

INTEGRATION AT HOME

The TPMC-8X Touchpanel

Blurring the Line Between Control System
and Personal Computer



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- Solving the Customer Disconnect
- Latest New Products



BRILLIANT LIGHTING DESIGN

E-HOME, RIDGEFIELD, NEW JERSEY

Brooklyn, New York has always been a world unto itself, and that world has been changing recently. It is still common to build homes in very close proximity to each other, but now lots are combined to build one huge custom home. Three years ago this project began as a new construction, and e-home was brought in as the technology integrator. One might expect smooth sailing if the integrator is included at the early design and construction phases. However, one Brooklyn tradition that hasn't changed is how business is conducted. Everyone has a friend or knows someone who has a friend in "the business," whatever that business may be. These friends are not always as experienced as you would hope.

The most challenging aspect of the home integration was the lighting system. The architect was completely *laissez-faire* regarding the lighting, and there wasn't a lighting designer on the project. The integrator needed to collaborate directly with the electrician, who was the client's cousin. "I don't think that he ever used a lighting schedule before," recalls Jonas Buzzerio, System Designer and Vice President of e-home in Ridgefield, New Jersey. "There was minimal documentation, and he misplaced the few notes that he had."

Buzzerio was certainly accustomed to working with other trades for custom home installations. Lighting control, however, was relatively new to e-home. In 2002, when this project was initially con-

tracted, Crestron had only recently released its own, then new, lighting systems. "This might have been one of the first projects specified using Crestron's lighting control products," says Buzzerio. "Previously, when we came across a lighting job, we just subbed it out."

Using Crestron D3 Pro lighting design software, e-home was able to engineer, program, and execute the lighting system flawlessly. "D3 Pro is very easy to use," says Buzzerio. "You lay out a design room by room, rather than module by module, which is easier for electricians." While using D3 Pro was simple, communicating and collaborating with the architect and the electrician was not as easy.

Thankfully, the Crestron software bailed



them out. "We didn't have any architectural documentation or lighting schedules," explains Buzzerio. "I met with Crestron and they refined one of the D3 reports so it would correspond easier to a marked-up lighting plan. D3 Pro was a useful tool in providing documentation for rough-in wiring and panel schedules."

The "Load Schedule with Terminations" report was not in the original version of the D3 Pro software, but e-home had to provide detailed documentation to the electrician. Meeting with Jim McGrath, Crestron's Lighting Products Manager, and Ray Cones, Director of Technical Sales, e-home explained the situation with the Brooklyn project. Crestron quickly responded by creating a new report in the software to accommodate the dealer.

Over the three-year period, there were several changes to lighting fixtures, counts,



PHOTOS BY PATRICK MULCAHY

and schedules. "We never received a single updated lighting plan over the three or four years," Buzzerio recounts. "The electrician lost the documentation. He didn't have any notes. Fixtures and counts were changed on a whim."

Eventually, the electrician settled on the lighting schedule, counts, and fixtures, and e-home designed, installed, and programmed a fully integrated lighting control system for the home. The lighting system is so extensive that the 65 modules fully load five CAEN 7x2 cabinets, and are controlled by 26 touchpanels and remotes and 67 keypads throughout the house. e-home didn't exactly wade into the lighting waters; they jumped in head first, especially since the lighting products were new



to the market and e-home had never engineered a lighting system of this size. "We did Central Light before, which was a bit of a joke," explains Buzzerio. "We were comfortable with Crestron given their history of delivering quality products."

Whole house automation is controlled from the four TPS-5000 touchpanels. The client wanted total control and meaningful feedback, such as when lights were left on in any room throughout the house, especially in the kids' rooms. The smaller TPS-2000 touchpanel GUI was simplified, limiting the number of buttons on the display.

There was extensive programming and automation in this system. One specific client request detailed lighting automation. The clients' religious tradition precludes them from turning lights on or off from sundown Friday to sundown Saturday. Pre-set scenes were automated to control the lights during the Sabbath, which added tremendous value to the quality of life for the family. They no

longer had to turn each individual light on or off, or manually dim lights to a certain level. Previously, if the lighting levels were not perfect, or if they forgot to turn a light on, they would have to live with it. Now, the lighting is perfect every time with the touch of a button. Using e-Control, the homeowners can also control systems in their home remotely from any laptop when they are traveling.

Similarly, alarm pre-sets were also programmed, activating only certain zones during religious holidays. Religious observance does not allow activating or de-activating systems during holidays. Alarm pre-sets provide a significant level of security, while limiting the occurrence of false alarms. Additional security integration includes doorbell and intercom systems. When the doorbell is pressed, a

recorded WAV file is played through the built-in speakers on the touchpanels. Also, the camera inside the intercom is simultaneously activated, and the video is displayed on the touchpanel screens throughout the house. In fact, every touchpanel in the house has full intercom functionality, enabling family members to communicate with each other from any room.

Similar to the lighting experience, the contractor did not commit to other products that needed to be integrated until the last minute. The house also features a home theater, 20 zones of distributed audio, 15 cameras, pool/spa control, and HVAC control. "The contractor didn't know what he was installing until the end, and then said, 'Can you turn this on,'" recalls Buzzerio. "Of course, we can. But it's not as simple as just turning it on."

