DK-440C GUIDE TO YOUR YAMAHA ELECTONE



Welcome to the Yamaha world of music. We are sure your selection of a Yamaha Electone was a wise one, and we want you to know that we will do everything possible to help you derive a lifetime of enjoyment from this fine musical instrument.

Please read this manual carefully to be sure you are familiar with each of the Electone's features and their expressive possibilities. In that way you and your Electone can become lifelong partners in musical creativity.

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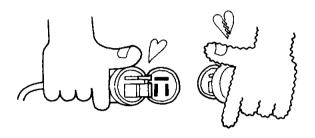
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The following before playing

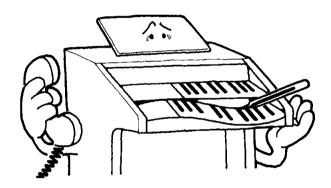
In general, treat your Electone with the same care you would any fine musical instrument. The following points are suggested for optimum enjoyment.

1. Use only proper line voltage. Consult your Yamaha serviceman for changes.

As to British-Standard Model, its information is in 'Specifications' on the last page.



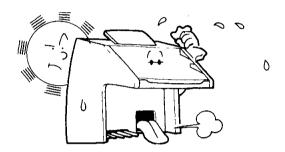
2. Never touch the inside parts yourself.



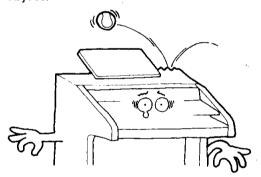
- 3. Always shut off the power after playing.
- Clean keys, etc, with a damp cloth only.
 Never use solvents such as gasoline; they will damage the finish.



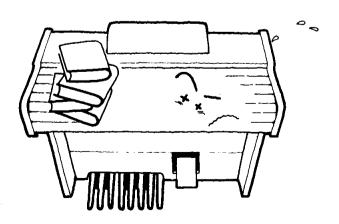
Shield the cabinet from direct sunlight, humidity and heat to protect the finish and joints.

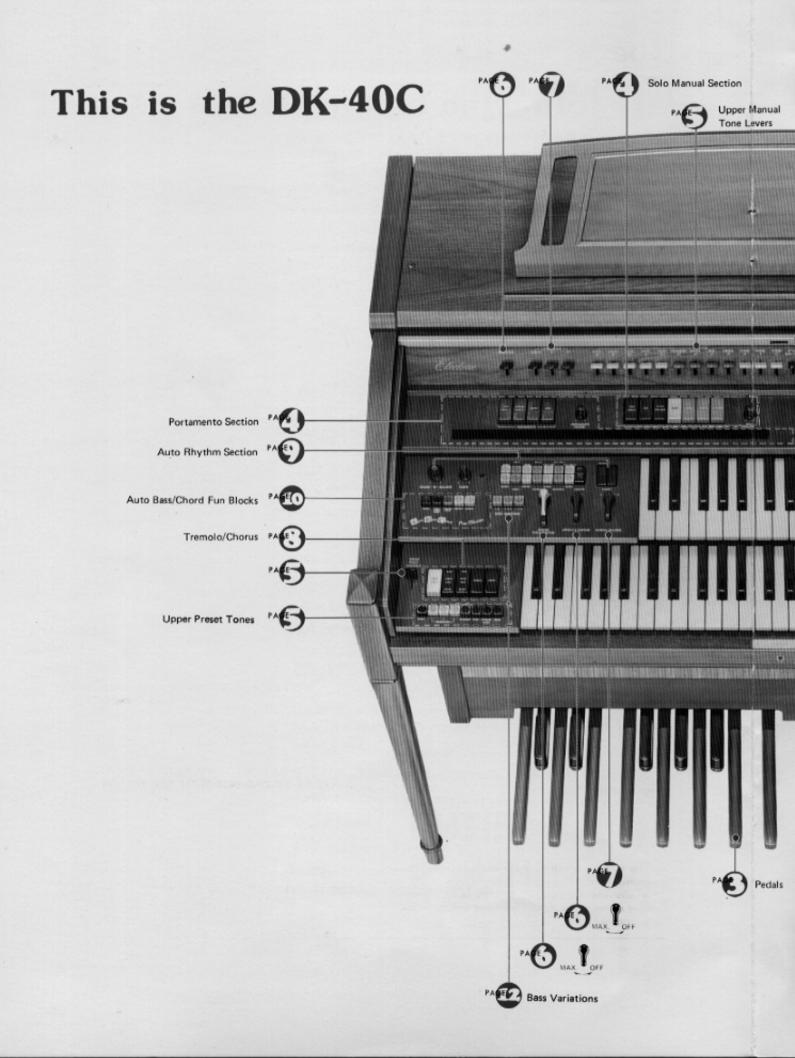


6. Do not hit or scratch the cabinet with a hard object.



7. To open or close the fallboard grasp the front lip with both hands and slide gently. Never pull directly upwards. Do not place anything heavy on the fallboard.









