

BRIDGING THE GAP BETWEEN DESIGN AND TECHNOLOGY

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Residential





Lakeside Estate

By Lee Cuthbert

Located on a lake in northern Indiana, the sprawling postmodern residence of Bill and Toni Johnson is a near textbook example of how a high-tech new home project should come together. Careful design coordination, good client feedback, and full system testing prior to installation resulted in a highly satisfying, fully operational home without delays or overruns.

The Johnsons maintain separate houses in Florida and California, but expected their new, 8,000-square-foot home on Indiana's largest natural lake would become their main residence. Johnson, an entrepreneur with business interests in multiple locations, wanted to be able to telework, and the couple wished to accommodate frequent dinners for eight, as well as occasional parties for as many as five hundred guests. Both Johnsons enjoy music and electronic entertainment, yet they wanted the home to reflect their artistic tastes. All technology really needed to disappear, so as not to distract from the aesthetics of the home.

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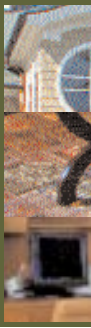
GRAND HOME AUTOMATION

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The conceptual design process was a several month-long process. The home project first had to blend with its immediate surroundings, which consisted of lots with built homes and a yacht club, south of the site. Two existing homes needed to be demolished, and a public road had to be moved to facilitate construction.

To make the home fit the lifestyle and reflect the tastes of its owners, it was determined that a fairly high degree of system integration and control would be required. This would make the home easier to live in and use for the owners and their guests. The Johnsons would not have to spend a lengthy period “reacclimatizing” when returning from one of their other properties. And, through the integration of the various home systems, the technology could better blend into the architecture.

The systems design and integration firm of Grand Home Automation in Grandville, Mich., joined the project team at this stage. Lead engineer Rich Conklin began the process of designing an integrated control system to include whole-house lighting, multi-zone distributed audio, an intercom network, media/entertainment room, and a security system. Conklin says the design alone for the house took 34 hours.

“To install and integrate these systems with the clients’ wish of making the technology as invisible as possible took a great deal of interaction between the architects, designer and us,” Conklin relates. “In any project with a high degree of system integration, the process to achieve the desired result becomes as important, if not more important, than the products selected to achieve that result.”

“All design work done by the architect, interior designer and

us was done in CAD,” he adds, “so it could be shared and changed easily.” Electronic components were to be built-in or hidden in cabinets, with a high standard of fit and appearance.

Communication between all members of the building team was aided, according to Grand Home Automation president Dean Rockwell, by the builder, Martin Brothers Contracting, which held weekly team meetings at the job site. “This builder is very progressive in his thinking and embraces technology. He would take minutes at the weekly meetings of the building team and copies of those minutes would be sent to everyone involved in the project.”

Not only was miscommunication avoided, but designers and contractors alike were alerted to approaching issues that may impact their work. “The surprises are dramatically reduced on a project run like this,” says Rockwell. “It’s not the norm, it’s the exception, and it’s how we’d love to always see it happen.”

These weekly meetings included representatives of the trades (cabinetry, HVAC, electrical, etc.), invited on an as-needed basis. The home owners also attended. The meetings provided a designated window of time for cooperation and decision-making. Conklin was able to get early approval of his systems designs and





programming solutions. “All the control stations and touchpanel finishes were closely scrutinized by the designer and architect to make sure they would blend in to their various locations,” he adds. Many finish elements were faux painted.

The weekly meeting scenario allowed the integrator to place equipment orders ahead of schedule. As the equipment arrived at Grand Home’s shop, they began to assemble it and integrate the home’s subsystems, including HVAC, the alarm system, etc. The entire system was programmed and tested, so it was debugged and ready for installation when sent to the job site.

“This process reduced post installation time onsite for testing and programming by two to three weeks,” says Conklin. Since electronics installation usually comes last in the process, this meant the home owners were able to move in to a fully functioning home weeks earlier than on typical projects.

Grand Home Automation came up with a number of creative ideas to tailor the system to the couple’s tastes and lifestyle. For example, in the home’s Irish Pub, the firm designed a graphic interface for the touchscreen fea-

turing the University of Notre Dame logo. In the kitchen, the background of the touchscreen is an image of sailboats on a lake, since the Johnson home is near their lake’s yacht club.

Near the head and foot of the main staircase there were no convenient walls for light switches, so Conklin and his team placed pressure pads under the carpet, connected to the control system. When depressed, the pads turn on the stair lights for three minutes. In the master suite, the touchpanels include motion sensors to wake the panel up as a person approaches. Motion sensors are also employed on the panel outside the bathroom to automatically turn the bathroom lights on.

Grand Home Automation also customized controls for the eight-zone distributed audio system, which includes digital cable music, radio, CD Jukebox and Disklavier piano. “One button on the Lutron ‘SeeTouch’ keypad controls the music,” explains Conklin. “A single touch of the button turns on the audio zone to the last source and a double-tap of the button turns off the audio.”

The integrators also tied the home’s video systems into the controls, including a 42-inch plasma television in the

pub and a 61-inch rear-projection HDTV, with surround sound, in the “Entertaining Room.” All “theater” sources are programmed to work from a one-touch button.

“We probably used the most creativity in programming the system and making it easy for the client and their guests to use,” notes Conklin, who says the functions most used by the Johnsons are programmed as one-touch operations. “There is even an ‘entertain with music’ button that sets the lighting and plays music throughout the predetermined zones for entertaining.”

The residence is neither the biggest nor the most complex project Grand Home Automation has completed. In fact, the \$200,000 electrical systems budget was about

average for a house of this size, Rockwell says. What makes this project distinctive is the coordination of design and technology that demonstrates what good engineering can do to bring a higher quality of life to clients.

“Our market is estate-type homes,” Rockwell concludes, “and what an estate home means to us is not necessarily its size. It means a discerning client who is willing to pay for a high level of design quality and implementation – whether a 5,000-square-foot home or a 30,000-square-foot home.” ■

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