

PART V: Using the Automatic Arpeggio Effect



(Illustration: C-605)

Auto Arpeggio

This function enables you to automatically produce a brilliant arpeggio in time with the auto-rhythm by simply depressing the keys on the Lower Keyboard. This function can be used to great advantage in enhancing your performance by adding a decorative ripple effect to the accompaniment.

- 1) Switch on the Synchro Start button in the Auto-Rhythm switch bank, choose the appropriate Rhythm Selector and adjust the Tempo, Volume and Balance knobs to your liking.

Because the Auto Arpeggio works in conjunction with the Auto-Rhythm function, make certain that you set the latter into the operating mode when you want to utilize the automatic arpeggio effect.

- 2) Select one of the six available patterns by pressing the appropriate selector button.



- 3) Switch on the desired Voice selector button. These buttons determine the register of the Auto Arpeggio with #2 being one octave higher than #1. By turning on both switches at the same time, you can generate two voices simultaneously. Since these Voice buttons also function as activating and deactivating switches, be sure that both are in the OFF position when the Auto Arpeggio effect is not wanted.
- 4) Set the Volume control. The more the slide is moved towards MAX the louder the arpeggio effect will be.
- 5) Hold down a key on the lower keyboard. This will automatically produce an arpeggio based on the notes you have selected. Holding down a chord rather than a single note will generate a flowing broken chord sound. The arpeggio pattern will change to match the rhythm even if you change to a different tempo.

■ Sustain

By using the Sustain lever you can produce a sustained arpeggio. Moving the lever to the right will increase the sustain effect and prolong the arpeggio.

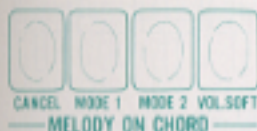
■ Auto Arpeggio + Auto Bass/Chord

With the Single Finger Chord function on: simply play a note on the lower keyboard to generate an arpeggio together with the automatic chord and bass accompaniment. The arpeggio effect will follow the same pattern as a chord would when played on the lower keyboard; in the same way you can change the arpeggio to that of a seventh or minor chord by simply depressing one of the pedals together with one of the keys. You can also use the Fingered Chord and the Custom ABC together.

Arpeggio + Memory: When the Memory function is activated along with the Arpeggio, the arpeggio effect will continue even when you take your hand from the lower keyboard.

- ★ The Auto Arpeggio program will not function when the Break Variation program is being used.
- ★ Now try playing the tune on the previous page with the Auto Arpeggio ON.

PART VI: Harmonies to the Melody Line



Melody On Chord

This function automatically generates harmonies for each note of the melody played on the upper keyboard. Since the chord selected on the lower keyboard is superimposed on the melody, you can enjoy the luxury of a rich and full melody line with harmonies even though you only play a single note at a time on the upper keyboard.

1) Set the Upper and Lower Tone Levers. (Refer to pgs. 9–10.)

The sounds to harmonize with the melody played on the upper keyboard should be determined by the Upper Tone Levers or the Ensembles Voices.

★ The Special Presets and Custom Voices cannot be used to generate chords with the Melody On Chord function.

2) Switch on either Mode 1 or Mode 2.



These switches control the operation of the Melody On Chord function.

Mode 1 (Open harmony): when you select this mode, harmonies are added in the lower registers some way from the notes played on the upper keyboard, so that the melody and the harmony sound as if they are slightly separated.

Mode 2 (Closed harmony): in this mode, the harmonies are added in higher registers than in Mode 1 and the melody sounds almost as if it is being played in chords.

3) Play the melody on the upper keyboard and the chord on the lower.



When this is done the chord played on the lower keyboard will be produced with the melody in the voice selected for the upper keyboard. The Melody On Chord function ceases to operate when you stop holding down the keys on either the upper or the lower keyboard.

■ Volume Soft



The Volume Soft button further reduces the sound generated by the Melody On Chord, which is normally quieter than the sound produced by the upper keyboard anyway.