Keyboards

The DK-40C has five keyboards. The upper four are called "manuals" ("solo", "portamento", "upper" and "lower"), and the bottom, for the feet, is the "pedals".

Upper Manual 4 octaves $c \sim c_4$

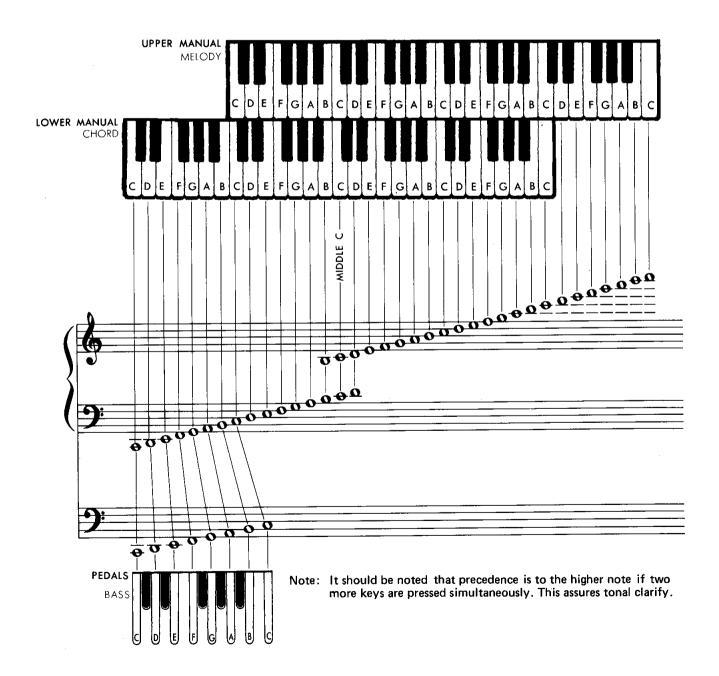
Solo Manual 3 octaves $c \sim c$:

Lower Manual 4 octaves $C \sim c_3$

Portamento $2\frac{1}{2}$ octaves $f \sim c_3$

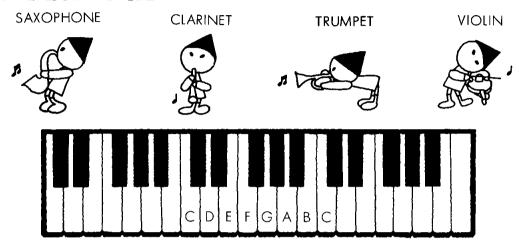
Pedals 1 octave $C_1 \sim C$

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 left hand, and bass note on the pedals with the left foot. For special selections the solo manual can be used to provide a melodic line with its own exciting voices. Use the portamento manual to create a range of unique sounds, pressing or sliding your finger(s) up and down. All keys and pedals are arranged in the layout shown below. Each white key has a name (from C to B), and the blacks are sharps or flats.





Solo Manual



All four Solo voices have been specially designed for brilliant realism. Each voice is set via its selector tablet at the left of the Solo manual.

Note: The four voice tabs, i.e., Violin, Clarinet, Trumpet and Saxophone, control voices which purposely cannot produce chords; if two or more keys are pressed simultaneously, only the higher will sound. Please also note that solo voices cannot be combined. If two or more voice selector tabs are pressed, the one to the right takes precedence.

TOUCH VIBRATO

This world-famous Yamaha exclusive gives to the organist the same expressive fingertip vibrato enjoyed by the violinist. With this effect, vibrato can be applied to any solo note by the lateral vibration of the hand, and its speed will correspond exactly to the hand's vibration.

FUZZ

Fuzz is frequently used on the electric guitar.

This Fuzz effect affects each tone of the Solo manual by switching the Fuzz selector "ON."

