A grand piano is positioned on a stage in a large, empty concert hall. The hall is filled with rows of dark red seats, and the walls are a warm, golden-brown color. The lighting is soft and focused on the piano. The piano is a dark color, possibly black or dark brown, and is shown from a side profile. The overall atmosphere is one of quiet anticipation and elegance.

Clavinova's expressive capabilities embody more than a century of piano craftsmanship skill and spirit.

Yamaha believes that the true expressive capability of a grand piano lies in its seamless integration of sound, touch and pedals. Focus on any one of those elements individually and that capability is lost.

Clavinova integrates all of these elements into a single instrument capable of reproducing the exact performance the player intends to play.

Real Grand Expression (RGE) was developed by Yamaha using the skills and spirit of building acoustic pianos for more than a century. It represents thorough attention to design and includes many features that increase the joy of playing piano.

We invite you to sit down at a Clavinova and experience it for yourself. You'll feel the true joy of playing a piano through your fingertips and your ears.

# Real Grand Expression

Sound

Touch

Pedals



**Yamaha's piano-making skills are recognized worldwide.**

Yamaha's concert grand piano, the CFX, was selected and played by the 2010 winner of the International Frederick Chopin Piano Competition, one of the world's top piano competitions. Its fame validates the high standard of quality developed by Yamaha over its 100-year history of piano manufacturing. The skill of Yamaha craftsmen is the origin of Clavinova's expressive capabilities.



# Real Grand Expression

Sound

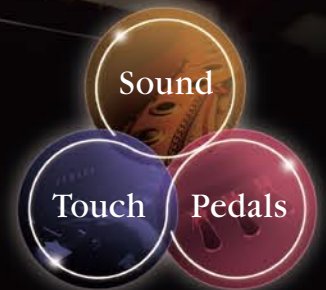
Touch

Pedals

Sound, touch, pedals—perfectly integrated to give you the sensation of playing a grand piano.

Real Grand Expression. This phrase defines the expressive capability of Clavinova. It is not only the full realization of the sound, the touch and the pedals, but the application of technologies nurtured by crafting acoustic pianos to perfectly integrate these three elements into a single piano.

This piano produces that exact sound you want through the touch of the keys and the feel of the pedals. As you play, you will truly feel as though you are playing a grand piano.



## Sound

Real Grand Expression

**The sound is heard just as it was played. Yamaha's RGE Sound Engine provides playing response and expressive capability rivaling those of a grand piano.**

### ■ Piano Voices embody the careful attention only a piano manufacturer can give.

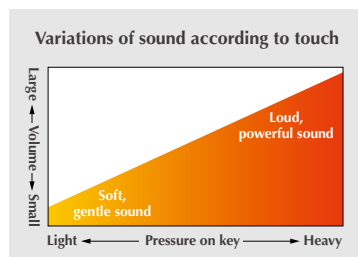
The grand piano Voices of a Clavinova were obtained by recording the sounds of a Yamaha concert grand piano that led to the creation of the CFX, the piano selected for a performance by the 2010 winner of the famed International Frederick Chopin Piano Competition. A single piano best suited for recording was selected and then tuned to the finest possible condition by a veteran piano tuner. All the sounds were recorded resulting in a sound that displays not only the beauty of each note, but the harmonized sound of a single piano.



### ■ Dynamic change of sound is dependent on touch.

An acoustic piano is a musical instrument whose sounds linger for a long period. The strength of touch varies not only the volume, but also the sound from bright to dark, creating rich expressiveness.

Clavinova produces deep resonances by using piano sounds that have been accurately sampling for their entire length. Proprietary technology creates smooth and dynamic changes according to the strength of the touch. Additionally, to achieve a performance feel rivaling that of a grand piano, the touch was carefully refined by many pianists who played it and gave their feedback for Yamaha's research and development.

