
Repeat Speed	R.S.
Pedal Sustain	P.S.

Notation is made using the abbreviated name of the lever with the appropriate click-stop position indication as, for example:

Vib. 3 R.S. 2 P.S. 2

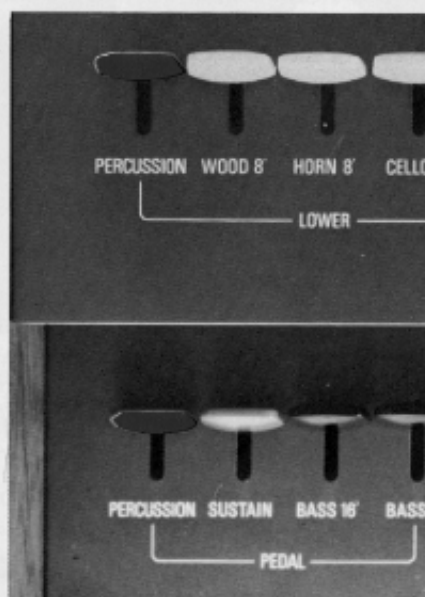


Percussion Levers

Lower Percussion : ⑭

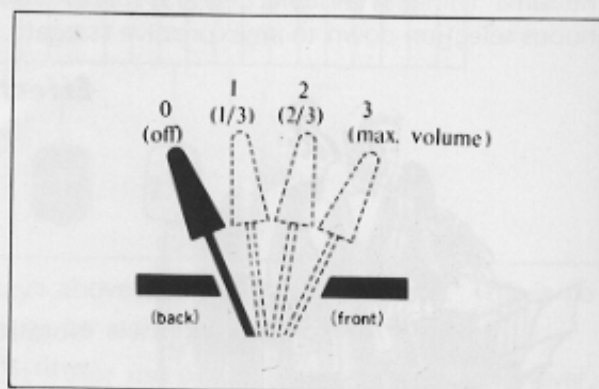
Pedal Percussion : ⑮

These two percussion levers are one of the big features of the Electone series. The pedal percussion lever overlays notes on the pedals with a clear, stirring cymbal sound, while the lower percussion lever provides for a brushed cymbal sound on every lower manual note, thus creating the perfect complement to a wide range of light music selections.

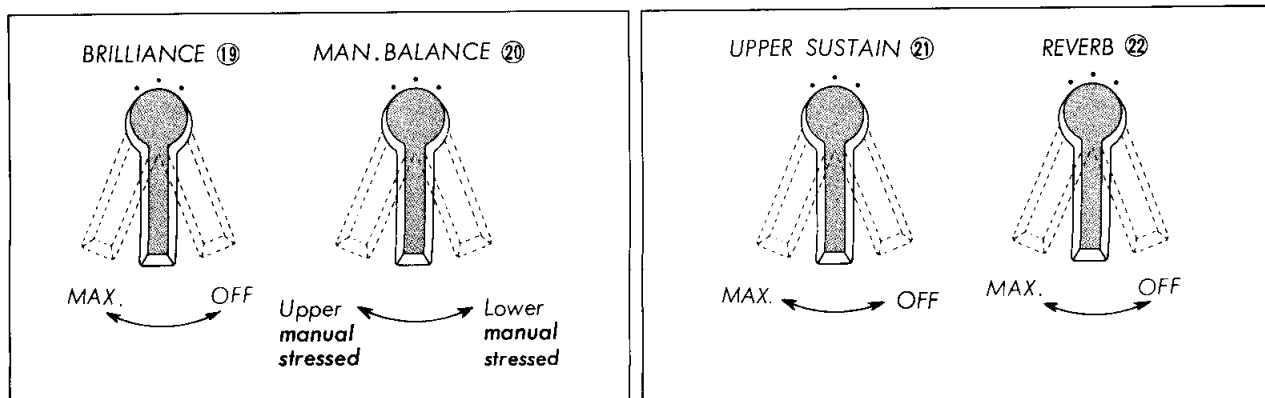


What is most useful is that the volume of the percussion effects can be varied independent of the melody according to the click-stop position of each lever, bringing a new dimension of your interpretation.

It can easily be seen that in accenting martial music or in playing up-tempo jazz or Latin music, the presence of these percussion effects is essential to the achievement of a natural rendition.



Effect Controls



Brilliance : ⑱

Set the overall clarity or softness to match your mood or that of the music. This stop-free adjustment provides sensitivity for the most discriminating ear.

Manual Balance : ⑳

The manual balance control governs the relative strength of the upper and lower manuals, and is normally left in the center position. But when it is desired to strengthen one manual—for example, when the upper manual plays the melody and the lower its accompaniment—the control may be turned (in this case to the right) to emphasize the upper manual. Similarly, the balance control is turned to the left when a strongly played accompaniment is required or when the melody is played on the lower manual and requires greater emphasis.

