

GUIDE
TO
YOUR
YAMAHA
ELECTONE
MODEL B-4



NIPPON GAKKI CO., LTD.
Hamamatsu, Japan

SINCE 1887

ELECTONE B-4 PLAYING GUIDE

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Introduction

We of Yamaha wish to thank you for selecting the B-4 Electone. 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-4's special characteristics. We would suggest that you occasionally re-read it from time to time as you progress.



The priceless family gift

A delight from the very first moment, a companion to grow with throughout the years—the versatile Yamaha Electone B-4.

Gone are the days when the gift of music was costly or difficult. The B-4 offers its exceptional tonal beauty to both young and old, with minimum expense and maximum ease. Each of its fun-filled voices is called forth by an exclusive Yamaha Tone Lever. This system provides sensitive continuous control for the advanced player, yet there are three easy-to-feel click-stops for each lever so the beginner can reset favorite combinations with no guesswork.

There's plenty there to answer any keyboard skill, too: two generous 44-key manuals and 13 bass pedals, reverb with reverb balance, a rich,

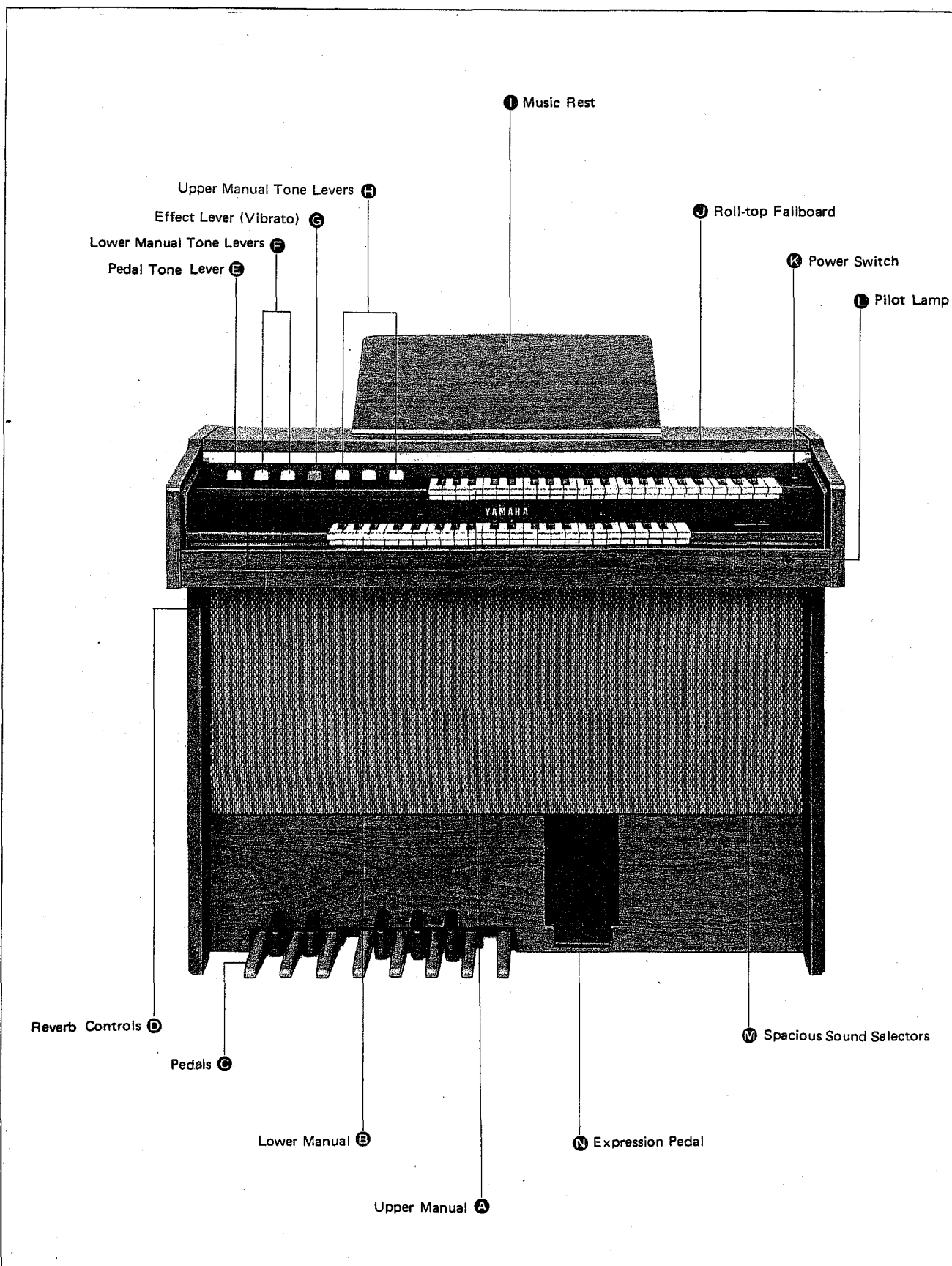
pulsating vibrato and the unique Yamaha Spacious Sound Tremolo featuring two speeds, Upper and Lower selectors.

