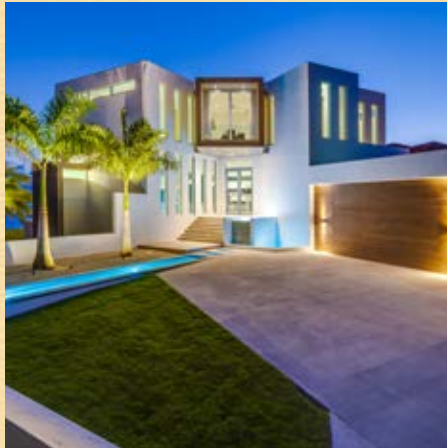


EH HOME 2016 Gold OF THE YEAR WINNERS



GOING FOR THE GOLD



ELEVEN YEARS AND *ELECTRONIC HOUSE* IS STILL GOING STRONG with its annual Home of the Year contest—an awards program intended to showcase some of the smartest homes on the planet. There was no shortage of amazing entries submitted by home systems integrators to the 2016 Home of the Year judging panel, making it more difficult than ever to select Gold, Silver, and Bronze recipients in nine different categories. After thorough discussion and debate, winners were ultimately chosen—based on the high level of innovation, creativity, and customization demonstrated in the design and installation of smart systems into stunningly beautiful and brainy homes.

In this special issue of *Electronic House*, we pay special tribute to the

Gold winners of the following categories:

- ◆ Smart Home, more than \$150,000
- ◆ Smart Home, less than \$150,000
- ◆ Home Theater, \$150,000+
- ◆ Home Theater, \$75,000-\$150,000
- ◆ Home Theater, \$25,000-\$75,000
- ◆ Multipurpose Entertainment Room
- ◆ Outdoor Entertainment Area
- ◆ Unique Space
- ◆ Before & After

Inside, you'll see a wide variety of homes—all sizes, price ranges, styles, and ages. There are beachfront vacation properties where the ability to monitor and control systems remotely was a must for their owners, as well as residences whose electronics cater to the busy lifestyles of active families. You'll also read about an outdoor entertainment system that rises up from the ground and a barn from the 1800s that was transformed into a high-tech living space for owners eager to live off the grid.

Based on the range of homes feature in our Gold Home of the Year issue, it's no wonder more people than ever are choosing to smarten up their homes by adding intelligent thermostats, dimmable lighting, Internet-connected security cameras, integrated management systems, and more. No matter what the needs, the budget, or the lifestyle, anyone can benefit from having smart products and systems added to their home. It's a gold-winning formula for greater convenience, efficiency, and fun, so we hope these award-winning projects offer the inspiration you need to add some IQ to your own home.

—Lisa Montgomery
lmontgomery@ehpub.com



WARM TO THE TOUCH

Automated fireplaces, snow melting system, and 96 window shades prep 8,000-square-foot mountain home for fabulous family retreats — with a touch of a button.

TUCKED WITHIN A GROVE OF EVERGREEN TREES stands a home so smart, the family that visits there occasionally for long ski weekends barely needs to lift a finger to ready their mountainside dwelling for their arrival. Well, maybe they lift a finger, pressing it to the screen of a smartphone — but that's about as difficult as it gets. There's no snow to shovel off the driveway, no thermostats to adjust to crank up the heat, no window shades to open, or lights to turn on. It all happens automatically during their hour-long flight from the San Francisco Bay Area to Lake Tahoe. Or, as is the case with the start-up of the hydronic heating system that warms the 8,000-square-foot home slowly yet efficiently from below the floor, the finger tap happens a few days before their departure.

The ability to monitor and manage nearly every electronic system in their new mountain home from afar is what ultimately sold the homeowners on a Savant control system — this and the fact that they were

SYSTEMS & EQUIPMENT

Home Control: Savant
Lighting & Shading Control: Lutron
Whole-House Audio: Savant
Speakers: Leon Speakers, Pro Audio Technology, Sonance
TVs: Sony
Surveillance Cameras: Axis

HIGHLIGHTS

- ◆ Snow-melting system, gas fireplaces, and hydronic floor heating system are all automated
- ◆ Tiling system displays six

video streams simultaneously on a single TV screen

- ◆ Custom, architectural, and bipolar speakers combine for audio awesomeness

THE PROFESSIONALS
Systems Design & Installation
RAC Advanced Control
Tahoe City, Calif.
www.racav.com

Builder
Joans Corda Construction,
Tahoe City, Calif.
www.joanscorda.com

SMART HOME OVER \$150,000

already intimately familiar with the system, having used it previously in their other homes, according to Marcin Przybylski from RAC Advanced Control, of Tahoe City, Calif. He and his team of home systems integrators were hired by the owners to handle the design and installation of the sophisticated technology systems that handle many of the home's core functions, and won our coveted Best Smart Home of the Year award.

PLACED ON AUTOMATIC PILOT

While the house is vacant, the Savant home control processor puts all of the systems into an Away mode that was custom-configured and programmed into the processor's operating platform by the software engineers at RAC Advanced Control. This setting was designed to help the home run at an efficient level and without any risk of freezing pipes or other potentially harmful events like extended power outages or extreme dips in temperature.

The house is virtually problem-free, as the homeowners are able to monitor several conditions in real-time, from the temperature of the water in the hot tub to the status of light switches. Should the owners want extra assurance of their home's well-being, they can tap into the video captured by several Axis surveillance cameras positioned strategically throughout the property and view it from the screen of an iPad, no matter if they are five miles away picking up milk at the grocery store or 500 miles from the residence on a business trip. Remote access to real-time camera video is a great complement to the snow melting system, as the owners can visually determine just how much snow has fallen and if it warrants activation of the melting system.