Upper Sustain : ㉑

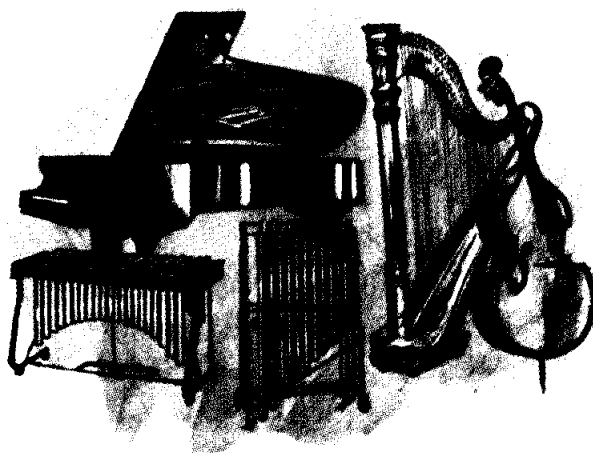
Upper sustain effect, the prolonging of notes on the upper manual, is so essential in effective legato performance. It permits sharp tones to be produced simultaneously with smoother treatment, thereby further increasing the expressive range.

In producing the upper sustain, use the sustain control ㉑. This continuously variable control determines the maximum possible sustain, and may be set before or during the performance. It is turned fully to the left for no sustain, and progressively to the right to lengthen the effect. For your more convenience the Knee Lever ㉒ can be used to switch sustain on and off during the performance. (See page 16.)

Upper sustain can be applied to all upper voices governed by black (8' & 4') tone levers, over the full 44-key range of upper manual.

Reverb : ㉒

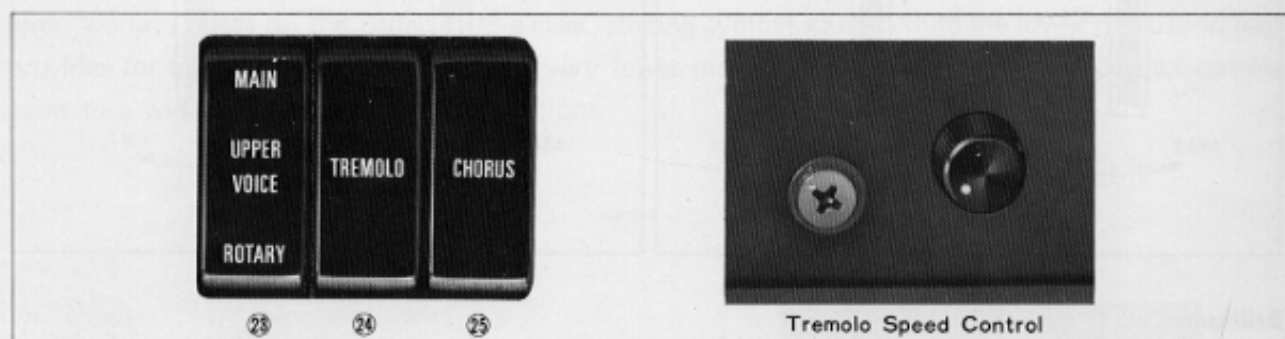
Reverberation is the quality that is imparted to musical sound as a result of the acoustical properties of a large auditorium or hall. The use of this effect, therefore, allows you to attain this grandeur at will, evoking the aura of professional performance in your own living room. The control serves to regulate the strength of the reverberatory effect, softer or louder as the music requires.



Sound in Motion

Effect Controls

Mellow, throbbing harmony that sings from every corner of your room or hall—that's the unique Yamaha Tremolo. A true moving sound source, the rotary speaker itself actually spins for exciting richness no mere moving baffle could equal.



The Tremolo selectors (P) which accomplish this are three black tablets located to the right of the lower manual. Each has a simple ON-OFF type action which allows quick operation while playing.

Tailor any of Tremolo or Chorus effect to an individual selection.

For extra-sensitive expressive possibilities use the Yamaha-only continuous Tremolo speed control (N) to match any mood or selection.

Voice : (23)

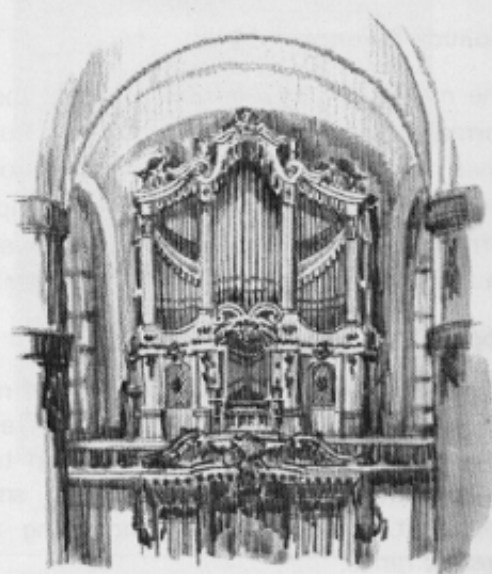
This selector switches the Electone sound from the main speaker to the rotary speaker and vice versa.

Tremolo : (24)

Turning on this selector turns the rotary speaker at seven revolutions per second producing Tremolo effect.