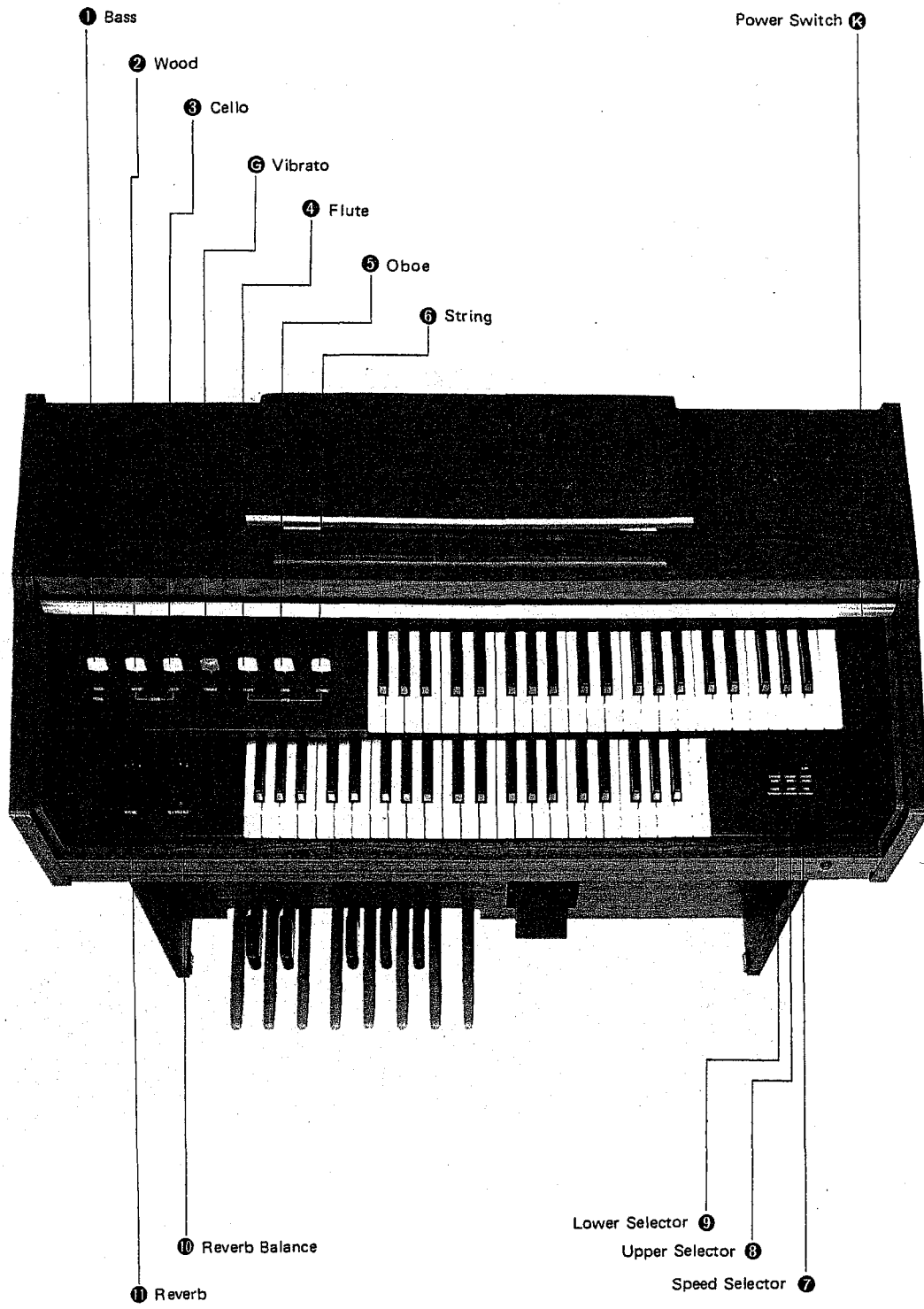
For the man of the family: durable solid state circuitry, employing advanced-design FET, plus an all-new OCL system main amplifier for superior bass response.

Couple this with a range of extras including stunning decorator design, headphone jack for private practice, Ext. Input jack, smart furniture-type roll-top fallboard and comfortable matching bench. It's easy to see why the Electone B-4 is both a beautiful home investment and a perfect instrument for years of family fun and education.



Here is your Yamaha Electone B-4





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

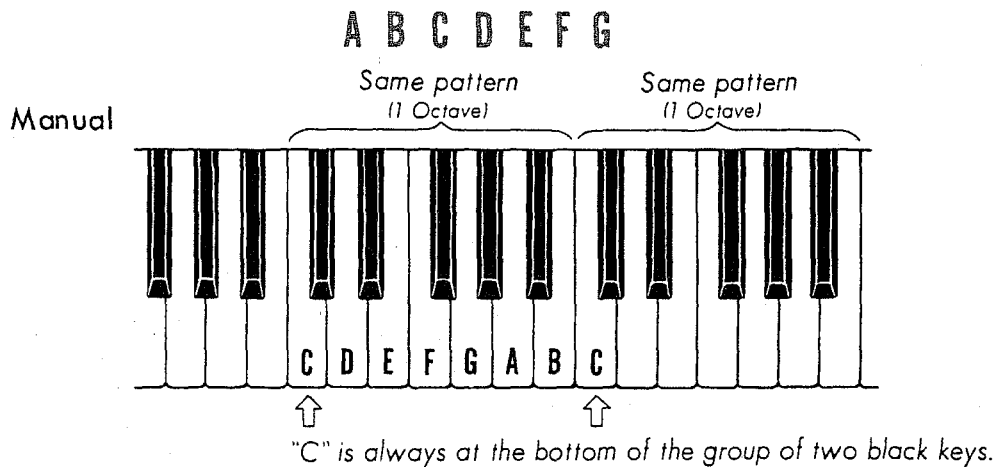
Keyboards

The Electone B-4 has THREE KEYBOARDS. Two of them are called "MANUALS" and the rest is called "PEDALS".

