

## Casio Releases Digital Pianos That Reproduce the Rich Tones and Subtle Reverberations of Grand Pianos

*Newly Developed Sound Source Precisely Simulates the Resonance of Piano Strings for all 88 Keys*



Privia PX-850



CELVIANO AP-450

TOKYO, August 9, 2012 — Casio Computer Co., Ltd., announced today the release of three new digital pianos—the Privia PX-850 and the CELVIANO AP-650M and AP-450. These advanced new instruments are equipped with Casio's newly developed Multi-dimensional Morphing AiR\* Sound Source, which reproduces the rich tones and lingering reverberations of real pianos. They also come with a digital simulator that reproduces the changes to the sound when the lid of a grand piano is open or closed.

\* Acoustic and Intelligent Resonator

The Privia PX-850 features a slim and stylish body only 299 mm from front to back, while the CELVIANO AP-650M and AP-450 are cabinet-style pianos with a refined appearance. Casio designed all three models with meticulous attention to overall sound and to the keyboard, both of which are fundamental to piano performance. These instruments use a newly developed sound source that reproduces a piano's temporal changes in tone and string resonance using digital technologies. Moreover, Casio has fitted these models with new keyboards which are not only touch sensitive, but also offer precise control of attack timing. With these features, the Privia PX-850 and the CELVIANO AP-650M and AP-450 realize unprecedented expressive power for digital pianos.

### **Newly developed sound source recreates the nuanced tonal variations and lingering reverberations of a grand piano**

All three new pianos feature Casio's newly developed Multi-dimensional Morphing AiR Sound Source, which reproduces the natural temporal changes in tone from the time the sound starts until it dies away, as well as the variations in volume and timbre corresponding to the power behind the keystrokes. Casio has also equipped these models with String Resonance, a simulator which recreates the distinct string resonances of all 88 keys of the keyboard. Deeply resonating tones can be sustained even longer when combined with Damper Resonance, which allows the player to enjoy playing beautifully resonating tones while employing the damper pedal.

### **Lid Simulator reproduces the effect of opening the lid of a grand piano**

The Privia PX-850 and the CELVIANO AP-650M and AP-450 are equipped with Casio's Lid Simulator, a digital technology that reproduces the changes in a grand piano's tone when its lid is open or closed, bringing the experience of playing a grand piano even closer. Moreover, these new digital pianos are designed with top boards that actually open.\*

\* The Lid Simulator setting remains unchanged, regardless of whether the top board is open or closed.

**Casio's new keyboard allows player to enjoy resonance and attack timing like a grand piano**

Casio has equipped these new models with its Tri-sensor Scaled Hammer Action Keyboard II, which models the different attack of the sound in the different registers of the keyboard in the same way that the variously sized hammers of a grand piano affect the attack of the notes in these registers. Also included is Casio's Key Off Simulator, which allows the player to control the length of reverberation with the speed that the finger leaves a key.

Casio's cutting-edge Multi-dimensional Morphing AiR Sound Source is also available with other Casio digital pianos: the Privia PX-750, PX-350M, and PX-150, as well as the CELVIANO AP-250.

Series	Models	Polyphony (maximum)	Number of Built-in Tones	Lid Simulator	Openable Top Board Design	String Resonance	Damper Resonance
Privia	PX-850	256	18	●	●	●	●
	PX-750	128	18	—	—	—	●
	PX-350M	128	250	—	—	—	●
	PX-150	128	18	—	—	—	●
CELVIANO	AP-650M	256	250	●	●	●	●
	AP-450	256	18	●	●	●	●
	AP-250	128	18	—	—	—	●