ATTACK WAH-WAH

Works like Upper manual wah-wah for solo tones.

SOLO VOLUME CONTROL

This permits a variety of manual balance settings.

Portamento Manual

The Portamento manual produces continuous pitch shifts just like those produced when the finger slides up and down a violin string. The $2\frac{1}{2}$ octave range becomes higher toward the right.

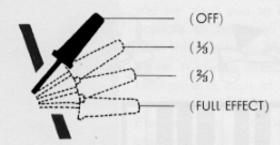
Note: There are four Portamento voice selector tabs and except for the Astro tab they can all be combined with each other. If the Astro tab is set it cancels all the other.

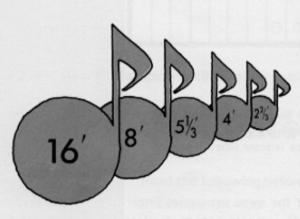
PORTAMENTO VOLUME CONTROL

This permits a separate volume control.



Tone Levers





On the panel above the solo manual and selectors is a series of tone levers which control the voices (instrument sounds) which will be heard when the keys are depressed, as well as many of the effects. They are divided into groups for upper, lower and pedals, so that different registrations can be set for each.

Upper Manual Levers	12 voices
Lower Manual Levers	5 voices
Pedal Levers	3 voices

PITCHES OR FOOTAGES

The DK-40C has five different pitch levels, indicated by the numbers 16', 8', 5\%', 4' and 2\%'. These are standard musical abbreviations showing the tone's pitch in relation to the fundamental (written note). An 8' tone will sound just as it has been written. As the numbers increase, the tones lower. 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, 5\%' tones are a fifth higher than the written note, 4' tones one octave higher, and 2\%' tones one octave and a fifth above the fundamental. Tones at octave intervals from the written notes are "consonant harmonics," while all others are "dissonant."

Upper Preset Tones



To the left of the lower manual are eight Upper Preset Tone selectors (seven tones plus Cancel). These on/off switches are special tonal blends that most closely resemble the instruments they name (Accordion, Piano, Hawaiian Guitar, Banjo) as well as three special preset combinations.

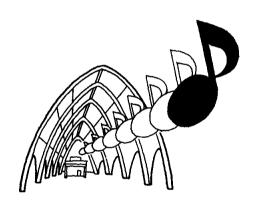
Since these buttons are factory preset, they automatically cancel all other upper manual tone lever settings. This lets you switch back and forth. In addition, precedence is to the right. This means that if two or more buttons are pressed, the one to the right will take effect. To switch from one button to another it is not necessary to first press the cancel button.

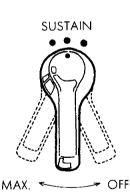
Note: Upper Sustain control lever does not work with the Accordion, Piano, Hawaiian Guitar and Banjo preset selectors.

ORGAN PRESET ENSEMBLE

This lever controls the effect which adds the upper tone to the upper preset tone. (Accordion, Piano, Hawaiian Guitar, Banjo)









Brilliance

With this single, continuously-variable control you can pinpoint the degree of overall softness or clarity desired for any mood of music.

Vibrato, Vibrato Speed

Vibrato is an emotional wavering applied to a tone most noticeable in the trembling left hand of violinists and cellists. It can add a great deal to the emotional depth of a passage, especially string voices. The Vibrato lever provides continuous adjustment of this effect's depth, while Vibrato Speed lets you continuously set the speed.

Repeat Speed

Cuts and repeats each note just like the double-strumming effect of a mandolin. The lever provides continuous speed adjustment to create a full variety of different moods. Affects upper manual notes only.

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 taste.

Upper 8', 4'Sustain

When this is switched on, the sustain effect is evoked. As the name of the tab implies, only 8' and 4' tones are affected. The length of such sustain is set by the Upper Sustain control.

Note: When combined with Upper Percussive 4', all sound is cancelled.

Sustain

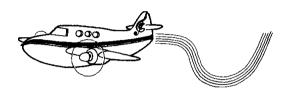
UPPER, PEDAL SUSTAIN

These controls provide continuous adjustment of the sustain effect on the upper manual and pedals concerned. For the pedals, this is the only sustain control, and it affects all pedal tones with the exception of Bass Guitar, while for the upper manual this control is only a length adjustment. Length of upper sustain is controlled by the upper sustain control knob as explained beside.

