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Updated March 29, 2012, 10:38 p.m. ET

The Player Piano of the 21st Century

By [PIA CATTON](#)



Kevin Hagen for The Wall Street Journal

Pianist Allegra Chapman performs at the Juilliard School in Manhattan, accompanied by Luna Inaba in Japan and Hojoon Kim in California.

The conventional notion of a concert, with the performer and the audience in the same room, is in for a challenge.

This weekend, the Juilliard School is presenting a concert in its Willson Theater that includes music played on three pianos—but only one of the pianists will actually be in the room. The other two will be playing in Japan and California, though every keystroke will take place in Juilliard's theater.

The concert, "Beyond the Machine 12.1: Synchronicity," uses technology developed by Yamaha for its Disklavier branded pianos, which are fitted with sensors and a control unit that can record or transmit every movement of the keys and pedals. The system can play back what has been performed on a piano in any remote location. In the case of the Juilliard concerts, one Disklavier piano will be twinned with another in a different location to give a "live" simultaneous performance, even with the instruments continents apart.

"It's not really two instruments. It's one that spans 6,000 miles," said Edward Bilous, the founding director of Juilliard's Music Technology Center, which explores the creation of new music. "You're not hearing a recording. You're hearing a person playing."

In 2007, Yamaha launched an application called RemoteLesson, which allowed pianists sitting at two Disklavier pianos in two locations to communicate with each other via an Internet connection for the purpose of education and

instruction. But, said the company's production coordinator, Makia Matsumura, "If you don't play the piano, it's not much fun."

So last year, the company launched RemoteLive, which can integrate sounds coming from the piano with audio and visual content, making it more applicable to a broader audience. Ultimately, Disklavier owners will be able to stream specially recorded music through a computer to the piano and an audio system (plus visuals on a video screen) for a simulated live concert.



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A Yamaha Disklavier piano is played remotely.

(Disklavier pianos range from about \$20,000 to \$200,000, from an upright to the largest, concert-level model.)

It's not as simple as docking your iPod in the piano and turning any recording into a concert. But with music formatted for this system, an at-home listener could set up a simulated concert of, say, Gershwin's "Rhapsody in Blue" in the living room. The system would essentially have three elements: video of an ensemble played on a screen, the sound of the ensemble coming through audio speakers, and the sound of the piano played "live."

As Ms. Matsumura explained, "the piano sound is not coming out of your speakers."

While Yamaha is recording and mixing limited content to use as examples, it sees its role as making the equipment. "Our goal is not to be a TV station," said marketing manager Jim Levesque. "Our goal is to make people able to broadcast their performances."

Now that artists are able to use the application, performance concepts are popping up. "Artists are being inspired by it and bringing ideas to us," Ms. Matsumura said.

Such was the case at Juilliard. Since the launch of the Music Technology Center in 1993, Mr. Bilous has worked with students to generate new music that involves digital technology. This weekend's "Beyond the Machine" concerts, which are free (though tickets are required), include three pieces by composer John Cage, followed by a multimedia project based on images and interviews gathered by journalist Teru Kuwayama, who spent nine years in Afghanistan.



A live performance at Juilliard features three pianos but just one lonely pianist on the stage. How technology brings musicians thousands of miles away into a concert hall in New York.

The RemoteLive portion of the concert is a performance of Cage's "Winter Music," which can be presented with anywhere from one to 20 pianos. The nature of "Winter Music" made it a good piece for experimentation: Because it emphasizes chance and improvisation, the pianists won't be required to play in a coordinated or synchronized manner during the 11-minute piece.

"There's nothing to rehearse," said pianist Allegra Chapman, a graduate student at Juilliard. For the concert, she'll walk onstage and sit a piano placed between two Disklaviers connected to the remote sites. Her two fellow performers—Luna Inaba at Yamaha's headquarters in Kakegawa, Japan, and Hojoon Kim in Buena Park, Calif.—will be cued slightly earlier. Audience members will see a stage with three pianos on it, with Ms. Chapman seated in the middle and video projections of Mr. Kim and Ms. Inaba to either side.

Although the music is as complicated as one expects from Cage, watching the performance is less complicated than one might imagine. The two unmanned pianos do seem to be playing on their own, as an old-time player-piano would, but the video images satisfy the natural desire to watch the people make the music.

The point, though, is more about exploring possibilities. "It's eye-opening for Yamaha," said Ms. Matsumura, who supervised the Juilliard concerts. "This is the first time for Yamaha to have multiple RemoteLive simultaneous connections."

For Mr. Bilous, the technology is an extension of the creative process: "Artists today need a new set of skills to be able to tell the unique story of their generation."

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A version of this article appeared Mar. 30, 2012, on page A22 in some U.S. editions of The Wall Street Journal, with the headline: The Player Piano of the 21st Century.