

Award-winning estate

WAYNE, PENNSYLVANIA

CASE STUDY | RESIDENTIAL

➔ Challenge

Equip a 30,000 square-foot home with the latest systems; yet keep it simple enough for homeowners who have no interest in technology for technology's sake.

➔ Solution

A home automation and entertainment system based on Crestron DigitalMedia™ and Crestron control.



Keeping Things Simple

Integration Award winner simplifies control in a large estate with the help of Crestron

You might not guess it from the size of their house or the sophistication of their home systems, but the owners of this magnificent Wayne, Pennsylvania residence have simple tastes. According to Harry Blanchard, Chief Systems Integrator for Elite Home Technologies (a division of Philadelphia's HiFi House Group), who designed the home automation systems, they are passionate about just three things:

- + They love children and wanted a home where their large family could thrive.
- + They love art and wanted a place where they could house and show their beautiful and extensive art collection.
- + They are dedicated to personal fitness and healthy living and wanted a place where they could work out daily and grow their own food.

These guiding principles helped build a dream home that is truly an education in what is possible with today's technology. Still, Blanchard says it took some convincing to install the advanced control technology needed to make their new home practical, energy-efficient, safe, and comfortable.



Although this would be a very large system, we were confident that Crestron would do the job.”

– Harry Blanchard
Chief Systems Integrator,
Elite Home Technologies



Designing the Extraordinary

“It’s almost a paradox, but the homeowners really did not understand the need for home automation technology, and so we had to explain it to them carefully,” Blanchard recalls.

Blanchard says he has worked hand-in-hand for almost 20 years with architect John Toates and builder Griffiths Construction. They suggested the homeowner bring Elite Home Technologies into the project. They were designing a house that would include a huge, climate-controlled art gallery, a two-lane, 25-meter indoor swimming pool, beautiful grounds with extensive gardens, and a number of large but practical areas for use by the family and their guests.

Because oversized homes are not common in the Pennsylvania town where they would be building, the homeowners asked that much of this residence be underground. “There’s a large, but not extraordinarily large main house, a barn with an upstairs office, and a potting shed maybe 200 feet back behind the barn, equipped with grow-lights so they can start their tomato plants from seeds,” Blanchard explains.

These three buildings are all linked by a huge basement and underground corridor which houses an art gallery, fitness center, pool and spa, a video game room, mat room where the children can safely play rough, catering kitchen, wine cellar, and multiple mechanical rooms.

“In a lot of the bigger houses we work in there are rooms that you look at and ask, ‘I wonder if anyone will ever use this?’ That’s not the case here. Not at all,” Blanchard explains. The art gallery, for example, doubles as a home theater. The family uses the pool, spa and fitness center every day. There’s a rec room above the garage, where the kids can play, watch TV, play video games and make a mess without having to worry about their parents getting upset. “We also helped create a homework room right off the kitchen where the kids can do their schoolwork,” Blanchard adds. “They wanted the best in computing and printing equipment, and we supplied that – but all of these rooms are filled with things that the parents or children wanted and would actually use.”

Home Automation

As simple as the tastes of the homeowners proved to be, the home presented a number of challenges to its designers and builders.

First, the art collection is large and expensive, and requires its own museum-quality climate system to keep it safe. The pool also requires a specialized “desert air” system to keep the humidity it produces from destroying the home or the artwork. The homeowners were also concerned with energy consumption, not wanting to tax the environment as much as a standard HVAC system would in a building this large.



For all these reasons, the architect specified a commercial heating and cooling system with a geothermal component. The system takes advantage of the earth's year-round 50-degree underground temperature to cool outside air in the summer and preheat it in the winter. As a result, the load on the HVAC system is drastically reduced.

The art gallery holds valuable pieces of artwork. The homeowners host art shows for friends and business associates, often inviting experts from around the world to lead discussions on the works lining the gallery walls. Because the homeowners rotate pieces in and out of the gallery on a regular basis, the space required a complex lighting installation, with fixtures they can move and reset to fit their changing needs.

The requirement that the gallery double as a home theater did not make things easier. "Of course we put all the lighting scenes on presets that the homeowners could change quickly, but we also needed to be able to hide the theater components and then bring them out at a moment's notice," Blanchard notes.



...these systems would be extremely difficult to use without centralized control,"

— Harry Blanchard

Chief Systems Integrator, Elite Home Technologies

The homeowners love high-end video, so the team used a motorized 204" Stewart Filmscreen® CinemaScope screen and a Wolf Cinema projector hidden in a niche in the wall. To satisfy their love of high-quality audio and ensure a smooth transition from theater to gallery, they created a system where the homeowners could roll the Wilson Audio theater loudspeakers out of the room during an art show.

Peace of mind is always important. The Elite Home team included security features in the pool area so the homeowners can be sure their children are safe. Cameras display images from the pool on Crestron touch screens throughout the house and the system is programmed to detect if the pool cover is open. In addition, if the pool cover is left open too long, the system reminds the homeowners to close it for both safety and to avoid wasting energy.

As part of the whole-house security plan, the team connected a Cartell® driveway sensor to the Crestron system which announces the arrival of visitors to the home. The homeowners can arm and disarm their security system using Crestron touch screens located near each entrance.



Of course the team included a property-wide audio and video distribution system as well, with loudspeakers in almost every room and televisions in many rooms as well. Crestron DigitalMedia and multi-room audio products made that possible. The distances that the signals travel are immense, so Elite Home Technologies installed roughly 15,000 feet of fiber-optic cable to serve the entertainment systems.

“While the homeowners were reluctant to add more technology, we convinced them that these systems would be extremely difficult to use without centralized control.” Blanchard says that he explained that, while he has only two thermostats in his own home, resetting them when he goes on vacation does take a couple of minutes apiece. “I said, you’re going to have 80 thermostats when the house is finished. Do you really want to set each of them by hand?”

Blanchard also explained that the Crestron controls help automate and monitor the climate system, alerting the homeowners and the HVAC contractor immediately if the temperature or humidity vary outside the strict requirements of the gallery and the swimming pool. In addition, the team set up presets for the lighting systems that allow the homeowners to enjoy different lighting scenes, inside and out, which enhance the beauty and functionality of the home while saving on electricity and lamp life. They even put the grow-lights in the potting shed on the system, so that their tomato plants can sprout under optimal conditions.

“Although this would be a very large system, we were confident that Crestron would do the job,” Blanchard adds. “We are very familiar with Crestron products and we have strong connections to the company. It would probably be an understatement to say we use Crestron in 98% of the larger projects we do.”

In the end, it all made sense for the homeowners. Crestron and Elite Home Technologies are known for the power and simplicity of their custom integrated solutions. If you’re going to live a simple life on a grand scale, as this family does, you’re going to need a little help from your friends.

The grand home with simplistic control recently received accolades from Electronic House Magazine in the form of a “Home of the Year” award. The design and execution of this project went flawlessly thanks to the dedicated work of Elite Home Technologies and the support of manufacturers like Crestron.