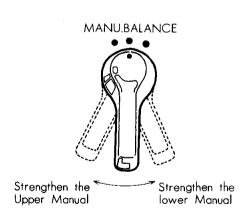
Attack Wah-Wah

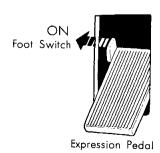
Provides a spicy wah-wah sound at the beginning of every upper manual tone with Attack Wah-Wah, use a staccato fingering.











Upper 8',4' Attack

This tablet provides an effective rhythmical element, much like that of a string bass played pizzicato. It is particularly impressive in rhythmic works, and give greater definition to the beginning and end of notes. The 8', 4' Attack tab affects all upper manual 8' and 4' voices.

Glide (FOOT SWITCH SELECTORS)

While the foot switch is pushed when the Glide selector is on, pich will be lowered one half tone.

Upper Percussive

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' and 2%' percussive drive can be smoothly blended into all upper manual tones with two variable levers, and a separate lever regulates the length of decay for this effect.

Note: If Upper Percussive 4' is set at the same time as Upper Sustain, no sound will be heard.

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

Percussion

LOWER BRUSH, LOWER CYMBAL, PEDAL CYMBAL

Provide lively brush (hissing snare drum brush) and cymbal percussion sounds with each lower manual or pedal note.

Manual Balance

This control governs the relative strength of the upper and lower manuals. It is normally left in the center position, but can be shifted to stress the melody or accompaniment in a selection or passage.

This control can also be used to compensate for a higher number of total tone lever settings (which would ordinarily result in higher volume) on one of the two manuals.

Expression Pedal

Affects the emotional mood of every passage by letting you vary the volume continuously with your right foot. Works within the range set by the master volume control.

Master Volume

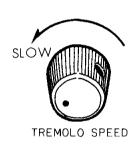
This control determines the maximum volume obtainable by depressing the expression pedal.





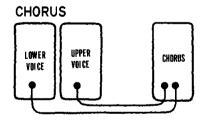
The Electone's special tremolo is produced by a rotary speaker that actually spins just behind the rotary speaker grille on the side of the cabinet.

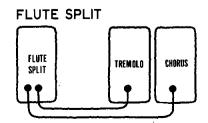
Tremolo selector is complemented by a continuous tremolo speed control knob.



TREMOLO

LOWER VOICE TREMOLO





When the speed control is set to its maximum position, the Tremolo will turn the speaker at normal revolution. The Chorus will turn it at one revolution. Once either tablet is switched on, it takes several seconds for the rotary speaker to attain the standard speed. This is also true when switching to a slower speed (Tremolo to Chorus), 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 the speaker selector. For special selections you can use this speed variation by switching the speaker on first, the Tremolo or Chorus switch later.

Note: Only Tremolo is produced when Tremolo and Chorus are switched on simultaneously.

UPPER VOICE

Lets you divert upper manual voices from the main to the rotary speaker.

LOWER VOICE

Does the same for lower manual voices.

FLUTE SPLIT

This tablet feeds Flute voices of the upper and lower manuals and preset Combinations to the rotary speaker. Combined with other manual voices through the main speaker it creates a rich, singing blend.

Note: Only Flute Split is produced when Flute Split and Upper or Lower Voice are switched on simultaneously.



Auto Rhythm Section

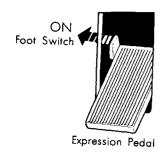
This section provides 14 catchy rhythms, each one produced by a simple button. You can also create more rhythm variations with the variation button. In addition to a combined volume and balance knob, tempo control and tempo indicator light, there are two other switches: ordinary Start and the Yamaha Synchro-Start which begins the rhythm accompaniment on the first beat of a measure, when the first lower manual or pedal note is struck. The special expression pedal foot switch lets you stop and restart the rhythm at any point during play.

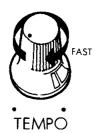
NORMAL START

For instant rhythm at the begining of a selection, push the rhythm selector desired, then flick 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. You can switch off the Auto Rhythm with the foot switch. When you wish to continue hearing the Auto Rhythm, be sure to switch on with the foot switch.







RHYTHM STOP (FOOT SWITCH SELECTORS)

This tab activates a click-switch located at the left side of the expression pedal. When the tab is on and the rhythm section operating, touch the foot switch once and the rhythm automatically stops. Touch it again to switch back on.