**Privia PX-850BK**



**CELVIANO AP-650MBK**



**CELVIANO AP-450BK**



**Privia PX-750BK**



**CELVIANO AP-450BN**



**Privia PX-750WE**



**Privia PX-350MBK  
Privia PX-350MWE**



**CELVIANO AP-250BK**



**Privia PX-750BN**



**Privia PX-150BK  
Privia PX-150WE**

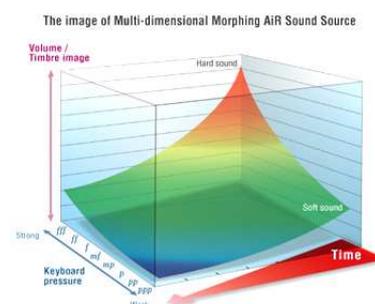


**CELVIANO AP-250BN**

## Main Features

### ● Multi-dimensional Morphing AiR Sound Source

Casio's newly developed Multi-dimensional Morphing AiR\* Sound Source reproduces the natural temporal changes in tone, as well as the changes in volume and timbre according to the force of the keystroke. Casio has expanded the capacity of the installed memory by employing advanced data compression technology to achieve a longer sampling duration and enhanced waveform data quality. This enables the Multi-dimensional Morphing AiR Sound Source to seamlessly reproduce the natural changes in tone from the moment a note sounds, through its beautiful sustain, until it finally vanishes away, including changes in both volume and timbre. Even the length of the reverberation can be controlled like an acoustic piano by adjusting the force of the keystroke. All of this capability is backed up by the maximum polyphony of 256 notes in Casio's premiere models—the PX-850, AP-650M, and AP-450.



\* Acoustic and Intelligent Resonator

### ***Reproduction of the naturally deep, rich tones of a grand piano***

The player can let beautiful resonating tones linger by using Damper Resonance, a function that reproduces the resonant effect of a damper pedal. Casio's premiere models—the PX-850, AP-650M, and AP-450—also feature String Resonance, which simulates the different reverberations of single notes and chords by reproducing the distinct string resonances of all 88 keys.

### ***Lid Simulator (available only with the PX-850, AP-650M, and AP-450)***

The tone of a grand piano changes depending on the degree that its lid is open or closed. This function precisely simulates these changes, allowing the player to select an effect that corresponds to the degree a grand piano lid would be open, to suit his or her preferences.

### ● **Openable top board design** (available only with the PX-850, AP-650M, and AP-450)

The physical top board on these digital pianos can be opened and closed,\* allowing the player to have the experience of actually playing with the piano top board open

\* The value set for the Lid Simulator does not change regardless of whether the top board is open or closed.

- **Tri-sensor Scaled Hammer Action Keyboard II**

Casio's Tri-sensor Scaled Hammer Action Keyboard II detects the force of keystrokes using three sensors per key, thereby reproducing the attack timing of a grand piano. This feature allows the same note to be played repeatedly without fully releasing the key, enabling exceptional playability. The keyboard is directly responsive to the weight of the piano hammers and uses no springs. Accordingly, the keys become progressively heavier in the lower register and lighter in the higher register, making the instrument as comfortable to play as a real grand piano.

***Hammer Response system***

In a grand piano, the size of the hammers varies depending on the key blocks, producing subtle differences in the attack of notes in different registers. Casio's Hammer Response reproduces these differences for each register of the keyboard, and simulates all of the corresponding variations in attack depending on how forcefully the keys are struck.

***Key Off Simulator*** (available only with the PX-850, AP-650M, and AP-450)

Casio's Key Off Simulator changes the tone according to how fast the finger leaves a key, thereby reproducing the soft touch and beautiful reverberation of a grand piano.

***Keys like real ebony and ivory***

The black and white keys look and feel like real ebony and ivory to create a luxurious feel and texture as well as a smooth touch. The detailed crimp surface finish on the keys gives the sensation of a comfortable fingertip fit and ensures that they do not get slippery with perspiration.

- **The Audio Recording function saves a piano performance on a USB flash drive** (available only with the PX-850M, PX-350M AP-650M and AP-450)
- **The Recording function records and saves a piano performance in the built-in memory device**
- **Duet Mode sets identical tonal ranges to the right and left of center on the keyboard so that two people can play within the same register**
- **The Layer Function enables two different tones to be layered in a performance preset**
- **The Keyboard Split Function enables different tones to be designated for the lower and higher blocks of the keyboard**
- **The Operation Lock function freezes the operations of buttons to prevent unintentional changes to settings**
- **A 60-tune Music Library is provided for listening enjoyment and lessons** (not available with the PX-350M)
- **180 rhythms in internal memory provide auto-accompaniment** (available only with the PX-350M and AP-650M)
- **The Registration function enables users to save tones, rhythms, and other settings for immediate call-up** (available only with the PX-350M and AP-650M)
- **The pitch bend wheel smoothly changes the pitch of played notes** (available only with the PX-350M)