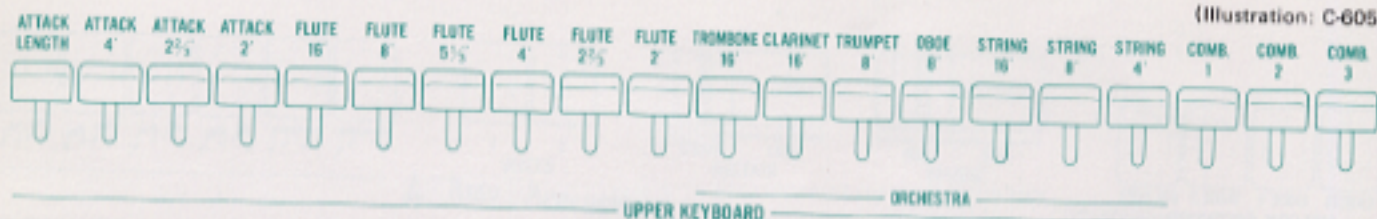
■ Cancel



This button disengages the Melody On Chord function.

PART VII: Creating the Sound You Want

(Illustration: C-605)



Tone Levers

The Tone Levers are divided into three groups, one each for the Upper and Lower Keyboards and the Pedals. You can use these levers in a wide variety of combinations to produce a spectacular range of different sounds, or even set each of the keyboards to produce a different tonal configuration if you so desire.

[Upper Tone Levers]

Lowering one of the Upper Tone Levers allows you to produce that particular sound from the upper keyboard. For convenience and accuracy the levers are color-coded as well as labelled: white for the flute family, red for wind instruments, yellow for strings and green for attack tones. With the exception of the Combination levers, which are used in isolation, you can freely adjust these levers in any combination to create the precise effect you desire.

■ Volume Control for the Individual Tone Levers



Each lever has three click stops so that you can set the volume of that particular instrumental sound to whatever level you wish. This allows you complete freedom in creating the desired tonal and ensemble effects.

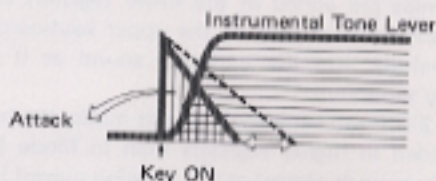
■ The Coupler Effect of the Tone Levers

The designations 16', 8', 4' and 2' refer to musical intervals with 8' being regarded as the standard or basic tone. If you activate the 16', 8' and 4' Flute Tone Lever, for example, then you can produce three simultaneous sounds one octave apart by simply pressing down on one key. This is the Coupler Effect. Please refer to the chart below and to pages 15–22 while experimenting with this effect.

Length	Sound	Use
16'	1 octave lower	Adds fullness, richness
8'	Basic tone	Basic sound
5 1/3'	One fifth higher	Jazz organ sound
4'	1 octave higher	Adds strength and brightness
2 1/2'	1 octave + one fifth higher	Adds sharpness
2'	2 octaves higher	Makes the sound more brilliant

■ Attack and Attack Length Levers

Attack tones are explosive, crisp, short sounds. By combining the Attack levers with the instrumental sound levers you can achieve a clear and crisp sound, with the entrance of each note well-defined. The length lever controls the duration of the attack tone.

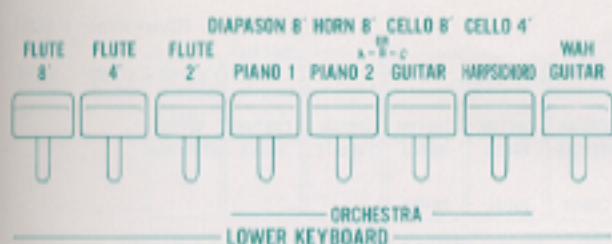


■ Combination Levers

These levers are preset to produce frequently used combinations of instrumental sounds. Unlike the other tone levers these are to be used singly, so that when one of them is engaged it cancels the effects of all the other tone levers. The Combination levers do not have click stops and should be pulled down all the way when they are to be used.

The sounds produced by the Combination Levers are:

- 1) Jazz organ sound with strong attack
- 2) Flute ensemble sound (C-605 only)
- 3) Full rich organ sound



[Lower Tone Levers]

These levers are used in a similar manner to the Upper Tone Levers. You can combine any of the instrumental sounds you wish simply by pulling down the appropriate tone levers.