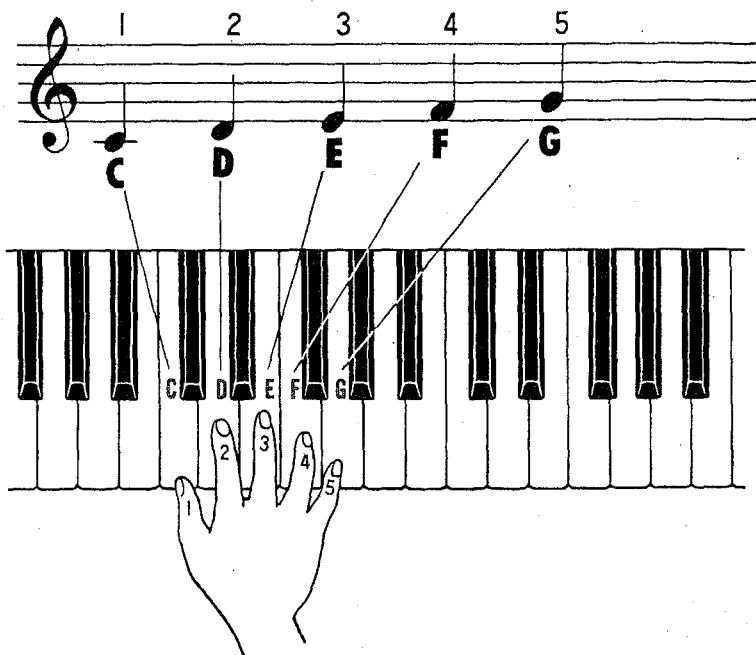
Upper Manual (A)	44 Keys	3 $\frac{2}{3}$ octaves
Lower Manual (B)	44 Keys	3 $\frac{2}{3}$ octaves
Pedals (C)	13 Keys	1 octave

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:

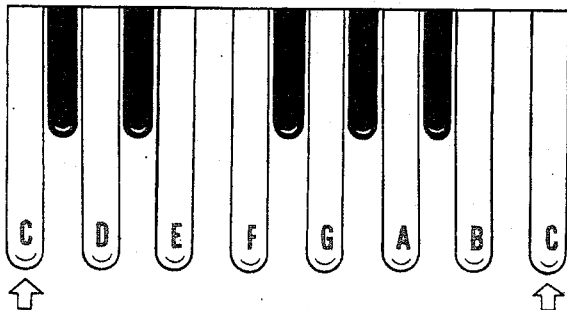


Let's see how the letter name of the notes match the letters on the keys.



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-4

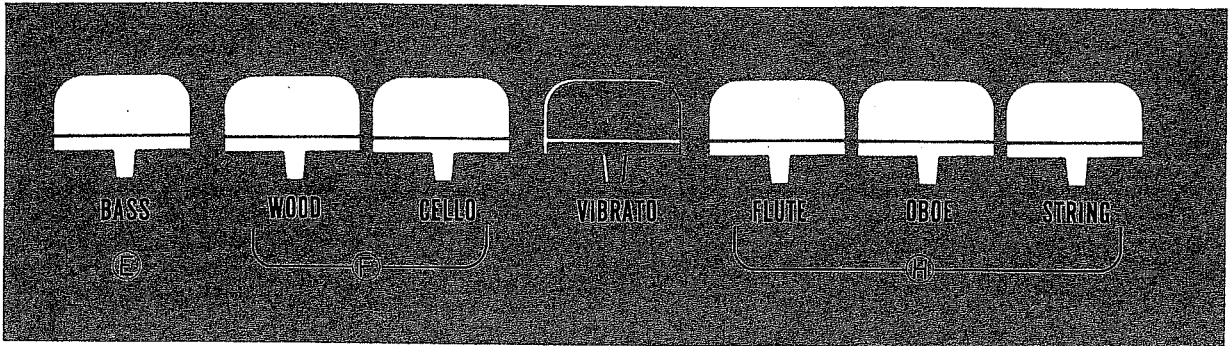
The diagram illustrates the compass of the Electone B-4, showing the relationship between the keyboard and the musical notation. It includes the following components:

- Upper manual:** A keyboard with 48 keys, labeled with letters F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C.
- Lower manual:** A keyboard with 48 keys, labeled with letters F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C, D, E, F, G, A, B, C.
- Pedals:** A keyboard with 12 pedals, labeled with letters C, D, E, F, G, A, B, C, D, E, F, G.
- Musical notation:** Three staves (treble, bass, and contrabass) showing the pitch of the notes. The treble staff is labeled "Tuned to 440 cycles". The bass and contrabass staves show notes an octave lower than the manual keyboards.
- Labels:** "Upper manual", "Lower manual", "Middle C", "C₁", and "C".
- Note:** A box labeled "Note" with an arrow pointing to the pedal keyboard notation, stating: "The pedal keyboard notation is one octave higher the actual notes as in the case of the contrabass."