## Main Specifications

Privia		PX-850	PX-750	PX-350M	PX-150
Finish		Black wood tone	Black wood tone (BK) White wood tone (WE) Oak tone (BN)	Black metallic (BK) Cool white (WE)	Black metallic (BK) Pearl white (WE)
Keyboard		88 keys, Tri-sensor Scaled Hammer Action Keyboard II, Simulated ebony and ivory keys			
Touch Sensitivity		3 sensitivity levels, off			
Slide-type Keyboard Cover		●	●	—	—
Sound Source		Multi-dimensional Morphing AiR Sound Source*1			
Maximum Polyphony		256	128	128	128
Tones	Grand Piano Concert	●	●	●	●
	Grand Piano Modern	●	●	●	●
	Grand Piano Classic	●	●	●	●
	Grand Piano Mellow	●	●	●	●
	Grand Piano Bright	●	●	●	●
	Grand Piano Studio	—	—	●	—
	Grand Piano Dolce	—	—	●	—
	Dance Piano	—	—	●	—
	Rock Piano	—	—	●	—
	LA Piano	—	—	●	—
	Honky-Tonk	—	—	●	—
	Octave Piano	—	—	●	—
	Strings Piano	—	—	●	—
Piano Pad	—	—	●	—	
Others		3 Elec Piano tones, 1 Harpsichord tone, 1 Vibraphone tone, 4 Organ tones, 2 Strings tones, 2 Bass tones*2	3 Elec Piano tones, 1 Harpsichord tone, 1 Vibraphone tone, 4 Organ tones, 2 Strings tones, 2 Bass tones*2	17 Elec Piano tones, 14 Organ tones, 16 Strings tones, 47 Various tones, 128 GM tones, 14 Drum sets	3 Elec Piano tones, 1 Harpsichord tone, 1 Vibraphone tone, 4 Organ tones, 2 Strings tones, 2 Bass tones*2
Tone Select Button		—	—	●	—
Grand Piano Buttons		● (Concert, Modern)	● (Concert, Modern)	—	● (Concert, Modern)
Elec Piano Button		●	●	—	●
Layer / Split		—	—	●	—
Simulators	String Resonance	● (4 Levels)	—	—	—
	Damper Resonance	—	●	●	●
	Hammer Response	● (4 Levels)	●	—	●
	Key Off Simulator	●	—	—	—
	Lid Simulator*3	● (4 Levels)	—	—	—
Openable Top Board Design*3		●	—	—	—
Digital Effects	Reverb	—	—	4	—
	Chorus	—	—	4	—
	Brilliance	—	—	—	—
	DSP (Preset for some tones)	—	—	—	—
Accompaniment Rhythms	No. of Built-in Rhythms	—	—	180	—
	User Rhythms	—	—	10	—
Songs	Music Library	60 songs	60 songs	—	60 songs
	Demonstration-only Songs	—	—	6 songs	—
	Song Expansion (User Songs)	10 songs (max.) Up to approx. 90 KB/song	10 songs (max.) Up to approx. 90 KB/song	10 songs (max.) Up to approx. 320 KB/song	10 songs (max.) Up to approx. 90 KB/song
Music Presets (including chord progressions)		—	—	300 presets and 50 user areas	—
Registration		—	—	96 setups (4 sets x 24 banks)	—
Recorder	Tracks	2 tracks	2 tracks	17 tracks 1 system track + 16 solo tracks	2 tracks
	Songs	1 song	1 song	5 songs	1 song