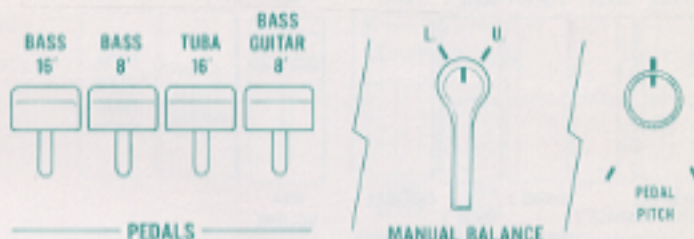
■ Wah Guitar

This tone has the "wah-wah" effect already built into it. It blends in with the Auto-Rhythm and is used to embellish that basic rhythmic pattern.

[Pedal Tone Levers]

The uses of these levers, which can also be used in various combinations, are analogous to those of the upper and lower tone levers.

(Illustration: C-606)



Manual Balance

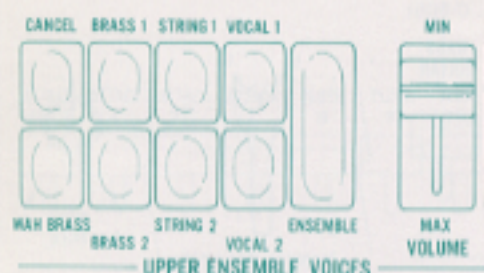
This lever allows you to control the balance between the volume of sound produced by the upper and lower keyboards. Moving the lever towards the L position emphasizes the lower keyboard and moving it towards the U position increases the relative volume of the upper. Normally the switch will be in the center or just slightly more towards the U position.

Pedal Pitch Knob

Located next to the accessory jacks, this control allows you to make fine adjustments in the pitch of the pedal keyboard. The center position marks the standard pitch setting and moving the knob clockwise will lower the pitch while moving it counterclockwise raises it.

PART VIII: Ensemble Sounds

(Illustration: C-605)



Ensemble Voices

The Ensemble Voices section is an upper keyboard voice program which allows you to choose a variety of preset ensemble sounds. In fact there is a virtually unlimited choice of ensemble sounds available to you since the Ensemble Voices program can be used in conjunction with the Upper Tone Levers as well as with the Special Presets and the Custom Voices.

■ Voice Selectors

Selecting one of the Voice Selector buttons in the Ensemble section determines the tone to be produced by the upper keyboard and takes precedence over the Upper Tone Lever settings. (See next section for instructions on mixing these programs.)

The Voice Selector buttons are marked as follows:

- WAH BRASS:** A brass tone with built-in wah-wah effect
- BRASS 1:** A brass tone like that of a trumpet ensemble
- BRASS 2:** A brass tone like that of a horn ensemble (C-605 only)
- STRING 1:** A violin ensemble tone
- STRING 2:** A cello ensemble tone (C-605 only)
- VOCAL 1:** The sound of a female chorus (C-605 only)
- VOCAL 2:** The sound of a male chorus

■ Ensemble Button

Pressing this button together with one of the Voice Selector buttons allows you to mix together the effects of the Ensemble Voices and the Upper Tone Levers.

- ★ The Ensemble button also has the effect of emphasizing the attack and decay of the Vocal and String voices. (In the case of the Brass voices, only the attack is emphasized.)

■ Volume Control

To increase the volume of the Ensemble Voices move the lever toward the MAX setting.

■ Cancel

This button cancels the Ensemble Voices.

(Illustration: C-605)



Preset Ensemble

This bank of rectangular switches governs the use of the Special Presets and Custom Voices. Not only do the switches in this array turn these two functions on and off but they can be used for mixing them with the Upper Tone Lever and Ensemble Voices functions. They can also be used to shift the Special Presets and Custom Voices to the lower keyboard or pedals.

■ Special Presets and Custom Voices

These switches activate the Special Preset and Custom Voice programs discussed on page 2.

■ Upper Ensemble

This function blends the sounds produced by the Special Presets and/or the Custom Voices with the sounds generated by the Upper Tone Levers or the Ensemble Voices.