Chorus : (25)

This selector turns the rotary speaker at one revolution per second producing Chorus effect.

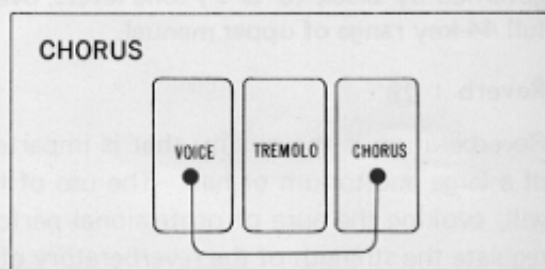
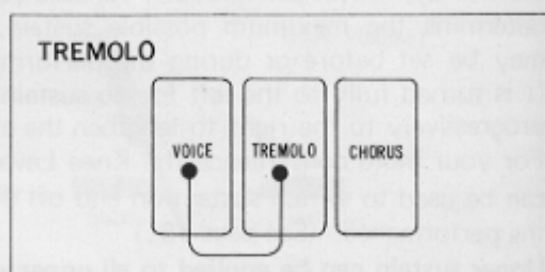


Producing the Tremolo Effect

Set the voice and tremolo selectors as shown in the figure. Moving and natural pulsations of sound lend greater depth, fuller meaning to serious passages and add a touch of genius to pieces which have perhaps lost some of their original freshness. This tremolo effect is especially useful for rich, tremulant work.

Producing the Chorus Effect

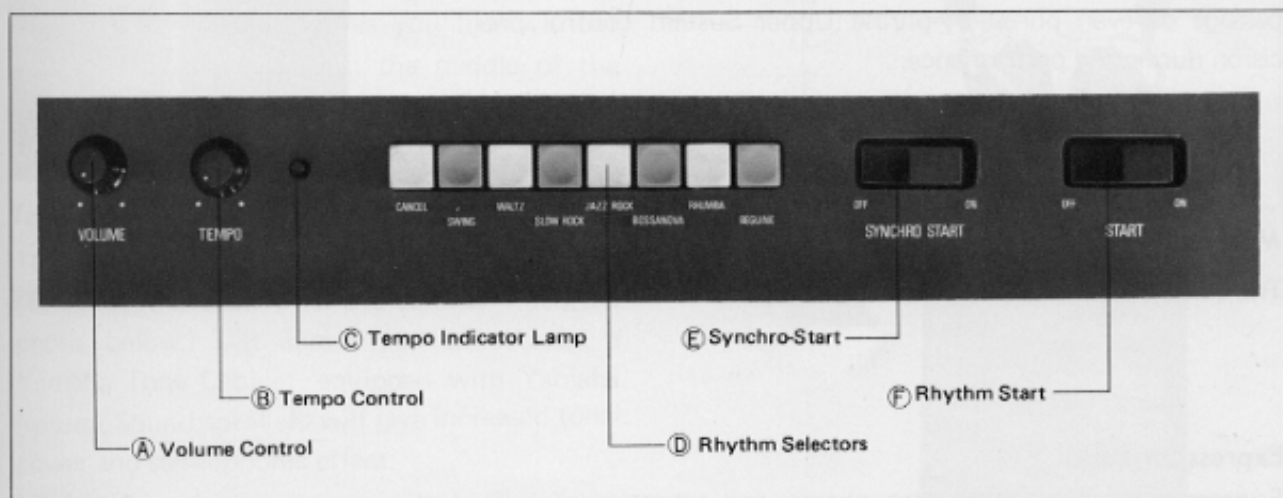
Set the voice and chorus selectors as shown in the figure. It provides the dignity and solemnity of choral voices which is so effective in the performance of sacred music or other works of slow tempo.



Auto Rhythm Section

Yamaha Electone models B-12IR and B-12SR incorporate an auto rhythm section ⑥. This section provides a variety of rhythm accompaniments, from latin beats to today's popular rock rhythms, at the simple push of a selector button.

In addition, the system employs the exclusive Yamaha Synchro-start, which automatically begins the rhythm accompaniment when the first lower manual or pedal note is struck. These features assure extra versatility from a virtual built-in rhythm band.



How to Use the Auto Rhythm Section

- 1) Push the rhythm selector ④ of your choice. To change rhythms, just push another button; if no rhythm is desired, push the Cancel button.
- 2) Press the Rhythm Start tablet ⑥ and the rhythm will immediately begin. Then use the Volume ① and Tempo ② controls to regulate. The tempo indicator lamp ③ flashes the first beat of every rhythm.
- 3) Then, when ready to play, switch on the Rhythm Start tablet ⑥ and begin your selection after the beat is fixed in your mind. Use the tempo indicator lamp as a guide.
- 4) For more advanced players, use the Synchro-start tablet ⑤ instead. This permits the selection to begin first, providing a more impressive performance that can begin with a beat-free upper melody. This Yamaha exclusive is the world's first of its kind, and will assure more professional-sounding selections for any advanced player.
- 5) At the end of the selection, turn the Rhythm Start or Synchro-start tablet off.