Tone Levers

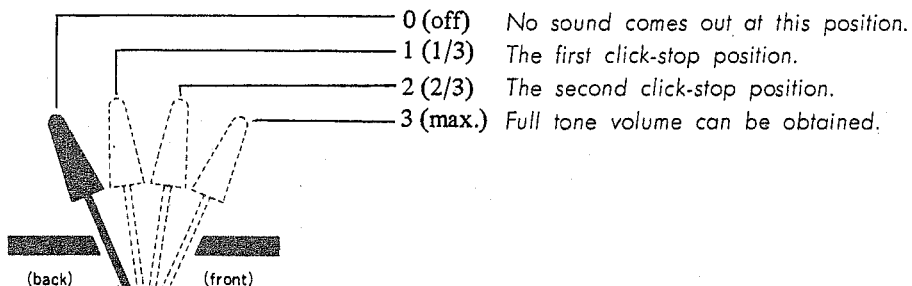
On the control panel to the left of the Upper Manual (A) are arrayed the tone levers. They are divided into three groups:

- (1) Upper Manual Tone Levers (H) : 3 voices
- (2) Lower Manual Tone Levers (F) : 2 voices
- (3) Pedal Tone Lever (E) : 1 voice



Yamaha's exclusive Tone Lever System

Tone Levers impart the distinctive tonal qualities of each voice of the Electone. When pulled forward, singly or in combination, they determine the tone color of the Electone. Each tone lever has a variable Tone Volume Control which provides an increasingly stronger tone as the lever is pulled forward. On the way down, you will find two intermediate "click-stop" positions intended to make lever setting easy. Thus, each lever can give a total of three degrees of effect. The wonderfully expressive tone variations are virtually unlimited because of this Yamaha's exclusive variable tone lever system.



How does each Tone Lever sound?

Upper Manual Tone Levers (H)

Flute : (4)

The eight-foot voice has the fundamental pitch of tone of the organ. This flute 8' produces the clear, pure tone of the flute. It gives a simple yet darkened feeling to the mood of the music.

Oboe : ⑤

The plaintive, haunting sound of the oboe. It adds a melancholy color to quiet passages and when combined with the string tone, produces an extremely clear but penetrating effect.

String : ⑥

The wealth of harmonic color which can only be achieved by such a higher stringed instrument as the violin.

Lower Manual Tone Levers ⑦

Wood : ②

The tone similar to the flute sound, but has a slightly stronger harmonics to produce a brighter tone.

Cello : ③

The soft, mellow tone of the cello.

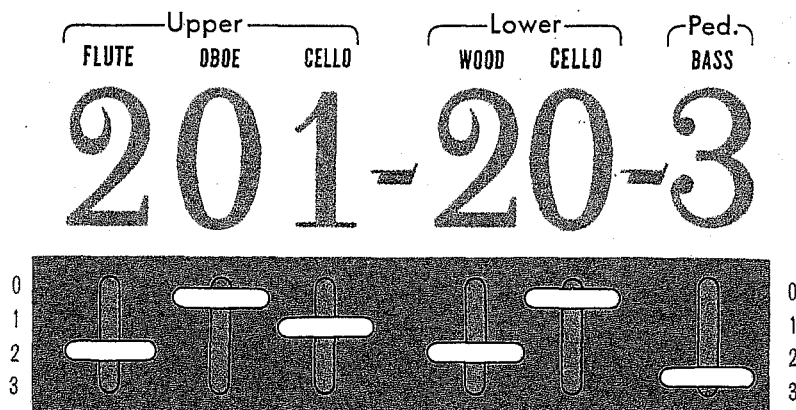
Pedal Tone Lever ⑧

Bass : ①

A low and deep tone with greater penetrating power like the contrabass of an orchestra. This tone covers the lowest reach of the B-4's compass and supports the chords.

Tone Lever Registration

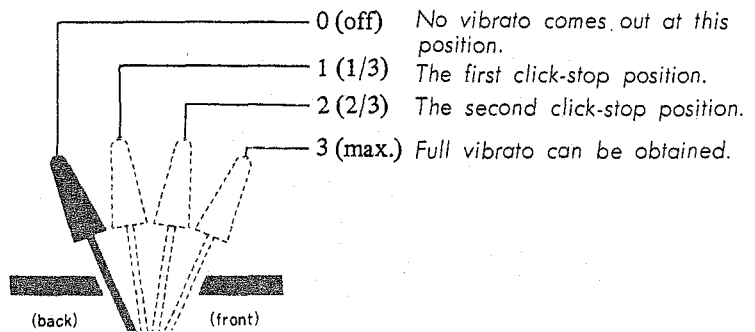
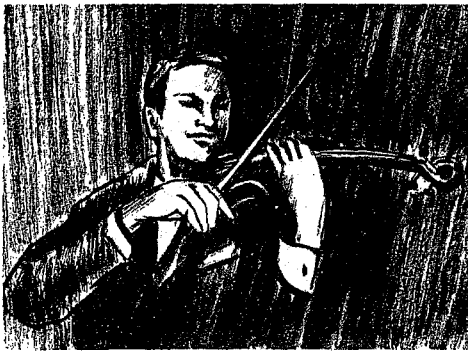
Tone lever registration is given by numerical indications which show the click-stop position of each lever, as illustrated below. The indications are in the order in which the levers appear on the control panel, with hyphens separating harmonic groups.