If you turn on this switch together with both the Special Presets and the Custom Voices switches, and then depress the Ensemble Voices' Ensemble switch, you will be able to mix the sound produced by the four different tone generating groups as you wish.

■ Upper/Lower Transfer Switches

By pushing these control switches to the Lower position, you can transfer the sounds produced when the Special Presets or the Custom Voices are activated to the lower keyboard. Mixing is then possible using the Lower Tone Levers.

- ★ The Upper/Lower transfer switches will not transfer the Special Presets to the lower keyboard if the Auto Bass/Chord function is in operation. When you are using the Single Finger Chord, it is not possible to generate Custom Voices from the lower keyboard either.

■ Upper/Pedal Transfer Switch for Custom Voices (C-605 only)

When the Custom Voices control switch is on you can use the Upper/Pedal switch to transfer the sound generated by the Custom Voices to the foot pedals and modify the sound with the pedal tone levers as you wish.

PART IX: Interesting Tonal Variations and Innovative Sounds



(Illustration: C-605)

Vibrato

The Vibrato can be applied to the sound produced by both upper and lower keyboards. Depending on how you set the control levers you can produce either a normal or a delayed vibrato effect.

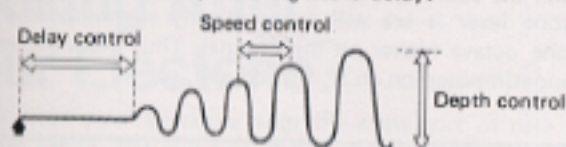
[Normal Vibrato] (Upper and Lower Keyboard)

To produce the Normal Vibrato effect, pull down on the Depth Lever; the farther down the lever is pulled the more pronounced the vibrato.

The Speed Lever controls the frequency of the vibrato determined by the Depth lever; lowering the lever increases the speed of the vibrato. (C-605 only)

[Delayed Vibrato] (Upper Keyboard)

This vibrato does not start until some time after the note has been played on the upper keyboard. Set the Depth lever to the desired amplitude (setting the Speed control also in the case of the C-605), then pull down on the Delay Lever to achieve a delayed vibrato; the farther down you pull the lever, the longer the delay.

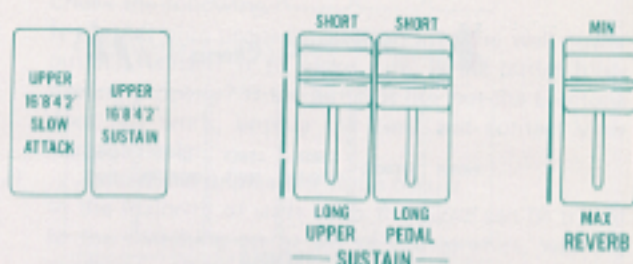
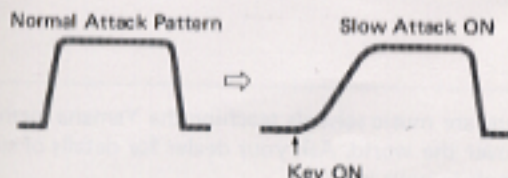


■ Custom Only Lever (C-605 only)

Normally, when the vibrato is applied, it affects the full range of sounds controlled by the upper and lower keyboards. However, you can restrict the delay vibrato effect to the sound generated by the Custom Voice section using the Custom Only lever. This allows the Custom Voices to stand out against the overall ensemble of sound.

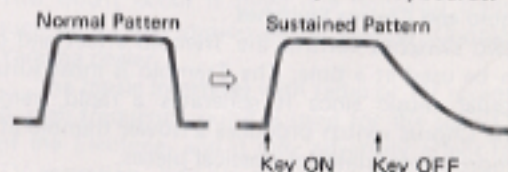
Slow Attack

This control slows the attack of the notes generated by the 16', 8', 4' and 2' Upper Tone Levers to give them a smooth, rounded and gentle feel.



The Sustain Function

The Sustain function gives the notes a natural or gradual fadeout after the keys have been released. If this effect is not utilized the notes end abruptly when the fingers are taken from the keyboard. You can apply the Sustain effect to both the upper and the pedal keyboards.