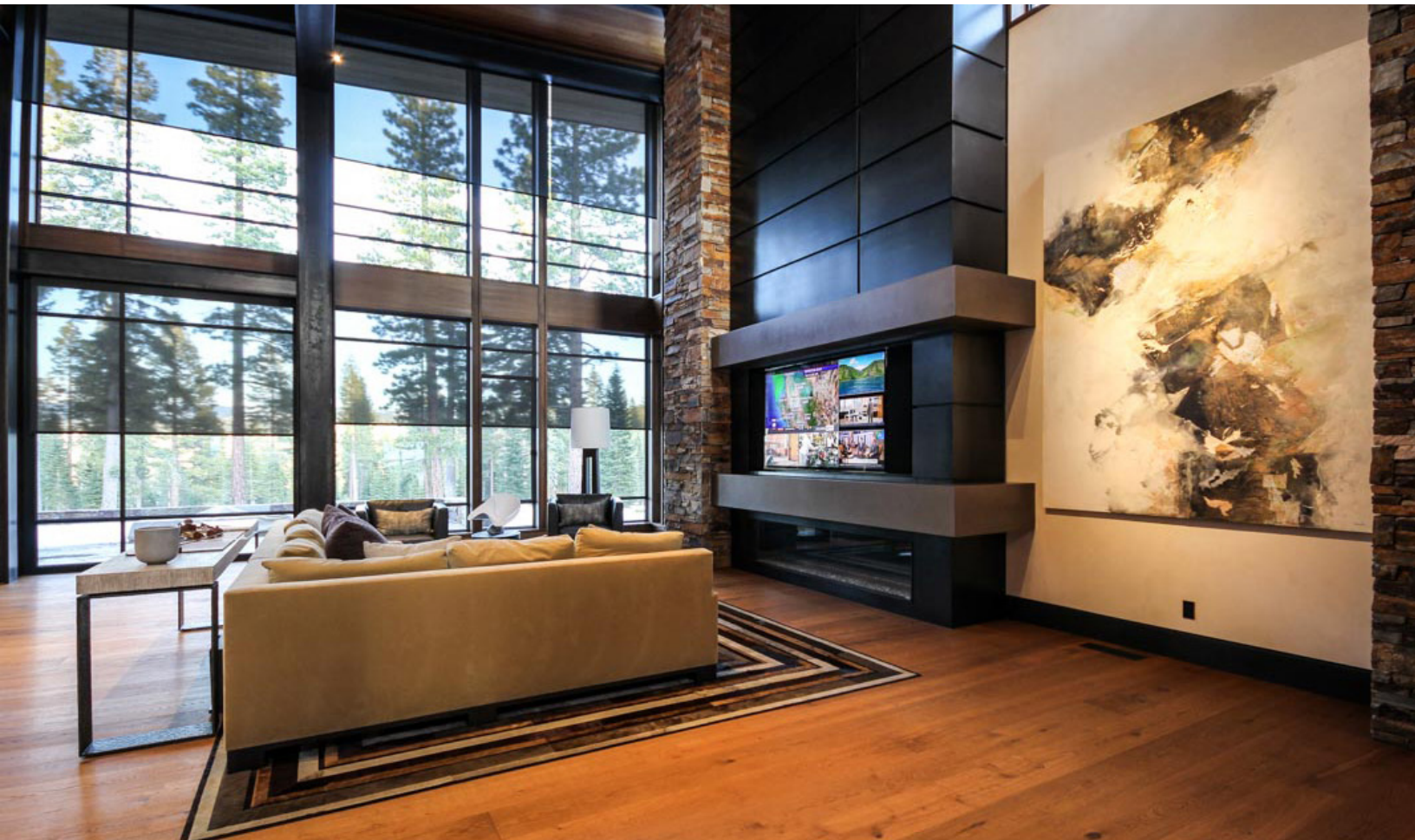
"Sometimes all it takes is just a few flakes to set off the system," Przybylski explains. "It's a waste of energy, so the owners can choose to temporarily deactivate the melting system, and even when there's enough snow, we set up the Savant system to trigger the melting system on a three-, six- and 12-hour timer rather than continuously."

FINICKY FIREPLACES LEARN TO COOPERATE

The real magic happens, though, when the homeowners arrive at the house. Like a virtual property manager, the Savant system has raised all 25 zones of hydronic heating to a prescribed comfort level, and follows through by signaling a Lutron QS lighting system to brighten several select LED fixtures, activating the snow melting system to clear the driveway, opening a few of the home's nearly 100 Lutron QS motorized window shades, and switching on the gas fireplace in the family room.

The alterations are so beautifully choreographed, it appears technologically effortless, but as Przybylski assures, getting the fireplaces (four total) to cooperate was no easy task. Manufacturers have been slow to warm up (no pun intended) to the smart home movement, he says, and therefore their products can be tough to integrate with control systems without some very intricate engineering involved. "We had to actually get into the electrical schematics of each fireplace to engineer drivers that would allow them to be monitored and controlled by the Savant system," Przybylski says.





RAC Advanced Systems rose to the challenge by tying not just one brand of fireplace into the Savant control platform, but four different brands of fireplaces, each with their own unique operating systems. “The homeowners had already picked out the fireplaces they wanted based on their cosmetic features; it was our job to make them work together technologically,” Przybylski adds. With all systems in sync and united under the Savant system, the house is warm, welcoming, and ready to cater to an active family who enjoys hanging out in their smart home just as much as they do hitting the ski slopes.

MULTISCREEN SPORTS VIEWING

There’s just about nothing this home can’t manage to do on its own, or at least when commanded with a swipe and a tap of the Savant control app on a smartphone or tablet. “The owner is a very tech-savvy guy and wanted to have every conceivable system in his home accessible from one user interface,” Przybylski says. “The Savant system sets everything in motion so that the environment is precisely to their liking.