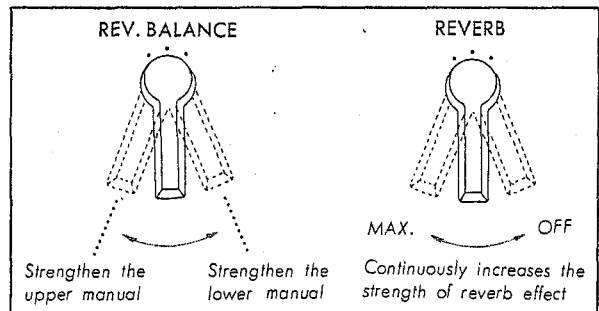
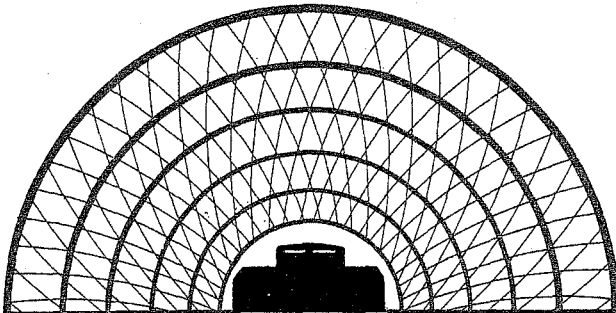
Effect Lever and Controls

Vibrato : ⑥

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. Vibrato lever (red) of the Electone produces the same vibrato effect. Use of this lever will add a charming and lively air to the tone of the Electone. This lever has continuously variable operation like the tone levers. The intensity of the vibrato effect can be varied according to the lever position as illustrated below.



Reverb Controls : ④



Reverb : ⑪

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.

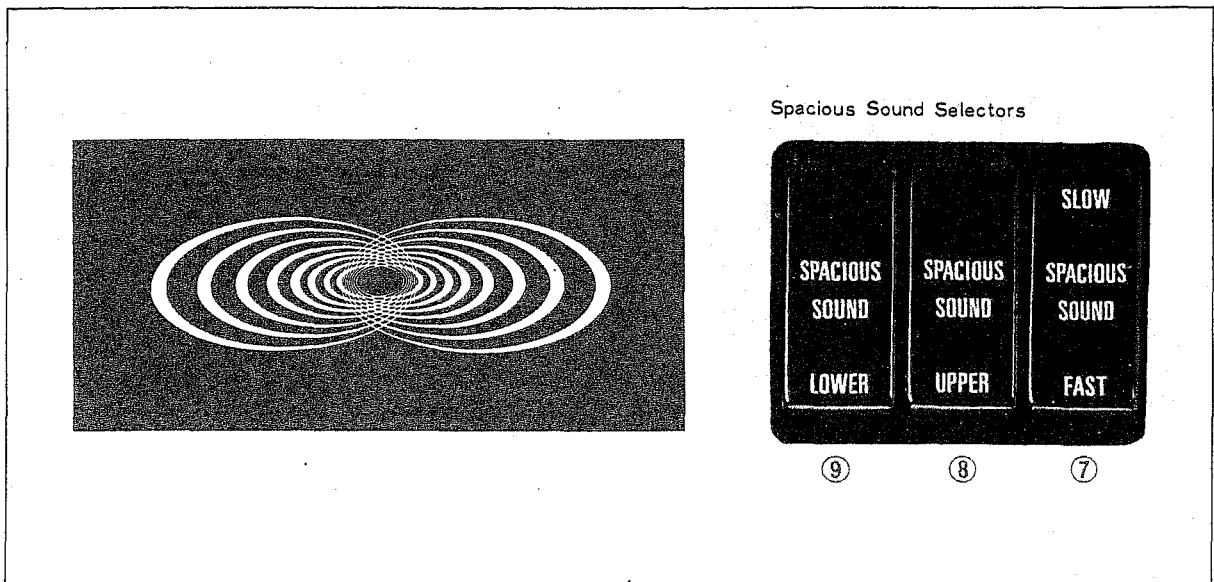
Reverb Balance : ⑩

To balance the Reverb effect between the Upper and Lower Manuals; when used to strengthen the Upper Manual, it brings an effect similar to Sustain on more expensive models.

Spacious Sound

A brilliant sound source that surrounds you with lively tones, with the same feeling as a revolving speaker. That's the Yamaha exclusive Spacious Sound. A world's first, this new system is an exclusive development of the outstanding Yamaha electro-acoustic technology, incorporated in the Electone B-4.

