At the Smithsonian American Art Museum, the pioneering video artist Nam June Paik (1932-2006) encourages sensory overload with his “Electronic Superhighway.” The Korean-born artist stacked 336 TVs on a scaffold in the shape of the United States and overlaid the “map” with 600 coursing feet of multi-hued neon. Within glowing state borders, TV screens flash looping video montages like scenes from “The Wizard of Oz” and shots of an exercise class led by O.J. Simpson. Nearby Paik’s “Megatron/Matrix” flickers footage of the Seoul Olympics and a David Bowie concert.

The museum’s latest boon? The acquisition of Paik’s complete estate archive, which has inspired a new space dedicated to time-based art. “Watch This! New Directions in the Art of the Moving Image” surveys the history of video art since the 1960s. Curator John Hanhardt selected nine pieces that demonstrate the medium’s profound impact on 20th-century art.

The gallery also doubles as a shrine to the ghosts of technology. Think VHS tapes and custom LEDs. On view: Paik’s 1969 “Experiments with David Atwood” visible on a vintage RCA TV set, Cory (notorious Nintendo hacker) Arcangel’s 2008 digital-to-VHS “Video Painting,” Kota Ezawa’s cinematic “LYAM 3D” (paper glasses included) and Marina Zurkow’s painterly “Elixir II.”

Across town, Dupont Circle’s Phillips Collection reveals the interplay of moving and still images. In the 1897 Phillips residence, Georges Rouault’s 1930 “Tragic Landscape” shares space with a three-monitor video “The Coronation.” Husband-and-wife team Nicholas and Sheila Pye’s contemporary work takes the form of a medieval altarpiece. The couple’s bodies evoke Adam and Eve on 52-inch triptych panels.

Video art thrives beyond the museum too. Collectors scout edgy gallery Conner Contemporary, projecting “Ascension/Immersion” by Mary Coble and Blithe Filley starting March 19. As of March 20, Artisphere’s two-story “video wall” reveals intimate confessions à la PostSecret.com.

Meanwhile video at the Hirshhorn Museum & Sculpture Garden suggests that nothing is as it seems—from cotton balls cast as cloud puffs to a building demolition masquerading as a light show (at left). Through March 27, the “Black Box” theater screens “Staging Silence” by Hans Op de Beeck. Set to an electronic soundtrack of layered blips and bleeps, the black-and-white projection follows a series of miniature set designs transformed by a pair of anonymous hands. The doll-size sets range from a sterile office to a palace made of fluffy birthday cake. The result? Film noir meets kids-playing-in-a-sandbox.

Also through March 27, French artist Cyprien Gaillard offers his “Desiansky Raion,” a music-charged video “opera.” Presented in three seamless acts, the 30-minute work shows a gang fight in St. Petersburg, the implosion of a modernist building near Paris and a helicopter flight over a desolate Russian suburb. At times a jubilant soundtrack gives way, often ironic context to otherwise bleak scenes. The work testifies to the depth and power of the medium.

Listings start on page 18 (galleries) and 20 (museums).