One of the family’s favorite activities is watching sporting events. On a given Sunday afternoon, there may be a half-dozen games worthy of their viewing time, so rather than have to channel surf to the point of ridiculousness, the homeowner requested that RAC Advanced Control include a Savant video tiling system in the home technology plans. This

advanced video processing technology, called SmartView, allows viewing of multiple video windows, or tiles, on a single display — for this home, a maximum of six tiles per display. Using an app on an iPad, the owners can switch video sources between the tiles and alter the shape and configuration of them; for example, expanding the size of a particular tile for viewing a big football game, and flanking that big window with five smaller windows for lesser matchups.

It’s an extremely sophisticated sort of system typically reserved for a home’s one main TV. For this project, however, RAC Advanced Control installed two SmartView units: One for the 85-inch 4K Sony TV in the great room, and another for the 85-inch 4K Sony TV in the rec room. “Tiling for two TVs is something we had never done before,” says Przybylski. “It really raises the bar in terms of entertainment extravagance.”

COVERT TACTICS FOR AUTOMATION AND A/V COMPONENTS

The SmartView processors sit in a well-appointed equipment rack in a specially designed and constructed closet in a hallway, as do all of the home’s audio and video components, which includes an Autonomic Controls media server, three Apple TV units, four DirecTV satellite set-top boxes, and an Oppo Digital Blu-ray Disc player. Each video component is connected via HDMI cabling to one of four TVs. There is no sharing of video sources among the displays, but all of these compo-

SMART HOME OVER \$150,000



nents connect directly to each SmartView processor so that every source can be accessed on the two tiling-enabled TVs.

Audio is another matter. Songs curated by the Autonomic media server travel to an interesting mix of speakers from Leon Speakers, Pro Audio Technology, and Sonance. Each brand of speaker was chosen by RAC Advanced Control for certain performance and cosmetic reasons. For example, Pro Audio Technology was the speaker of choice for the great room, due to the awesome audio muscle of its bi-amplified design. Even though the speakers were installed 28 feet high on the cathedral ceiling, they are powerful enough to be easily heard and enjoyed from anywhere in the spacious room.

Speakers from Leon Speakers, meanwhile, were chosen for their ability to be customized to suit the style and dimension of each of the home's Sony 4K TVs. Architectural speakers from Sonance round out the whole-house audio system, disappearing into the ceiling surfaces with their bezel-less grilles and small footprints. All meticulously installed, the speakers provide music to 11 listening zones, which includes three surround-sound setups. From a menu on the Savant control app, the family can peruse their audio options, like favorite streaming channels from Pandora, Deezer, Rhapsody, Sirius XM or Tidal, choose what they want to hear, and direct it to a specific zone or several zones.

FROM CONTROL TO COMMUNICATION

iPads are the mode of control in this super-smart home, but in addition to their traditional role as an Internet portal, they were configured by RAC Advanced Control to function as VoIP (voice over Internet Protocol) telephones. When an incoming call comes through the phone system, the family can converse with the caller directly from an iPad. It's a slick setup that utilizes the full potential of the Savant home control



system, making this mountain home a shining example of how technology can impact every aspect of a family's life.

From the peace of mind it provides and energy it can help save, to the enjoyment of amazing entertainment options, the Savant system sets apart this award-winning residence as one of the most intelligent, technologically sophisticated, and simplest-to-manage home around. **EH**



SARASOTA STUNNER

Magnificent views and a super-smart shading system help this Intracoastal home keep its cool.

WHEN YOUR CUSTOM-BUILT HOME is planted on a prime piece of property that overlooks the Intracoastal Waterway in sunny southwest Florida, huge, scaling, floor-to-ceiling windows are an absolute must. They deliver phenomenal views, of course — but also excessive heat from the sun. Consequently, the builder of this award-winning smart home, Voigt Brothers, makes sure to outfit every home it builds with Lutron motorized shading. Lighting control from Lutron is also a standard feature to provide an eye-pleasing aesthetic, as is the handiwork of a reputable home systems integrator to tailor the technologies to the unique needs of the owners of each residence.

WINDOWS TO A WORLD OF HIGH-TECH OPTIONS

Explains Mark Bolduc from Sarasota-based Wicked Smart Homes, the integration firm contracted by the builder and recipient of our Smart Home of the Year award, “This particular architect and builder team preps their clients on the practicality of having shading and lighting control, and we follow up by presenting them with how we

SYSTEMS & EQUIPMENT

Home Control: Crestron

Lighting & Shading Control: Lutron

Whole-House Audio: Crestron

Speakers: Paradigm

TVs: Sony

Security System: DSC

Surveillance Cameras: Visualint

HIGHLIGHTS

- ◆ Automated shades lower and rise on command or at certain times of the day
- ◆ Surveillance cameras can be set to create virtual boundaries
- ◆ Whole-house audio system designed specifically for two people’s preferences

THE PROFESSIONALS

Systems Design & Installation
Wicked Smart Homes, Sarasota, Fla.

www.wickedsmarthomes.com

Builder

Voigt Brothers Construction
Sarasota, Fla.

www.voigtbrothers.com

Architect

DSDG, Inc., Sarasota, Fla.

www.dsdginc.com

SMART HOME UNDER \$150,000

can customize the systems further to meet their needs and introduce them to other options.” In this case, these needs revolved mainly around the fact that the homeowners would be staying at their new 5,000-square-foot waterfront residence only part time. Functioning as a vacation home, it would need a home automation system that would help the owners monitor it from afar and enable it to function autonomously.

Per the homeowners’ request, the smart home technologies chosen by Bolduc should permit them to operate the Lutron motorized shades and dimmable lights, as well as a DSC security system, Carrier heating and cooling system, and Yale electronic door locks as easily from thousands of miles away as they can while on the premises. Bolduc selected a Crestron control system as the overarching home management platform, and loaded the Crestron mobile control app on the owners’ smartphones and tablets.