	Real-time Recording	●	●	●	●
	Punch-in/Punch-out Recording	—	—	●	—
	Approximate Data Capacity	Approx. 5,000 notes total	Approx. 5,000 notes total	Up to approx. 10,000 notes per song (total for all song tracks)	Approx. 5,000 notes total
Audio Recording / Playback (44.1 kHz WAV Format)		Max. 99 songs approx. 25 min/song	—	Max. 99 songs approx. 25 min/song	—
Metronome	Beats	0, 2, 3, 4, 5, 6	0, 2, 3, 4, 5, 6	0, 2, 3, 4, 5, 6	0, 2, 3, 4, 5, 6
	Tempo Range	20 to 255 BPM	20 to 255 BPM	20 to 255 BPM, Tap tempo	20 to 255 BPM
Lesson Function		Part ON / OFF, Lesson Part Select: right hand, left hand			
Operation Lock		●			
Duet Mode		●			
Octave Shift		± 2 octaves			
Key Transpose		2 octaves (-12 semitones ~ 0 ~ +12 semitones)			
Tuning Control		A4 = 415.5Hz ~ 440.0Hz ~ 465.9Hz			
Scale Function   No. of Preset Temperaments		17			
Pitch Bend Wheel		—	—	●	—
Full-dot LCD Display with Backlight		—	—	●	—
MIDI		● (Using the USB port)	● (Using the USB port)	● (GM level 1 compatible)	● (Using the USB port)
Pedals		3 built-in pedals (damper, soft, sostenuto)		Included: SP-3; Optional: SP-33 (damper, soft, sostenuto)	
Half-Damper Pedal Operation		● (Seamless recognition)		● (With optional SP-33 3-pedal unit)	
Connectivity and Storage	Phones (Stereo standard jack)	2	2	2	2
	LINE OUT (Standard jack)	2 (L/MONO, R)	—	2 (L/MONO, R)	—
	LINE IN (Standard jack)	—	—	2 (L/MONO, R)	—
	USB Host Port	●	●	●	●
	USB Flash Drive Port	●	—	—	—
	MIDI	—	—	● (IN/OUT)	—
Pedals		—		2 (Damper, Soft/Sostenuto)	
Connector for 3-Pedal Unit		—		●	
Speakers and Amplifiers	Speakers	12 cm x 2, 5 cm x 2	12 cm x 2	13 cm/6 cm (rectangular) x 2, 5 cm x 2	3 cm/6 cm (rectangular) x 2
	Amplifiers	20W + 20W	8W + 8W	8W + 8W	8W + 8W
Size	Without music stand, corner brackets	1,367 x 299 x 837 mm (Top board closed)	1,357 x 299 x 833 mm (Without music stand, corner brackets)	1,322 x 286 x 135 mm (Without music stand)	1,322 x 286 x 135 mm (Without music stand)
	With Optional Stand	—	—	1,322 x 286 x 760 mm (Without music stand, corner brackets)	1,322 x 286 x 760 mm (Without music stand, corner brackets)
Weight	Without optional stand	35.5 kg	31.5 kg	11.6 kg (Without optional stand)	11.1 kg (Without optional stand)
	With Optional Stand	—	—	21.6kg	21.1kg
Included Accessories		AC adaptor, music stand			
		Score book, headphone hook	Score book	Pedal (SP-3)	Score book, Pedal (SP-3)