[Upper Sustain]

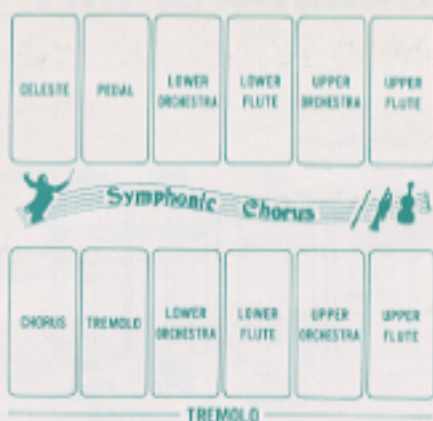
Press the Upper Sustain switch to sustain the sounds generated by the upper keyboard and use the Upper Sustain control lever to regulate the length of the fadeout; the lower the lever the longer the fadeout. The Sustain effect can be applied to the 16', 8', 4' and 2' Upper Tone Levers, the Ensemble Voices, and the Piano, Harpsichord, and Guitar sounds of the Special Presets section.

[Pedal Sustain]

Simply push the Pedal Sustain lever down towards the 'Long' position to apply the desired fadeout to the sound generated by the Pedal Tone Levers.

Reverb

This circuit produces a reverberatory effect on the sound which makes it seem as though you were playing in a large concert hall, especially since it can be applied to both the upper and lower keyboards. To increase the length of the reverberations move the lever towards the Max setting.



Tremolo

This is an undulation or a swell in the volume of the sound which gives it a more expansive feel. The Tremolo can be applied to the sounds generated by both the Upper and the Lower Tone Levers.

■ Tremolo and Chorus Switches

These two switches control the Tremolo effect and only one can be used at a time. The Tremolo is most suitable for popular music since it generates a rapid tremolo, while the Chorus switch produces a slower tremolo effect that is more appropriate for classical pieces.

★ The Tremolo takes precedence when it is ON at the same time as the Chorus.

■ Tremolo Selector Switches

These four switches select the tones to which the Tremolo effect will be applied.

UPPER FLUTE: Applies Tremolo to the Flute Upper Tone Levers

UPPER ORCHESTRA: Applies Tremolo to the Orchestra Upper Tone Levers

LOWER FLUTE: Applies Tremolo to the Flute Lower Tone Lever

LOWER ORCHESTRA: Applies Tremolo to the Orchestra Lower Tone Levers

■ Tremolo Speed Knob

Controls the speed of the Tremolo effect when the Tremolo switch is on.

Symphonic Chorus

This function is designed to give the sound orchestral fullness and three-dimensional resonance and can be applied to the tone levers of all three keyboards.

■ Selector Switches

To use the Symphonic Chorus effect, simply press one of the following five switches:

UPPER FLUTE: Applies the effect to the Flute Upper Tone Levers

UPPER ORCHESTRA: Applies the effect to the Flute Lower Tone Levers

LOWER FLUTE: Applies the effect to the Flute Lower Tone Levers

LOWER ORCHESTRA: Applies the effect to the Orchestra Lower Tone Levers

PEDAL: Applies the effect to all Pedal Tone Levers



■ Celeste Switch

When the Celeste switch is used in conjunction with one of the Symphonic Chorus selector keys, the Symphonic Chorus comes into play in a gentler fashion, permitting a Baroque quality to be obtained.

★ The Celeste will not function with the Ensemble Voices.

★ The Tremolo and Symphonic Chorus effects can be applied in combination. However, if the same instrumental sound is selected for both, the Symphonic Chorus effect takes precedence. Thus if you desire to make use of both effects in a piece make sure that you apply them to different categories. For example, you can apply the Tremolo to the Flute sounds while applying the Symphonic Chorus to the Orchestra tones.

Lower Coupler

This function gives a fullness to the sounds generated by the Lower Tone Levers. Pressing this button when a tone lever is set will automatically superimpose a note one octave higher on the original. Thus a 4' note will be superimposed on an 8', a 2' on a 4', etc.