SPF FOR A SUN-SOAKED HOUSE

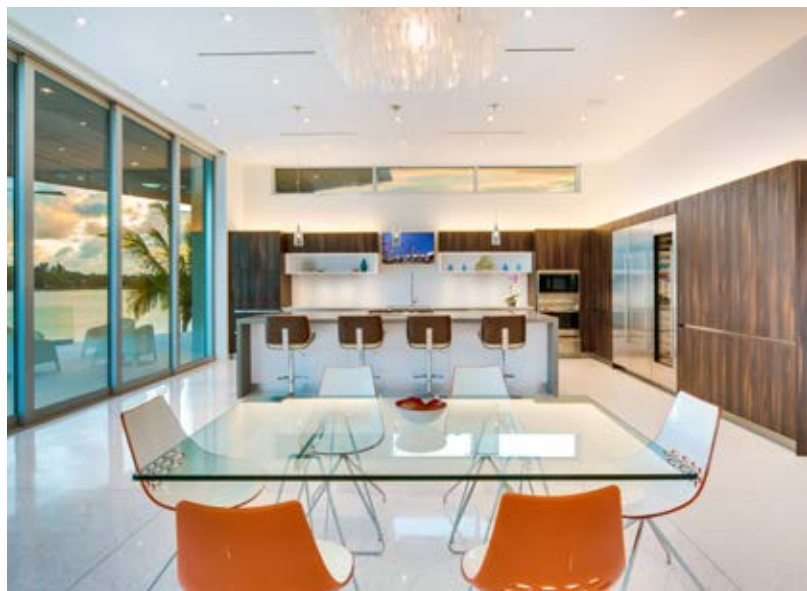
Conveniently from the app, which communicates directly with the home-based Crestron CP3-N processor, the owners can check out real-time weather conditions in Sarasota, and adjust the shades and HVAC system if necessary, which based on the brutal afternoon sun that hits this house, happens frequently. “The entire west side of the home that faces the water is made of 12-foot-tall glass walls,” says Bolduc. “So the home benefits greatly from having Lutron motorized shades to minimize solar gain and protect the furnishings from fading.”

Even if the owners aren’t on the app, the Crestron system handles the shade adjustments for them automatically. An astronomical time-clock built into the control processor triggers the shades to lower in unison in the afternoon. It’s an effect that not only shields the interior from heat and UV light, but makes the unoccupied home appear as if someone is at home.

SUPER-SMART SURVEILLANCE

While the homeowners are closing the shades — or leaving the task to the Crestron system — they can peek in on their waterfront property. Wicked Smart Homes positioned four Visualint IP cameras strategically to capture all of the goings-on — be it at the front door or the backyard by the boat dock. These are no ordinary, run-of-the-mill surveillance cameras, according to Bolduc. “Built into the cameras is a special analytics feature that allowed us to set specific boundaries for each camera to monitor.” This is particularly helpful for securing the rear of the home, which butts up against the waterway.

“We set a virtual barrier that sets off the camera should anyone enter the backyard from the water,” Bolduc explains. Should anyone cross over the water line, the camera triggers a notification to the homeowners via text message. These cameras maintain their vigil, however, only during certain times of the day and only when the homeowners are away. “This way, the groundskeepers won’t set off the alarm and the homeowners can enjoy their backyard without worrying about the cameras,” Bolduc says. Wicked Smart Homes set up the time-of-day parameters for the cam-



SMART HOME UNDER \$150,000



eras to follow while they were installing the technology into the home, so there's no need for the homeowners to tinker with the settings; it all happens automatically.

AUDIO ADDS TO THE ALLURE

Free to enjoy the lush backyard — as well as the beautiful interior — the homeowners can grab a tablet or phone to access a Crestron whole-house audio system and an Autonomic music server that's tucked away in a specially built utility room with the rest of the electronic gear. Using the Crestron app, they can direct music to eight listening zones equipped with Paradigm in-ceiling speakers inside and three zones equipped with Terra landscape speakers outside. The music also plays through the surround-sound system in a family room where a 65-inch TV gets its video content from a cable box located in the equipment room. Four other cable boxes reside in this room, each wired to its own TV. Bolduc says it's a simple setup that maintains a clean aesthetic and suits the entertainment needs of the homeowners perfectly.

"They aren't big TV watchers, so having a slew of video sources wasn't necessary," he says. And neither was loading up the equipment

rack with several audio components. The Autonomic server streams all of the popular Internet music services, and supports two simultaneous streams so that she can listen to a certain music station in one room while he listens to something different in another room. "It's just the two of them who live in the house, so two streams and Internet radio was sufficient for their listening pleasure," Bolduc says.

LIGHTING THE WAY TO FULL CONTROL

Whole-house music is often what inspires homeowners to branch out into complete home automation; in this case, sunshine was the impetus. After understanding the benefits of lighting and shading control to the efficiency and beauty of their home, the owners of this stunning Sarasota abode added a bevy of other high-tech amenities, including whole-house audio, to create a living environment that suits their tastes, schedule, and needs as part-time Floridians. They can control every aspect of the home with a simple tap of a smartphone app, whether they're soaking in the sun outdoors, hosting a party, or staying at their main residence in Europe. **EH**



UNLEASHING THE A/V Power

Turbo-charged home theater delivers big, bold entertainment from best-in-class projector, screen, and Dolby Auro-3D speakers.

BY KRISSEY RUSHING

DAVID KEPKE, PRESIDENT OF MULTIMEDIA RESOURCE GROUP INC., of Chappaqua, N.Y., believes that there are three pillars for any successful high-performance media room or home theater: room structure, equipment, and power. Sadly, homeowners often see power as a low priority when it comes to their wish list, he says. It's one of the most misunderstood components that all too often requires a "sell" to the homeowner or gets cut when budgets are squeezed.