Successfully incorporating the essential sound quality of the famous Yamaha rotary speaker tremolo effect, this new effect is achieved solely through special electronic circuitry, assuring the same full, rich musical expression and liveliness that have made the Electone famous.



Spacious Sound is available in two speeds. Use SLOW for stately, liturgical selections, FAST for popular numbers. Works on Upper, Lower or both manuals, according to which of the three selectors you choose.

Lower Selector : ⑨ Use this selector to apply the Spacious Sound to the lower manual tones.

Upper Selector : ⑧ Use this selector to apply the Spacious Sound to the upper manual tones. The use of upper and lower selectors together will apply the Spacious Sound to the whole organ.

Speed Selector : ⑦ Combined with either or both selectors ⑧ ⑨, this selector determine the speed of the Spacious Sound. Set to FAST for waves of emotion (like tremolo effect), SLOW for a stately, liturgical mood (like chorus effect)

Other Controls

Expression Pedal : (N)

Expressive shading within each phrase, and accenting of individual notes can be achieved with this pedal. See page 19 for full explanation.

Power Switch and Pilot Lamp : (K) (L)

Pilot lamp lights immediately when unit is switched on.

Roll-top Fallboard : (J)

The unique slide-away design disappears completely when the Electone is in use, closes at other times to protect the manuals against dust and scratches.

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.

Recording and Playback

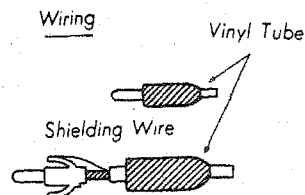
You can record your Electone selections via the headphone jack, then play them back via Ext. In. jack.

For recording, your tape recorder must be equipped with a high impedance input jack, for Electone headphone output signal is 40 Vp-p (output resistance 220 ohm). When recording, it must be remembered that the signal to the Electone speaker will be cut off, so sound monitoring must be done via the tape recorder monitor system.

Playback by connecting the tape recorder output jack to the Electone Ext. In. jack. In this case a special phone type plug must be used.

EXT. Input Jack

A feature not often seen even on many expensive organs. The external input jack allows you to play records or tapes over the Electone speaker as you play. It also permits you to connect Yamaha's exclusive Mini Pops auto-rhythm cabinet which, in turn, brings an even more exciting dimension to your playing enjoyment.



Note : CONNECTION

1. Connect the Ext. In Jack and the output jack of a tape recorder or any other source with a shielding wire. Use a spare plug inserted in the Ext. In Jack.
2. Volume setting for replaying tends to differ with the make or model of tape recorder you use.
3. Adjust the volume of the Electone and the tape recorder in order to avoid distortion of the sound quality.
4. Make absolutely sure never to touch or otherwise interfere with the circuits or the internal elements of the Electone.



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 it is necessary to change the voltage of the Electone, please consult your Yamaha Electone service agent.
2. If any trouble develops, contact your Yamaha Electone service agent. In any case make absolutely sure never to touch or otherwise interfere with the circuits or the internal elements of the Electone.
3. When you have finished playing, be sure to turn off the power switch.
4. In order to clean the plastic keys, tabs, etc., use a damp cloth. Never apply organic solvents such as alcohol as it may result in damage to the plastic materials used.
5. Do not expose the Electone cabinet to the direct rays of the sun, as this may result in bleaching of the finish or separation along the joints of the wood.
6. Be absolutely sure never to strike or scratch the surface of the organ cabinet with a hard stuff.
7. It is also advisable to place the Electone in such a way that it is not exposed to excessive humidity or currents of heated air.
8. In opening and closing the fallboard, grasp the handle with both hands and slide the fallboard gently in its groove. Never attempt to raise the fallboard directly upwards and do not place heavy objects on it.
9. During a thunderstorm turn off the Electone power switch by all means. Unplug the unit if possible.



Do not Be Alarmed If...

1. A note should sound the instant you turn on the switch.

This merely indicates normal operation consequent to a flow of electricity in the main amplifier.

2. Only one note is produced even when two pedals are depressed simultaneously.

When the pedal sustain effect is used, notes overlap following notes. In order to achieve tonal clarity, the Electone is designed so that a note is electronically suppressed the instant the next note is struck. If two pedals are struck simultaneously, only the higher one sounds.

3. Neighboring objects resonate.

Since the Electone produces a continuous stream of sound, windows, china or other such objects may be found to resonate. To prevent this, reduce the volume of the Electone or take steps to remove resonance.

4. Occasional unpleasant static.

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 perhaps annoying, poses no danger to the Electone's circuitry.

If the cause is a fault in neon or fluorescent lighting fixtures, the fault should be repaired. When the cause is unknown, or in case of doubt, contact your Yamaha dealer.

5. The Electone reproduces radio or TV sound signals.

This kind of phenomenon can occur when there is a powerful radio or TV transmitter, or an amateur radio operator located in the vicinity. If this situation is distracting, contact your Yamaha dealer.