\*1: Available only for Grand Piano tones. AIF (Acoustic & Intelligent Filtering System) Sound Source is used for other tones.

\*2: Available only for lower block of keyboard when using the Split function.

\*3: The Lid Simulator setting remains unchanged, regardless of whether the top board is open or closed.

CELVIANO		AP-650M	AP-450	AP-250
Finish		Black wood tone	Black wood tone (BK) Oak tone (BN)	Blackwood tone (BK) Oak tone (BN)
Keyboard		88 keys, Tri-sensor Scaled Hammer Action Keyboard II, Simulated ebony and ivory keys		
Touch Sensitivity		3 sensitivity levels, off		
Slide-type Keyboard Cover		•	•	•
Sound Source		Multi-dimensional Morphing AiR Sound Source*1		
Maximum Polyphony		256	256	128
Tones	Grand Piano Concert	•	•	•
	Grand Piano Modern	•	•	•
	Grand Piano Classic	•	•	•
	Grand Piano Mellow	•	•	•
	Grand Piano Bright	•	•	•
	Grand Piano Studio	•	–	–
	Grand Piano Dolce	•	–	–
	Dance Piano	•	–	–
	Rock Piano	•	–	–
	LA Piano	•	–	–
	Honky-Tonk	•	–	–
	Octave Piano	•	–	–
	Strings Piano	•	–	–
Piano PAD	•	–	–	
Others		17 Elec Piano tones, 14 Organ tones, 16 Strings tones, 47 Various tones, 128 GM tones, 14 Drum sets	3 Elec Piano tones, 1 Harpsichord tone, 1 Vibraphone tone, 4 Organ tones, 2 Strings tones, 2 Bass tones*2	3 Elec Piano tones, 1 Harpsichord tone, 1 Vibraphone tone, 4 Organ tones, 2 Strings tones, 2 Bass tones*2
Tone Select Button		•	–	–
Grand Piano Buttons		–	• (Concert, Modern)	• (Concert, Modern)
Elec Piano Button		–	•	•
Layer / Split		–	•	–
Simulators	String Resonance	• (4 Levels)	• (4 Levels)	–
	Damper Resonance	• (4 Levels)	• (4 Levels)	•
	Hammer Response	• (4 Levels)	• (4 Levels)	•
	Key Off Simulator	•	•	–
	Lid Simulator*3	• (4 Levels)	• (4 Levels)	–
Openable Top Board Design*3		•	•	–
Digital Effects	Reverb	–	4	–
	Chorus	–	4	–
	Brilliance	–	•	–
	DSP (Preset for some tones)	–	•	–
Accompaniment Rhythms	No. of Built-in Rhythms	180	–	–
	User Rhythms	10	–	–
Songs	Music Library	60 songs	60 songs	60 songs
	Demonstration-only Songs	6 songs	–	–
	Song Expansion (User Songs)	10 songs (max.) Up to approx. 320 KB/song	10 songs (max.) Up to approx. 90 KB/song	10 songs (max.) Up to approx. 90 KB/song
Music Preset (including chord progressions)		300 presets and 50 user areas	–	–
Registration		96 setups (4 sets x 24 banks)	–	–
Recorder	Tracks	17 tracks (1 system track + 16 solo tracks)	2 tracks	2 tracks
	Songs	5 songs	1 song	1 song
	Real-time Recording	•	•	•
	Punch-in/Punch-out Recording	•	–	–
	Approximate Data Capacity	Up to approx. 10,000 notes per song (total for all song tracks)	Approx. 5,000 notes total	Approx. 5,000 notes total
Audio Recording / Playback (44.1 kHz WAV Format)		Max. 99 songs approx. 25 min/song	Max. 99 songs approx. 25 min/song	–
Metronome	Beats	–	0, 2, 3, 4, 5, 6	–
	Tempo Range	20 to 255 BPM, tap tempo	20 to 255 BPM	20 to 255 BPM
Lesson Function		Part ON / OFF, Lesson Part Select: right hand, left hand		
Operation Lock		•		
Duet Mode		•		
Octave Shift		± 2 octaves		
Key Transpose		2 octaves(-12 semitones ~ 0 ~ +12 semitones)		
Tuning Control*		A4=415.5Hz~440.0Hz~465.9Hz		
Scale Function / No of Preset Temperaments		17		
Full-dot LCD Display with Backlight		•		
MIDI		• (GM level 1 compatible)	• (Using the USB port)	• (Using the USB port)
Pedals		3 built-in pedals (damper, soft, sostenuto)		
Connectivity and Storage	Phones (Stereo standard jack)	2	2	2
	LINE OUT (Standard jack)	2 (L/MONO, R)	2 (L/MONO, R)	–
	LINE IN (Standard jack)	2 (L/MONO, R)	–	–
	USB Host Port	•	•	•
	USB Flash Drive Port	•	•	–
Speakers and Amplifiers	MIDI	• (IN/OUT)	–	–
	Speakers	16 cm x 2.5 cm x 2	12 cm x 2.5 cm x 2	12cm x 2
	Amplifiers	30W + 30W	20W + 20W	8W + 8W
Size		1,377 x 427 x 911 mm (Top board closed) (Without music stand)	1,377 x 427 x 840 mm (Top board closed) (Without music stand)	1,377 x 432 x 840 mm (Without music stand)
Weight		50.2 kg	40.5 kg	39.5 kg
Included Accessories		AC adaptor, score book, music stand		
		Headphone hook		–

\*1: Available only for Grand Piano tones. AIF (Acoustic & Intelligent Filtering System) Sound Source is used for other tones.

\*2: Available only for lower block of keyboard when using the Split function.

\*3: The Lid Simulator setting value remains unchanged, regardless of whether the top board is open or closed.