So, why then does power make up one-third of Kepke's list of essential elements for a high-performance system? "Because if you don't have good power, you can't possibly have a good system," he explains. "Everything we see and hear is essentially modulated power. So, it's important that you start any system with clean power."

CLEAN & MEAN

As with most Multimedia Resource Group projects, equipment from Torus Power does the honors in this award-winning home theater, providing clean, isolated power to every component in the room. The product engineers at Torus guided Kepke through the process of selecting a wall-mounted balanced power isolation transformer unit (WM-45-BAL-AVR-TVSS), which offers transient voltage surge suppression,

SYSTEMS & EQUIPMENT

Video Projector: SIM2

Projection Screen: Seymour
Screen Excellence

Surround-Sound Processor:
Datasat

Speakers: Pro Audio Technology

Power Conditioning/Protection:
Torus Power

Control: Crestron

Lighting Control: Crestron

Acoustical Treatments: Kinetics

Noise Control

Seating: Cineak

THE PROFESSIONALS

Systems Design & Installation
Multimedia Resource Group
Chappaqua, N.Y.
www.mrgcustom.com

Architect
Soper Babcock & Associates
Greenwich, Conn.
www.soperbabcock.com

Builder
RR Builders
New Canaan, Conn.
www.rrbuilders.com

Video Calibration
Kevin Miller, ISFTV
East Patchogue, N.Y.
www.isftv.com

Audio Calibration
Paul Hales, Pro Audio
Technology
Lake Forest, Calif.
www.proaudiotechnology.com

HIGHLIGHTS

- ◆ Pure, clean power fuels custom-designed theater efficiently
- ◆ Auro-3D audio captivates moviegoers
- ◆ Expert soundproofing sets theater apart from the rest of the house, sonically and structurally

HOME THEATER OVER \$150,000

meaning it responds in less than five nanoseconds to power surges up to 80,000 amps, thereby offering outstanding protection of connected equipment. The wall-mounted form factor not only saved rack space, it allowed the electricians to complete their wiring and clean up before Kepke and his team installed the equipment rack. “I didn’t want to bring in the rack and equipment until the space was dust-free,” says Kepke.

The Torus Power wall-mounted isolation transformer feeds clean power to the multiple Pro Audio Technology amps and speakers. “These speakers are extremely dynamic and neutral, so basically whatever you put into them, you are getting out of them. They offer really tight bass and great dynamics,” says Kepke. With these speakers, the homeowners can enjoy the latest in surround-sound technology—Auro-3D. Like Dolby Atmos and DTS:X, Auro-3D employs the placement of speakers above and around you to more accurately replicate realistic audio in the room.

DYNAMIC 3D AUDIO

When it came to installing the Pro Audio Technology speakers in the appropriate configuration for three dimensions of Auro-3D sound, Kepke had to address an existing steel beam that stretched across the back of the room. It caused the height of the ceiling to be lower than expected, and influenced the proportions of the wall panels. With the speakers located in the wall panels and behind the projection screen, Kepke had to make sure there was enough separation between the main speaker channels and the Auro-3D channels. He consulted extensively with both Auro-3D and Pro Audio Technology, and they collectively determined that there was indeed enough ceiling height to meet the correct specifications.

Processing all of this 3D audio is a Datasat RS20i—a professional audio system designed for high-end private cinemas. Its input/output capacity exceeds what would traditionally be required for most home cinemas, but the ability to fine-tune each channel is a huge benefit for systems of any size. “From the initial configuration, it was clear that this unit was unlike anything else I’ve used to date,” says Kepke. “The audio quality is so pure, even familiar content sounds different, bigger, more pristine.”

PANORAMIC, SHAPE-SHIFTING VIDEO

Kepke didn’t route the video signals through the Datasat unit, opting instead for a Lumagen video processor to send video from the home theater components to a SIM2 SuperLumis projector. The projector is outfitted with an anamorphic lens, giving the homeowner aspect-ratio control over content shining onto the acoustically transparent 2.35:1 (CinemaScope) Seymour Screen Excellence screen, which can mask to a narrower 16:9 aspect ratio.

EFFORTLESS OPERATION & CONTROL

A Crestron MC3 processor manages the audio and video equipment, plus 11 zones of Crestron lighting—all of which is controllable via a Crestron touchscreen. The homeowners can pick the appropriate mode



HOME THEATER OVER \$150,000



for a desired activity, whether it's watching a movie, intermission, or reading. Kepke designed the user interface on the touchscreen to be simple for anyone in the house to engage various functions. With the touch of a finger, the homeowner can view content from Verizon Fios, a movie on the Oppo Digital Blu-ray Disc player, Apple TV, or the Kaleidescape movie server.

CALIBRATED, DECORATED, AND SOUNDPROOF

As for the look and feel of the theater, the homeowner was very involved in the selection of the comfortable Cineak Ferrier seats with dual motorized headrests and footrests. He worked directly with Kepke and his team to customize the seats so they did not include the diamond pattern typical of this model on the armrest.

The gorgeous millwork is largely attributable to the architect, who spent hundreds of hours crafting its stunning details. All of the mahogany woodwork is more than just a pretty face, however; it's actually

the icing on the acoustical cake. The intricate details and alterations of plane aid in the acoustic performance of the room. Installed between each column is acoustically transparent fabric, behind which resides four inches of Fiberglass and air space. Kepke isolated the room from the rest of the home by using a double wall structure and installing two layers of QuietRock sheetrock and a layer of Acoustiblok sound-deadening material. When everything was complete, video guru Kevin Miller, president of ISFTV, East Patchogue, N.Y., calibrated the video to ensure a killer on-screen image, while Pro Audio Technology's Paul Hales calibrated the audio. The result: incredible.