SPECIFICATIONS OF MODEL B-4

KEYBOARDS

Upper Manual	44 keys (3 $\frac{2}{3}$ octaves)
Lower Manual	44 keys (3 $\frac{2}{3}$ octaves)
Pedals	13 keys (1 octave)

STONE LEVERS

Upper Manual	Flute
	Oboe
	String
Lower Manual	Wood
	Cello
Pedals	Bass

EFFECT LEVER & CONTROLS

Vibrato

Reverb, Reverb Balance (Upper/Lower)

EFFECT SELECTORS

Spacious Sound Upper, Lower
Spacious Sound Slow/Fast

OTHER CONTROLS

Expression Pedal
Power Switch & Pilot Lamp

OTHER FITTINGS

Headphone, External Input Jacks
Roll-top Fallboard
Music Rest
Matching Bench

CIRCUITRY

Solid State (Incl. FET)	
Main Amplifier:	OCL System
Output Power:	15 Watts
Power Consumption:	29 Watts
100/110/117/125/220/240V AC, 50/60Hz	

DIMENSIONS (W x D x H)

111(43 $\frac{1}{2}$ ") x 56(22") x 90cm(35 $\frac{1}{2}$ ")

WEIGHT 55kg (121 lbs.)

FINISH

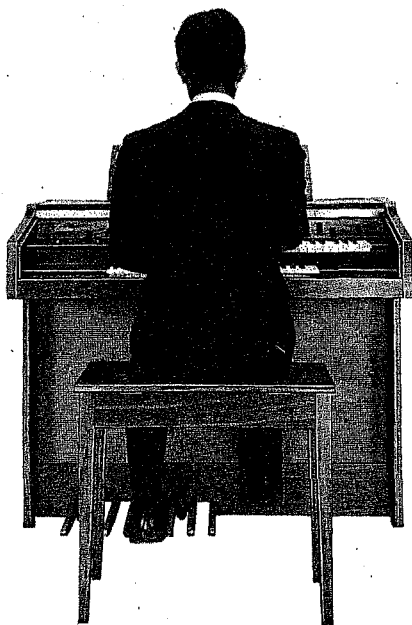
American Walnut Grain

Playing the Yamaha Electone



Posture

1. Sit in the middle of the seat somewhat towards the front. The weight should be shifted slightly to the right in order to allow the left leg greater freedom of movement.
2. The right hand generally fingers the upper manual (*melody*) and the left hand fingers the lower manual (*harmony*) while the pedals (*rhythm*) are played with the left foot. Check that you can reach all the keys on the three keyboard conveniently.



3. Relax the muscles of the left leg, and with the knee joint loose, move the foot left and right. Keeping the ankle loose, push the pedals just short of the black pedals.

4. Relax the right ankle and place the full length of the foot onto the Expression pedal. Check that you can push the pedal down fully with comfort, and that you are equally comfortable at all positions of the Expression pedal.



Technique

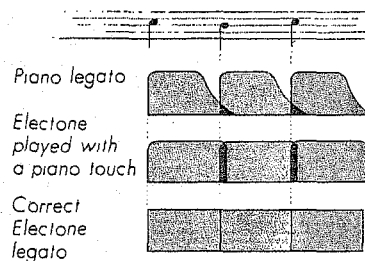
How to Play the Manuals

Clench both fists and then relax extending the fingers naturally. This form allows the fingers to move more quickly and easily, and is therefore applicable to all keyboard instruments.

Correct use of the fingers is essential to play a beautiful Electone music. The melody part should in general be played with *the organ legato touch*. In order to achieve the legato playing it is necessary to poise the finger in readiness above the key to be struck next. Many rules may be applied to the correct fingering, but in any case a most economical and rationalized use of the fingers is desirable.

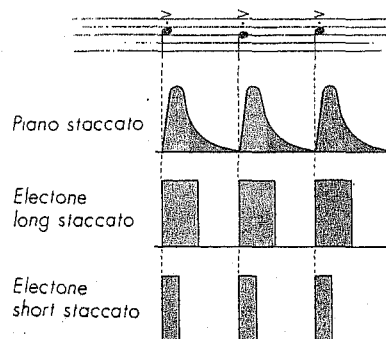
Legato

1. It is important to practice to achieve the organ touch that will produce a smoothly continued legato without distracting overlap.
2. The melody part should in general be played legato. But in order to emphasize the legato it is necessary to take "breaths" at the ends of phrases.
3. Passages involving duet harmony often require difficult modification of legato fingering. In this case it will be useful to practice these parts separately.



Staccato

1. Since the duration of the note can be regulated very easily by the length of time the key is depressed, it is possible to obtain a wide variation in staccato treatment.
2. Generally a rhythm accompaniment with the left hand should be played staccato. A shorter staccato will generally be suited to rhythmical compositions while longer one to slow pieces. You should always try to choose the precise length that fits the work best.



Note : The habit should be formed early of holding the hands correctly, and striking the keys to the bottom of their travel.

* In order to play *Legato* and *Staccato*, the following techniques are often used and should be learned.

Exercise No.1 Legato (normal fingering)

Right Hand 1 2 3 4 5 4 3 2 1 3 5 3 1

Left Hand 5 4 3 2 1 2 3 4 5 3 1 3 5

Exercise No.2 Legato (finger substitution)

While depressing a key, you keep one key activated without stopping by quickly substituting the finger on the key with another finger.