Note:

The tablet controls the foot switch. If the rhythm has been cut by the switch and one of the rhythm start switches is still on, cancelling the tab will erase the effect of the foot switch - in other words, the rhythm will go back on again.

TEMPO

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.

BALANCE

This control lets you balance the low rhythm sounds, such as drums, and the high sounds (i.e., cymbals) according to your taste 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. Check the playing hints for specific settings.

VOLUME

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.



Auto Bass/Chord Fun Blocks



The DK-40C is equipped with a "Fun Block" section of five buttons which can be used in conjunction with the Auto Rhythm section (see p. 9). It enables you to play a variety of alternating bass chord rhythms, with the pedal and chords automatically matching the melody notes, simply by holding down either a single lower manual key or a lower manual chord, according to which fun block button you press. From your very first keyboard attempt, the fun block feature will let you sound like a pro, making full rhythmic use of the lower manual and pedals. Here is how it works.

Note: When the Auto Bass/Chord section is used, the tone color of the lower manual voices will change from Horn 8' to Piano, and from Cello 8'. Cello 4' to Guitar.

Flute voices are not affected. If it is set on it will sound continuously for any key held down. Use it to soften the mood of the Auto Bass Chord accompaniment.

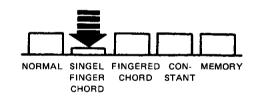
SINGLE FINGER CHORD (THE EASY PLAY WAY)

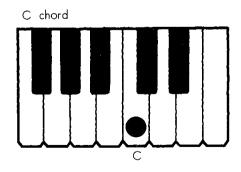
- Set the tone levers for the tones you want on the lower manual both Piano and Guitar sounds are available); use either or both levers to adjust the Auto Bass Chord tone color and volume in the normal way.
- Match the setting of the Pedal tone lever to the lower manual tones.
- Select a rhythm pattern and push the corresponding button until it clicks and stays down.
- Set the Rhythm Start switch on.
- Adjust the rhythm tempo and volume.
- Press the Single Finger Chord button.

Now, if you press a C key on the lower manual, a C major chord will play in an alternating pattern which matches the rhythm pattern and tempo set.

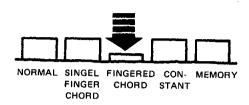
As long as the key is held down, the bass chord rhythm continues. When the Black-key pedal is pressed, the chord changed from major to minor, and when released, the chord returns to major. When the White-key pedal is pressed, the chord changes from major to seventh, and when released, the chord returns to major. When both Black- and White-key pedals are pressed, a minor seventh results.

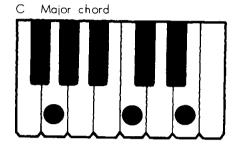
Note: The bass note will play the root and fifth of any chord pressed, except when the Jazz Rock rhythm is used; in that case the bass sounds the root only.

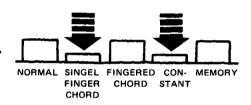


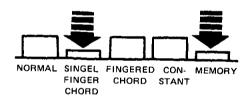












FINGERED CHORD

- Select the rhythm and set both its tempo and volume as explained earlier.
- Depress the Fingered Chord button.
- Play a desired chord (major, minor, seventh, minor seventh) on the lower manual.

Now as long as you hold that chord it will play according to the rhythm and tempo you have set.

Note: If the Single Finger Chord and Fingered Chord buttons are both pressed, the Single Finger Chord takes procedence.

CONSTANT

- Select the rhythm and set both its tempo and volume as explained above.
- Depress the Constant button and either Single Finger Chord button or the Fingered Chord button.
- Press the desired key on the lower manual. As long as this key is held down, the chord, as well as a pedal note the same as the root of the chord, will sound as if they were held down during normal play (i.e., without any rhythm pattern). As soon as this key is released the chord stops.

MEMORY

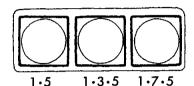
This button can be used in conjunction with the (Single Finger Chord button only) press both buttons and set the rhythm (including tempo and volume) as explained above. Now, when a lower manual key is held down the bass chord rhythm will play according to the rhythm set, but will also continue to play even when the key is released. The memory function also has another use. When this button is depressed along with both the Single Finger Chord and Constant buttons, it provides a continuing bass chord just as when the latter two buttons are used alone. In this case, however, the bass chord will continue to sound even after the key is released.