"When you execute these new three-dimensional surround-sound formats properly, the sound is truly like nothing else you've heard," says Kepke. In the end, it was Multimedia Resource Group's strict adherence to Kepke's three pillars of a truly great room that helped make this theater a success—structure, equipment, and clean, isolated power to feed the system and provide a difference you can see and hear. **EH**



100-YEAR-OLD MANSION DELIVERS MODERN MEDIA

As the last phase of an extensive renovation, a high-end home theater lands on a third-floor office space.

BLESSED WITH 14,000-SQUARE-FEET OF LIVING SPACE, the owners of this St. Paul, Minn., mansion had plenty of room for entertaining family and friends—a spacious family room and kitchen, a luxuriously appointed patio, and a grand foyer. The only thing missing, it seemed, was a sensational home theater. Remarkably, one of the biggest challenges was finding a good spot for one. The crawlspace-like basement of this 1906 home was a no-go, as were the family room, den, and other spaces that the homeowners preferred to keep as is. The best option, says Lance Anderson, founder and CEO of the home systems integration firm Admit One, of Edina, Minn., was a dusty storage space on the third-floor.

PRESERVING HISTORY THROUGH TECHNOLOGY

Admittedly, scaling the stairs to reach the home theater would require

SYSTEMS & EQUIPMENT

Video Projector: Sony
Projection Screen: Stewart Film-screen
A/V Processor: Integra
Speakers: JBL Synthesis
Control: RTI
Lighting Control: Lutron
A/V Components: Kaleidescape, Sony

HIGHLIGHTS

◆ Custom-designed “vintage” keypad belies its high-tech performance

- ◆ Unique seating configuration complements the slanted ceiling
- ◆ Ticket booth offers a cool place to store A/V gear

THE PROFESSIONALS

Systems Design & Installation
Admit One Home Systems
Edina, Minn.
www.admitonesystems.com

Architect
Charlie & Co. Design,
Minneapolis, Minn.
www.charlieandcodesign.com

HOME THEATER \$75,000-\$150,000

more muscle than skipping over to a media setup on a lower level, but the homeowners liked the idea of making their home theater feel like a special destination. They also were keen on the concept of maintaining the same vintage look that pervades the rest of the residence. Naturally, then, says Anderson, concealing most of the A/V gear was of the utmost importance. “They wanted the period design to be the focal point, not the projector or the speakers.”

In a room of typical construction, Admit One could have easily tucked a rack of equipment in a wall and stowed a projector above the ceiling. Speakers could have been recessed into the ceiling and walls, and a sleek, modern keypad or touchpanel could have been mounted to the wall for a quick, convenient kick-start of the equipment as the owners strolled into the room. This 24-by-12-foot room, however, featured slanted walls, dormer windows, and a vaulted ceiling—structural elements that were unaccommodating of these common cloak-and-dagger techniques.

HIGH-TECH TURNS VINTAGE

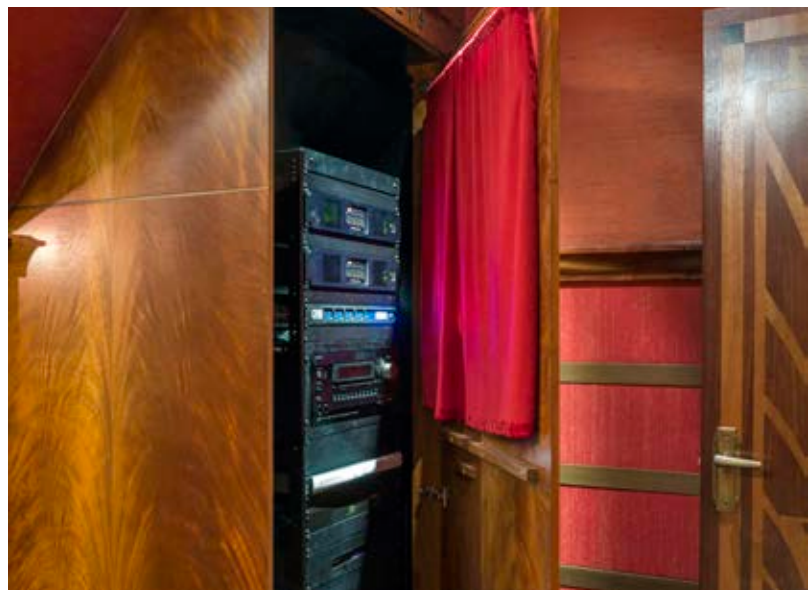
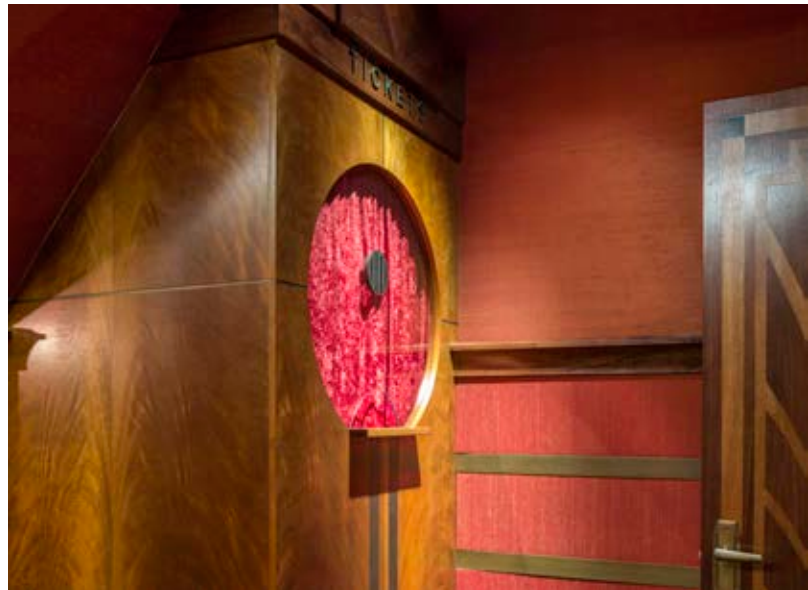
In the business of home theater design for more than 14 years, Admit One has experienced its fair share of challenging installations, so it embraced this project with gusto, engineering creative solutions that would preserve the home’s historic integrity without any compromise to the performance of the cutting-edge gear selected for the award-winning home theater.