1 1 2 3 4 2 3 5 4 3 2 5 1 3 4 1 5 4 3 2 3

Exercise No.3 Legato (finger passing)

With one finger on a key, bring another finger over or under the first and depress the next key.

5 2 1 2 1 2 3 1 2 5 2 1 2 1 2 3 5 1 2

Exercise No.4 Depressing the same key successively several times

When you strike the same key repeatedly, don't remove your finger completely from the key, but practice striking it repeatedly as soon as the sound stops.

Right Hand 1 2 | 1. 3 4 5 | 2. 3 1 2 1

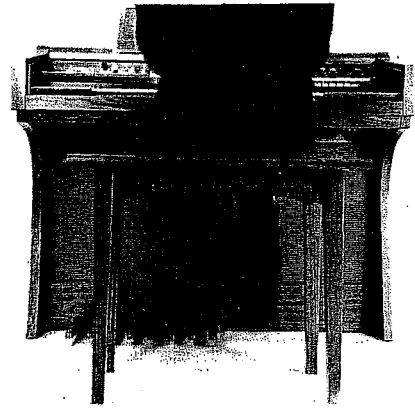
Exercise No.5 Staccato

Right Hand 1 3 5 3 4 2 1 2

Left Hand 5 3 1 3 2 3 5 4

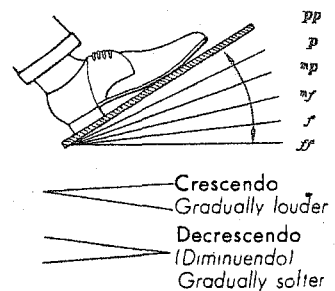
How to play the Pedals

1. Sitting always in the right and same position will enable you to play the correct pedal notes without looking at the pedals. (See 'Posture' on page 16).
2. The best approach to the pedals is to allow the lower leg to swing freely from the knee.
3. Pedals should be struck with the light movement of the ankle.
Be careful not to beat them with unnatural movement of your whole leg.
4. Do your best to achieve pedal playing without looking at the pedals as soon as possible.
5. Before commencing actual performance, it will be very effective to practice rhythm and scale on the pedals. In pedal exercises, it will be helpful to give slightly greater tone lever emphasis to the pedals.
6. Flat and light shoes are desirable. It is not good to play pedals with high-heel.



How to use the Expression Pedal

The Expression Pedal controls the volume of the Electone during performance within the overall range set by the Master Volume Control. It should be depressed gently for *crescendo* released gradually for *diminuendo*. Please be careful to use this pedal with discretion. The expression should follow the natural course of the work, and should never be intrusive.



In Phrasing

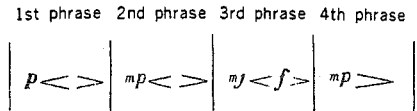
1. Natural phrasing usually indicates a soft entry to a passage and a subsequent softening at the end.
2. Variety of phrasing is attained with gradual, not sudden, movements of the Expression pedal.
3. The melody requires a 'songful' expression which can best be judged by paying close attention to the melodic line.
4. It is relatively easy to achieve a gradual *crescendo*, but the gentle release of the Expression pedal in *diminuendo* requires more care.

Exercise No.6



Throughout a Composition

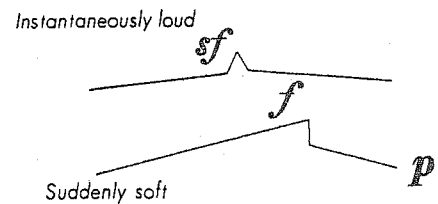
1. Each musical composition is composed of a number of phrases. A phrase marked *f* would be played somewhat more loudly; one marked *p* more softly. It is important to keep the overall balance in mind.
2. The full range of the Expression pedal should be used, but not so excessively that it becomes intrusive or unnatural.



Note: Unnatural sounds are the result of not using the right foot smoothly enough. Listen closely as you progress to eliminate these undesirable distractions.

Accent

1. Suddenly depressing the Expression pedal and then partially releasing it will add accent.
2. If accent is used too freely, its effectiveness will be diminished.
3. The pedal should be released smartly.
4. In the beginning, it is better to master the nuances of phrasing before attempting accent.



Note:

1. It is easy to achieve the proper crescendo when depressing the pedal, but it has a tendency to return too quickly unless this is prevented by careful use of the foot.
2. Do not give in to the temptation to accent one beat in every bar.
3. Crescendo passages should peak at the point where notation indicates.
4. At first, it is necessary to give conscious attention to expression, but practice is not sufficient until this aspect is entirely automatic and instinctive.
5. Even the same composition may require differing expressive treatment depending on the tempo at which it is played.
6. Rhythmical works will be enhanced with a little accent.
7. Expressive treatment can be truly effective only when the organist has truly grasped the essence of the composer's musical intention.

How to reset Levers, Controls and Selectors

When the notation calls for resetting the tone levers, effect levers, effect controls, etc. midway through a piece, this should be accomplished with either hand as convenient, in such a way as not to interrupt the melodic line.

Changes in tone lever settings may influence the relative volume of the upper and lower manuals. This can be corrected using the Manual Balance Control.