NORMAL

This button cancels the other Fun Blocks, returning the lower manual and the pedals to normal playing functions.



Bass Variation



The Electone DK-40C lets you choose one of three bass patterns to match the lower manual harmony.

When the Single Finger Chord button is depressed, the three bass variations are created, just as when the Fingered Chord button is depressed.

This bass variation works with Rhumba, Beguine and Slow Rock beats. If the Rhythm Variation button is pressed, however, then bass variation will be available with Rhumba, Beguine and Tango.



1.5

This is the basic pattern; it alternates the root (1) and fifth (5) in the bass regardless of rhythm chosen or type of chord. The one exception is the Jazz Rock I rhythm, which maintains root (1) pedal and no alternation.

Note: The Slow Rock and Jazz Rock I rhythms play only the root (1), when the Rhythm Variation is switched on.



1.3.5

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

Note: The Rhumba, Beguine and Tango rhythms will play a root (1), third (3), and fifth (5) pattern when the Rhythm Variation is switched on.



1.7.5

This selector effects the Rhumba, beguine and Slow Rock rhythms when a seventh or minor seventh chord is being played, with which you will hear the root (1), seventh (7), and fifth (5) bass notes. When playing a major or minor chord the unit will perform exactly as it does with the second Bass Variation selector (1 3 5).

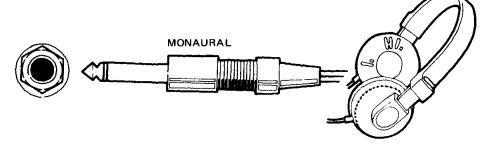
Note: The Rhumba, Beguine and Tango rhythms will play a root (1), seventh (7), and fifth (5) pattern, when the Rhythm Variation is switched on.



To Fully Enjoy Your Electone

HEADPHONES

A Yamaha headphones set (optional) can be plugged into the jack under the keyboard. With the headphones connected, the speakers are automatically shut off, allowing you to play or practice at any volume level without disturbing anyone.



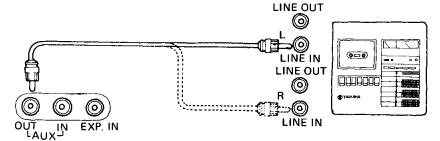
EXP. IN

This jack accepts any sound sources and reproduces them through this Eectone's speakers.

Note: The volume of the sound source can be controlled by the expression pedal.

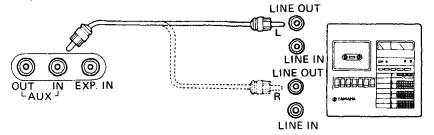
AUX OUT

For recording, connect the AUX OUT jack with the tape deck's LINE IN jack. Control the recording levels on the tape deck.

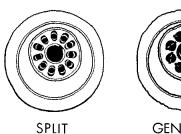


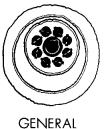
AUX IN

For playback, connect the AUX IN jack with the tape deck's LINEOUT jack. Control the playback levels on the tape deck.



Note: These sound sources (tape recorder, etc.) are not affected by the expression pedal.





TONE CABINET SOCKETS

This socket is on the rear panel. Use it to connect a Yamaha Tone Cabinet, without any rewiring required.



Electone is not out of order If ...

1. the set does not go on when the power switch is turned on. Check the following.

Is the AC plug fully inserted into the electric wall outlet? Reinsert it to be sure. Is there power coming from that outlet?

If there is power in the outlet but the Electone does not play, unplug the cord and contact your Yamaha dealer. There are NO USER SERVICEABLE PARTS inside.

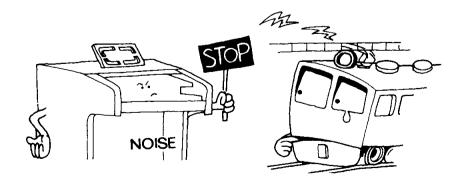
2. a sound should occur the instant you turn on the switch.

This merely indicates normal operation consequent on a surge of electricity in the main amplifier.

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 faults in a neighboring outdoor neon sign may also be to blame.

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 reproduces radio or TV signals.

If there is a powerful transmitter such as a radio station in the vicinity this can occur. Contact your Yamaha dealer.



5. pedal notes sound too high, upper keyboard's notes too low. This is especially noticeable when comparing the Electone with piano. Piano tones are combinations of harmonics and must interact with their surroundings, while Electone harmonics are simpler (multiples of the fundamental tone), requiring the Electone to be adjusted differently at the assembly stages.