Before any of the A/V gear could be installed, though, Admit One had to tackle a tricky layout and configuration of the theater seats. Slanted walls dictated a rather unconventional arrangement of eight vintage-style chairs. “Guests wouldn’t have been able to enter the room without crouching if the seats had been set up in rows across the width of the theater,” says Anderson. To ensure that guests could comfortably walk to their seats, a center aisle was designed, with four chairs on each side.

This clever and effective seating configuration set the tone for the rest of the home theater design. A Sony 4K video projector suspended from the ceiling above the aisle is hidden within a custom-built “hush box” that was crafted to complement the period style. Admit One added a cooling system to make sure the projector would never overheat and to keep it in mint condition. The Sony projector is positioned perfectly to shoot vivid video to a 127-inch diagonal Stewart Filmscreen screen that commands the front of the room. Seven JBL Synthesis speakers and two subwoofers round out the room’s A/V accouterments, but they remain largely undetected, having been mounted to the walls and covered by acoustical panels, which were designed and fabricated in a special silk material by Admit One to hide the technology without muffling the audio ... and of course, to satisfy the owners’ desire for inconspicuous electronics.

TICKET BOOTH BUZZING WITH A/V

The last piece of the concealment puzzle was locating an impressive rack of A/V components so that they would be out of sight yet easily accessible for service and maintenance. Unlike other spots that may have offered storage in a closet, this room was lacking any sort of tuck-away area. Admit One and the project architect quickly devised a scheme



HOME THEATER \$75,000-\$150,000



that's more than just a place to put gear, but adds an element of excitement to the home theater experience. An authentic-looking ticket booth was designed and stands just outside the entrance to the theater. Built into the back side of the booth, a Middle Atlantic rack holds JBL Synthesis processors and amplifiers, an Integra processor, and a suite of Kaleidescape media servers. The entire rack slides out so that Admit One designers can easily reach the wiring and the rear of the components for any future equipment updates or upgrades.

“OLD-FASHIONED” CONTROLS MAINTAIN CUTTING-EDGE PERFORMANCE

The culmination of this theater's creative design, though, has to be the keypad that controls the entire A/V setup, plus the room lights. Instead of using a standard keypad that exudes a sleek, modern appearance, Admit One fashioned one to look much more ... well, old-fashioned. Small back-lit buttons were replaced with simple round buttons and an antique brass faceplate was applied. The custom keypad may look like a throwback from the early 1900s, but it's anything but antiquated when it comes to operating the A/V components and lighting. Using an RTI processor as the room's control platform, Admit One programmed the equipment to respond in a perfectly timed sequence to buttons pressed on the keypad or an RTI handheld remote. A single tap, for instance,



dims the lights and activates the appropriate equipment for a spontaneous movie night; another shuts down everything as the owners and their guests exit.

For an extra touch, Admit One refurbished an old, non-working intercom system to allow the owners to easily communicate from the theater with family members wherever they may be in the enormous home. It's just one more example of how modern technology can breathe new life into old electronics. **EH**



COAL MINER'S MASTERPIECE

Homeowner pays homage to his industrial roots by adding a "mine shaft" theater to his basement.

HOME THEATERS OFFER A UNIQUE OPPORTUNITY to create a space that reflects a passion, hobby, or, in this case, a family's long history in the coal mining business. Explains home systems integrator Matt Montgomery from TYM Homes, of Sandy, Utah: "This homeowner's father was once a coal miner, and so he grew up with an appreciation and fondness for mining. The father had incorporated materials and accouterments reminiscent of coal mining into his own home, so his son — the owner of this award-winning project — decided to honor his family's lineage by making his home theater resemble a mine shaft." Plus, the rough, natural materials incorporated into the amphitheater-shape space would just look darn cool and be totally unique from other home theaters.

RUSTIC & READY FOR 4K

By working closely with the builder, Tree Haven Homes, of Bluffdale, Utah, the TYM team was able to blend cutting-edge home theater gear

SYSTEMS & EQUIPMENT

Video Projector: Sony
Projection Screen: Elite Screens
Speakers: Paradigm
A/V Receiver: Onkyo
Video Switching: Atlona
Home Control: Savant
Lighting Control: Lutron
Surveillance Cameras: Visualint

THE PROFESSIONALS

Systems Design & Installation
TYM Homes, Sandy, Utah
www.tymhomes.com

Builder

Tree Haven Homes
Bluffdale, Utah
www.treehavenhomes.com

HIGHLIGHTS

- ◆ Rustic coal mining decor unites with cutting-edge A/V
- ◆ 4K from start to finish: media player, projector, and screen
- ◆ 5 miles of fiber-optic strands create a star-studded ceiling

HOME THEATER \$25,000-\$75,000

into an atmosphere reminiscent of an earlier time when pickaxes, not remote controls, were the tool of choice. A Sony 4K video projector nests between rustic wood beams on the ceiling; the grilles of Paradigm speakers and subwoofers peek through locally-sourced, reclaimed barn wood on the walls; and sconces that resemble gas lanterns shed the perfect amount of light over the viewing area. For this project, easy, intuitive control of the impressive assortment of A/V equipment is provided by a Savant system, which was programmed by Montgomery to prep the components and the room for a movie in seconds.