Glide (C-605 only)

This circuit lowers the pitch of the Electone half a tone when used with the foot switch located at the left rear of the Expression Pedal. With the Glide switch on, you can lower the pitch of the instrument by moving the foot switch to the left. When you release the foot switch the pitch will gradually return to normal. The Glide circuit allows you to produce an effect like that of a Hawaiian guitar or an Electric guitar.

This completes our explanation of the Yamaha Electone's functions. How did you get on? The Guide to Registrations follows. You can use them for reference for your first performance!

There are music schools teaching the Yamaha method all over the world. Ask your dealer for details of such schools in your locality.

Accessory Jacks



STEREO HEADPHONES Jack: When you plug the optional Yamaha headphone set into this jack, no sound will be emitted from the Electone's speakers. This means you can listen to the full sound of your Electone while practising or playing for your own enjoyment whenever you wish without disturbing others.

AUX. OUT (L/MONO-RIGHT) Jacks: These jacks allow you to record the sound of your Electone in full stereo. Just plug one end of the connector cord into these jacks and the other into the Line In jacks of your tape deck and set the recording level on the deck.

AUX. IN Jack: You can use this jack to play the output of your tape deck or record player through the Electone's speakers while you are performing. Simply plug a connector cord into this jack and the Line Out jack of your tape deck or stereo.

EXP. IN Jack: With this jack, you can play your synthesizer or electric guitar through the Electone's speakers. The volume is controlled by means of the Expression Pedal.

■ Tone Cabinet Connectors

Use these connectors to link your Electone with a Tone Cabinet when you want to obtain a more dynamic sound.

YAMAHA (11-pin socket): This socket enables you to connect the Electone to a Yamaha Tone Cabinet with its built-in electrical Tremolo effect.

Leslie (11-pin socket): Used for making direct connections with Leslie speakers.

Looking After Your Electone

Always treat your Electone with the same sort of care that you would give any fine musical instrument. To ensure that your Electone always looks and sounds its best, we suggest the following procedures:

- 1) Never touch the inside parts.
- 2) Always turn the power switch OFF after playing.
- 3) Clean the cabinet and keys of your Electone with a wet cloth using only a neutral cleanser. Never use such chemical solvents as thinner or alcohol.
- 4) Never put anything made of vinyl on your Electone since the external coating reacts chemically to vinyl.
- 5) To protect the cabinet finish and joints, install your Electone away from direct sunlight, excess humidity and heat.
- 6) Do not hit or scratch the cabinet with a hard object.

Important Advice Here's what to do if...

- 1) ... the unit does not go on when the power switch is turned on.

Check the following.

Is the AC plug properly inserted into the wall power outlet? Reinsert it to make sure. Is the outlet functioning properly? If the outlet is live but the Electone does not work, unplug the cord and contact your Yamaha dealer.

- 2) ... occasional unpleasant static occurs.
In the majority of such cases the cause can be traced to the switching on or off of refrigerators, washing machines, electric pumps or other household appliances. Electrical faults in a neighboring outdoor neon sign may also be a cause.

If the cause is a fault in a neon or fluorescent lighting fixture, it should be repaired. When the cause cannot be determined, or in case of doubt, contact your Yamaha dealer.

- 3) ... the Electone reproduces radio or TV signals.
This might occur if there is a powerful transmitter such as a radio station in the vicinity. Contact your Yamaha dealer.

- 4) ... the music interferes with radio or TV reception.
A high-frequency pulse is used for the sound source of the Electone, and it may adversely affect radio or TV reception. You are therefore advised to play your Electone as far away as possible from radios and TV sets.

- 5) ... the pedal notes sound too high and upper keyboard notes too low.

This is especially noticeable when you compare the sound of your Electone with that of a piano. But don't worry. Piano notes are combinations of harmonics which are influenced by the surroundings. Electone harmonics, on the other hand, are simpler (multiples of the fundamental tone) and adjustments have to be made in a different manner at the assembly stage.

- 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, objects on shelves, etc.) to vibrate.

Whenever such difficulties occur, we suggest you move the Electone to a more suitable position.

A maximum of seven sounds may be produced on both the upper and lower keyboard at one time, but only one sound may be produced at a time with the bass pedals. Precedence is given to the higher note if two or more pedals are pressed simultaneously. This assures tonal clarity.