According to Buzzerio, the HVAC system was designed for a typical 5,000-square-

(continued on page 45)

THE EVOLVING HOME

(continued from page 9)

installers, and programmers in the MDU market.

What is the Crestron Training Institute (CTI), and how is it addressing the needs of Crestron's dealers?

One of our highest priorities is training. Second to product development, we spend more money and resources on training than any other part of our business. Every Crestron office (over 33 worldwide) has a full-functioning, factory-staffed CTI. This ensures a consistent curriculum and professionally trained dealers and programmers everywhere around the world. Homeowners can be confident, wherever they are, that their system will be installed, programmed, and fully supported locally by a knowledgeable, experienced, and well-trained Crestron authorized dealer.

What is the criterion that Crestron uses to decide when to write control programming for a new product or a new manufacturer, and has it changed over the years as many of the technologies have become more robust?

The criterion is simple: we write control programming when new products come to the marketplace or control code changes in existing products. We have a dedicated department specifically staffed to develop business and technical relationships with other companies. The Integrated Partners Program has a full staff of system engineers to write programs and test equipment, and market development managers to maintain our database of certified control modules. We currently partner with more than 300 companies in various industries, including HVAC, spa/pool/Jacuzzi, shades and drapes, and security. Many companies work directly with our engineers, even at the earliest product development stages, to ensure seamless integration with Crestron solutions. ■

BEST ENGINEERED HOME SOLUTION

(continued from page 31)

trade be meticulous in its work," he says. Key technologies such as a commercial-grade UPS and back-up generator have their own areas and lines, and the rack room has its own heating and cooling system.

The entire house's central control

engine is the Crestron PRO2, the flagship control system for this type of installation, with six built-in COM ports, eight IR/Serial ports, eight I/O Versiports, eight isolated relays, and optional Ethernet that provide interface for control for devices such as video projectors, plasma displays, switchers, DVD players, and other systems. This extends to the interior and exterior lighting, as well as the Gemini security system and HVAC installation, in which Crestron CHV-THSTAT thermostats, mounted in millbank distribution boxes, take input from quarter-sized, paintable Crestron C2N-RTHS sensors nestled in the walls and the CHV-RSS slab sensors in floors. Lighting is controlled with a Crestron PAC2 controller, and both control systems are on a Cresnet® Ethernet network.

Considering the amount of programming that went into the project, the ability to remotely diagnose and reprogram any of the home's functions on the fly was critical. "The system has its own IP address through which we can remotely access the PRO2 and the PAC2 control systems," says Cestaro. "That's just one of many ways that the Crestron technology made this project happen." Adds Kaufman, "Crestron made more things possible. There were so many ways we could customize the programming. For instance, at certain locations the programming was so complex that it began to approach the limit of a touchpanel's internal memory. In that case, we could adjust the resolution of the display's graphics to free up additional memory. Things like that, along with the reliability we've come to expect from Crestron, make any job possible." ■

BRILLIANT LIGHTING DESIGN

(continued from page 35)

foot house, but this is a 20,000-square-foot home. "Balancing the system and working efficiently with the general contractor was challenging." In addition to several installed TSTATs, a series of humidifiers and dehumidifiers was also integrated. The communication with the HVAC system was quite complex. The system is programmed to humidify the house during the winter and dehumidify the house during the summer. Meanwhile, the pool, which is built in the basement, must be humidified all year. "During the summer months there are several zones that must be

dehumidified, while the pool must be humidified at the same time," explains Buzzerio. "Programming those commands is not difficult, but getting the HVAC system (as it was designed by the contractor) to understand and accept that contradiction was a complicated process."

In light of the size, duration, and complexities of the system, not to mention dealing with capricious contractors, e-home earned the Integration Awards for Brilliant Lighting. "We are very proud to be involved in a project of this caliber, and to have the confidence of the architect and the client," says Buzzerio.

When the keys were turned over to the clients, they couldn't have been happier. The home is completely integrated and automated exactly as designed. Buzzerio says, "Standardizing on one product that everyone in our company knows makes system design and installation more efficient and effective." The family is enjoying their new home in the old neighborhood. While things are definitely changing in Brooklyn, change doesn't always happen quickly or easily. ■

CRESTRON TRUE AWARD

(continued from page 39)

was at home and called her husband on his cell phone to complain that the apartment was too cold. He was able to adjust the temperature remotely from his laptop while flying in his private jet at 40,000 feet. While "the HVAC guys" used Crestron thermostats in the past, they hadn't seen them work with e-Control, and they were very impressed.

The HVAC installers now purchase Crestron thermostats through Ultimate Sound, and they recommend Ultimate Sound to new clients. The key to working successfully with HVAC installers, according to Borenstein, is to "make sure you give them the thermostats to install and fully test before you connect to the system."

While it is certainly tempting to simply give a consultant or architect exactly what is specified and take the path of least resistance to complete a job, Ultimate Sound made the extra effort to stand by its partners and provide the best solution for the client. Says Borenstein, "We feel Crestron is our family. They stand behind us and we stand behind them."

Ultimate Sound wins the Crestron True Award for its loyalty, dedication, and professionalism. ■