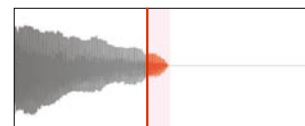


### ■ The RGE Sound Engine delivers the ultimate expressive capability for the CLP Series.

The new CLP Series uses the **RGE (Real Grand Expression) Sound Engine**, the next-generation piano sound source. It improves upon the **Pure CF Sound Engine**, which earned high praise in the CVP Series, and lets you enjoy the playing response and expressive capability of a concert grand piano. It features a new **Smooth Release** function which can express sound with great clarity, and clearly enunciate staccato notes with the sound of lingering resonance heard when gently lifting your fingers from the keys. It succeeds in capturing the essence of a piano performance to create grand piano-like, richly expressive experiences.

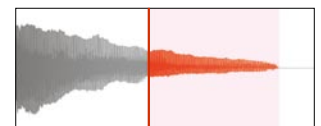
### ■ The Benefits of Smooth Release

#### Rapidly lifting your fingers (staccato)



Timing when your fingers begin to separate

#### Slowly lifting your fingers (legato)



Timing when your fingers begin to separate

### Subtly reproduces resonances with the depth you hear from an acoustic piano.

Clavinova subtly reproduces even the unique resonances of an acoustic piano. It features **String Resonance**\*1 that expresses the mellow sounds of the other strings resonating, and **Key-Off samples**\*\*2 that actually deliver the delicate change in sound the instant the damper touches the string, just before you raise your finger from the key. The addition of these sounds results in tonal resonances that are not only beautiful, but also deep and rich.

\*1 CLP-440 / 470 / 480 / S406 / S408, CVP-509 / 409GP, CGP-1000.

\*\*2 CLP-440 / 470 / 480 / S406 / S408, CVP-503 / 505 / 509 / 409GP, CGP-1000.

### 256-note polyphony\* lets you play without notes dropping-out, especially in dense passages of music.

When you play fast phrases or superimpose chords while pressing the damper pedal, you want to be able to perform without notes dropping out. The Clavinova provides 256-note polyphony so you

can enjoy complex works such as those by Liszt or Ravel, which feature numerous pedal presses, with no limitations. As your playing improves over the years, your Clavinova will continue to let you make the most of your abilities.

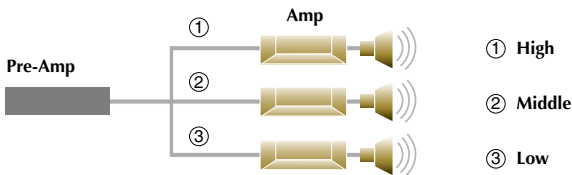
\* CLP-430 / 465GP, CVP-501 / 503 / 505 offer 128-note polyphony.  
CVP-509 / 409GP, CGP-1000 offer 128 (piano) +128 (accompaniment)-note polyphony.

## The Tri-Amp System\* reproduces all sound ranges more beautifully and clearly.

A good piano lets you hear every sound within the piece clearly and beautifully. Clavinova's **Tri-Amp System** makes this possible by using dedicated amplifiers to drive three separate speaker systems for the three independent frequency ranges. This method can be appreciated by audiophiles and piano purists alike as it ensures that you will hear all the subtle nuances of your performance.

\* CLP-480, CVP-509.

### CLP-480 Tri-Amp System



## The GP Soundboard Speaker\* produces broad resonance with the depth of a grand piano.

When you play a grand piano, you are immersed in the sound because of the broad and deep resonances the soundboard creates. These effects are reproduced by the **GP Soundboard Speaker**. Because the sound emanates from the back of the piano, you can enjoy three-dimensional sound reminiscent of a grand piano. \* CLP-480.



## The acoustic system produces acoustic piano sound as if the instrument itself is resonating.

Because Yamaha places so much importance on the joy of playing, the speakers, amps and other acoustic systems have been optimized so the player hears nothing but stunning sound during a performance. These musical instrument-like resonances give the impression that the Clavinova is more acoustic than it is digital.