6. rattling (sympathetic vibration) occurs.

All materials have critical resonance frequencies at which they vibrate. The Electone's continuous tones will naturally cause other objects (windows, shelves, etc.) to vibrate.



Specifications

KEYBOARDS

49 keys c ~ c4 Upper Manual (4 octaves) Lower Manual 49 kevs C ~ c3

(4 octaves)

Pedals 13 keys C1~C

(1 octave) 37 keys c ~ c₃

Solo Manual (3 octaves)

Portamento f~c3 (2½ octaves)

TONE LEVERS

Upper Manual

Flute 16' Brass 8' Flute 8' Oboe 8' Flute 5'3' Kinura 8 Flute 4' String 8' Flute 23's' String 4'

Trombone 16' String 235'

Lower Manual

Flute 8

Flute 4'

Horn 8' (or Piano) Cello 8' (or Guitar)

Cello 4' (or Guitar)

Pedals

Bass 16' Bass 8'

Bass Guitar

PRESET TONE SELECTORS

Upper Manual Combination 1, 2, 3

Accordion

Piano

Hawaiian Guitar

Banjo

Cancel Solo Manual

Violin Clarinet Trumpet Saxophone

Portamento Tenor Whistle

Soprano Whistle

Astro

EFFECT LEVERS

Brilliance Vibrato Vibrato Speed

Percussive Length Attack Wah-Wah (Upper) Repeat Speed (Upper) Organ Preset Ensemble Percussive 23/3 (Upper)

PERCUSSION LEVERS

Percussive 4' (Upper)

Lower Brush

Pedal Cymbal

Lower Cymbal

EFFECT CONTROLS

Upper Sustain (8', 4') Pedal Sustain Reverb Manual Balance

EFFECT SELECTORS

Upper Sustain (8', 4') Upper Attack (8', 4')

Touch Vibrato (Solo) Fuzz (Solo)

Attack Wah-Wah (Solo) Glide (Foot control)

TREMOLO SELECTORS

Flute Split

Upper Voice (Main/Rotary)

Lower Voice (Main/Rotary)

Chorus

ABC FUN BLOCKS

ABC Selectors

Normal Single Finger Chord

Constant

Fingered Chord

Memory

Bass Variation Selectors

1 - 3 - 5

AUTO RHYTHM SECTION

Rhythm Selectors

March Swing Slow Rock

Jazz Rock II Tango Rhumba

Bossanova Variation

Bolero Bequine Mambo

Samba

Waltz

Ballad

Jazz Rock I

Rhythm Controls

Rhythm Start Synchro-Start

Rhythm Stop Tempo (Foot control) Volume

Tone Balance

Tempo Indicator Lamp

OTHER CONTROLS

Master Volume Solo Volume

Portamento Volume Expression Pedal

Foot Effect Switch Tremolo Speed Control

Power Switch with Indicator

OTHER FITTINGS

Headphone Jack Expression Input Jack

AUX OUT Jack

Tone Cabinet Socket Roll-ton Fallboard

Roll-top Fallboard with Auto Switch* and

Lock Music Rest

Matching Bench with Music Storage Space

SPEAKERS

Main (3): Yamaha 30cm (12"),

20cm (8"), 5cm(2")

Rotary(2): Yamaha 16x23cm (6½ x 9")

5cm (2")

CIRCUITRY

Solid State (Incl. LSIs and ICs)

Output Power: Main 60 Watts (RMS)

Rotary 30 Watts (RMS)

Power Consumption: 150 Watts

Power Source: 50/60Hz AC

DIMENSIONS

Width:

117cm (46")

75cm (29%") Depth:

Height:

99cm (39")

WEIGHT

110 kg (242 lbs)

FINISH

DK-40C, DK-40CI: Natural American

Walnut

DK-40CS:

Antique Oak

Specifications subject to change without

Special Instructions for British-Standard Model

As the colours of the wires in the mains lead of the apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol

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 THE MAINS LEAD ARE COL-OURED IN ACCORDANCE WITH THE FOLLOW-ING CODE.

GREEN-AND-YELLOW: EARTH

BLUE: BROWN: NEUTRAL

LIVE

WARNING:

THIS APPARATUS MUST BE EARTHED.