## Touch

Real Grand Expression

## The GH3 (Graded Hammer 3) keyboard\* faithfully reproduces the touch of a grand piano.



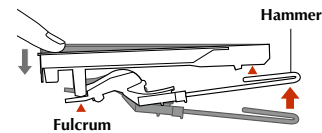
The touch of the Clavinova keyboard has been praised by pianists for a performance feel that makes you forget it's a digital piano. The secret behind this superior touch is the same hammering system and spring-less mechanism as a grand piano. Depending on the weight

of the hammer, the force of your touch and the natural key return when you release it, the Clavinova faithfully reproduces the keyboard touch of an acoustic piano from the heavy feel in the lower range to the light feel in the higher range. Also important is Yamaha's unique three-sensor system, which accurately senses and interprets the behavior of the keyboard, just like a grand piano. When playing continuously or with a light trill, techniques used in many pieces such as Für Elise, you can play with a bright, vivid feel.

\* CLP-430 / 440 / S406 / 465GP, CVP-503 / 505. CVP-501: GH (Graded Hammer) keyboard.

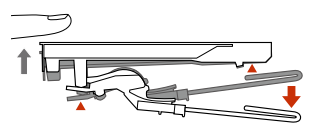
### Clavinova Keyboard Structure (GH/GH3/NW keyboard)

When key is pressed



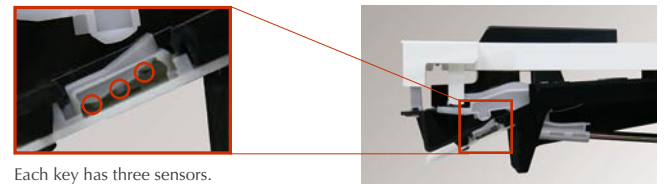
The hammer rises, providing a piano-like touch.

When key is released



The weight of the hammer causes the key to return.

### Three sensors accurately sense the motion of keys (GH3/NW keyboard)



## Experience real piano touch with Yamaha's Natural Wood keyboard.

Natural Wood

The Clavinova **NW (Natural Wood) keyboard\*** could only be made by Yamaha, with woodworking techniques perfected from over a century of building fine acoustic pianos. Like a grand piano, the keys are made of solid wood that has undergone the long drying process required for use in a musical instrument. By selecting only the highest quality sections of each piece of wood, keys that are more resistant to warping and deforming than those of laminated wooden keyboards are created. The keys have three sensors, like the **GH3 keyboard**, that amplify sensitivity to the pianist playing them. Combined with the solid texture of wood, this provides an outstanding playing experience and performance.

\* CLP-470 / 480 / S408, CVP-509 / 409GP, CGP-1000.

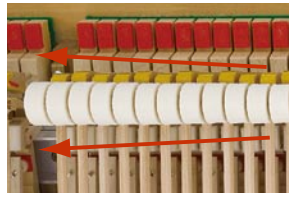
## Synthetic ivory keytops\* remain tactile during long performances.

Pianists enjoy a touch that clings firmly to their fingers, just like the ivory keyboards historically used in top-class pianos. **Synthetic ivory keytops** feature a soft, slightly porous surface that gives keys added grip and natural friction for improved ease in playing, especially during long performances or practice sessions. The keys' smooth, refined texture imparts a feeling of luxury and is easy to clean.

\* CLP-440 / 470 / 480 / S406 / S408, CVP-503 / 505 / 509 / 409GP, CGP-1000.

## 88-key Linear Graded Hammers\* reproduce a unique weight for each key, a first for digital pianos.

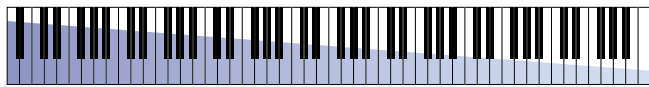
Each key in the Clavinova keyboard has a unique weight. On a traditional acoustic piano, the strings are short and narrow in the treble section and get progressively thicker and longer in the bass section. To produce an even sound, the hammers hitting the keys become larger from low to high. Thanks to the **88-key Linear Graded Hammers**, this is the first digital piano to precisely recreate the keyboard touch of a grand piano where the weight, touch and return of every key is different. Since the experience is extremely close to that of a grand piano, you can achieve better playing technique.



Grand piano hammers.

\* CLP-470 / 480 / S408.

### 88-key Linear Graded Hammers

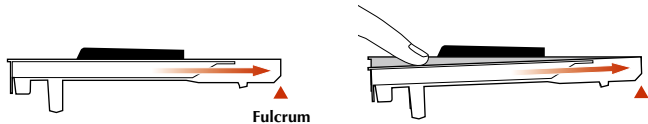


The hammers of all 88 keys have different weights.

## Keyboard Stabilizers enhance the keyboard's durability.

The keyboard must respond perfectly to the touch of your fingers so the notes sound just as you intend. Because the keyboard plays such a critical role, it must allow you to play smoothly and maintain good touch for long periods of time. That's why all 88 keys are equipped with **Keyboard Stabilizers**. This not only lets you play with a natural touch, it greatly improves the stability and durability of the keys.

### Operation of the Keyboard Stabilizer



The Keyboard Stabilizer lets you apply force toward the fulcrum, providing a firm, steady touch.

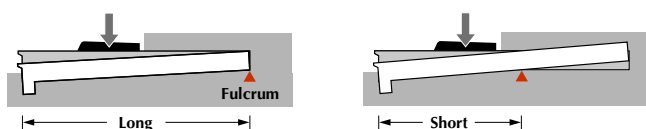
## Keys have a long distance to the fulcrum offering easy-to-play touch, even to the base of each key.

The keys provide a pleasing touch down to the base, because the distance from the tip of the key to the fulcrum is extremely long. When playing a piece that uses many black keys, even when you press a white key near its base, the key sinks softly, maintaining the delicate nuances of soft and hard key strokes.

### Differences between ease of playing according to distance to the fulcrum

Key tip far from the fulcrum (Clavinova)

Key tip close to the fulcrum



Clavinova key tips are far from the fulcrum, so the keys sink smoothly when played near the base.

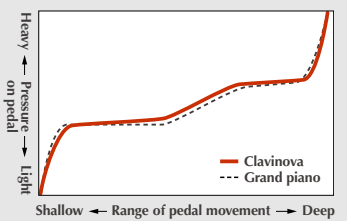
## Pedals Real Grand Expression

## The GP Response Damper Pedal\* provides an operating feel just like that of a grand piano.

The damper pedal is an important piano-playing element because it continuously varies the sound as you press it down. The Clavinova behaves the same way as an acoustic piano by constantly detecting the amount of pedal press or return and finely adjusting the amount of note elongation and reverberation. Additionally, the **GP Response Damper Pedal** reproduces the typical grand piano feeling, for example less resistance when starting to press and a heavy feeling when the pedal begins to take effect. As a result, players achieve greater control when operating the damper pedal.



### Response of GP Response Damper Pedal



With the adjustment range and pressure feel of a grand piano half pedal, delicate tonal control is possible.

\* CLP-470 / 480 / S408.

## Using the pedals provides realistic resonances that accurately convey all sound changes.

**Stereo Sustain samples**\*1 provide the mellow reverberations created as you depress the damper pedal. **Damper Resonance**\*2 similarly produces broad and deep resonances when the pedal is used. The result is realistic sound, just as if you were playing an acoustic piano. You will even hear the subtle changes that occur according to whether the player begins to press the pedal before or after striking a key. You can enjoy playing impressionistic pieces, such as those by Debussy or Ravel, where half-pedal expression is important.

\*1 CLP-440 / 470 / 480 / S406 / S408, CVP-503 / 505 / 509 / 409GP, CGP-1000.

\*2 All CLP models.



*Clavinova.*  
Yamaha Digital Piano