The preparations begin the instant the owners press Play on the Savant control app that's presented on an iPad stationed at the owner's favorite theater seat. It's pure 4K eye-candy in this theater. Per the owner's request, TYM chose a trio of 4K equipment to ensure pristine pictures from start to finish. A Sony 4K media player feeds content to the projector, which throws Ultra High Definition images onto an acoustically transparent, 135-inch, 16:9 aspect ratio Peregrine AcousticPro-4K screen from Elite Screens.

Other video options are available too, including two Sony Blu-ray Disc players, two Apple TV units, and three DirecTV satellite boxes. The media player and the rest of the equipment are connected to an Atlona 4K video switcher so that the transition from watching video on Apple TV to something on the Sony media player happens seamlessly and effortlessly. The owners just tap a button on the Savant iPad app, and the Atlona component makes the switch — even directing content to eight other TVs in the 9,000-square-foot house.

SEPARATE YET CONNECTED

This same app provides control over other aspects of their home — all from the comfort of the mine shaft, or from anywhere else they might roam. Dozens of dimmer switches, tied to a Lutron RadioRA 2 lighting control system, can be monitored and managed; several Visualint surveillance cameras can be accessed and viewed; a variety of fountains on the patio and in the yard can be controlled; and should someone ring the doorbell, the chime pipes through the home theater speakers, and the owners can converse with and see the visitor on the projection screen and converse with him or her via an iPad or smartphone.

"They can relax, cue a movie, and always stay on top of what's happening in other areas of their house," Montgomery says. "The Visualint cameras have intelligence software built in so they can be programmed to recognize a child at the swimming pool or a specific car in the driveway and trigger the Savant system to notify the homeowners with a message on their smartphones and tablets. It's the ultimate way to escape yet still stay connected."

ATMOS ADDS DIMENSION

The audio is just as engaging as the video, thanks to a Dolby Atmos surround-sound system comprising an Onkyo receiver and a 7.2.4 speaker configuration (seven in-wall and four in-ceiling speakers from Paradigm, plus two Paradigm subwoofers mounted behind the acousti-



HOME THEATER \$25,000-\$75,000



cally transparent screen). TYM built custom backboxes to optimize the reference-level audio quality of the speakers and turned to the company's resident THX calibration expert, Greg Montgomery, to tune the audio system to project sound perfectly toward the owner's favorite seat, although the audio is never lacking elsewhere in the room.

STAR-STUDED MOVIES

With video and audio integrated beautifully into the space, the project could have been complete, but TYM had one more trick up its sleeve — but not without some persuasion by the owner's wife. "She had seen a star ceiling in another theater, and asked as the room was being buttoned up if we could create one for her," Montgomery says. With the help of the builder, more than 26,000 linear feet (5 miles) of fiber-optic strands were hand-placed into the ceiling's sheetrock to create 1,000 twinkling stars. TYM's creative director then painted a mural of the cosmos to evoke the appearance of the night sky. As are the other lights in the theater, the fiber-optic stars are connected to the RadioRA 2 system, which can be operated through the Savant app.

The star-studded ceiling was the icing on the cake in this home theater, where technology and design unite to create a one-of-a-kind



entertainment experience. State-of-the-art equipment, from 4K servers and projectors to Dolby Atmos receivers and speakers, mingle easily with barn wood and gas lanterns, while a simple, iPad-enabled control system helps set the tone for a magical movie night under the stars. **EH**



KID-TESTED, MOM (AND DAD) APPROVED

Family-friendly home entertainment system tailored to handle the wear and tear from an active household.

KIDS CAN BE HARD ON FURNITURE, CLOTHING, TOYS, PETS ...

basically almost anything that crosses their path. Rather than risk damage to an expensive home theater system planned for the lower level of their new 10,000-square-foot home, the owners contacted home systems integrator Bryant Moore of Moore Audio Design, of Matthews, N.C., for his advice on how to have a stellar, high-performance entertainment setup in an area where their kids would likely be kicking around a ball or having pillow fights without worrying about someone breaking a piece of valuable A/V gear.

PROTECTION PLAN

There were a couple of ideas that were tossed around as the design for the space was taking shape: One was to hang several flat-panel TVs on

SYSTEMS & EQUIPMENT

Video Projector: Epson
Projection Screen: Screen Innovations
Speakers: Paradigm, RBH
A/V Receiver: Yamaha
TVs: Samsung
Control: Savant
Whole-House Audio/Video: Savant

HIGHLIGHTS

- ◆ Motorized screen and projector lower into room on command from Savant control app

- ◆ 65-inch TV available for casual everyday viewing
- ◆ Easy controls provide one-touch enjoyment of a multi-faceted entertainment space

THE PROFESSIONALS

Systems Design & Installation
Moore Audio Design
Matthews, N.C.
www.mooreaudiodesign.com

Builder
Simonini Homes,
Charlotte, N.C.
www.simonini.com

MULTIPURPOSE ROOM

the wall akin to what you'd see at a sports bar. Cool, yes, but it held no appeal to the homeowners who were concerned about having a pricey A/V system out in the open around their playful progeny of pre-teens. The second idea was to hide all of the video components.

“Concealing a video projector and a 120-inch screen in the ceiling and speakers behind the walls was a completely new concept to the homeowners, but after I explained it, they thought it made perfect sense for their entertainment style and active family,” Moore says.

The design would not only protect the gear from roughhousing, but would allow the family to use the room for activities besides watching movies. When the projector and screen lower from their hiding spots in the ceiling, the room transforms from a casual entertainment area to a high-caliber home theater.

PARENTAL CONTROL KEEPS THE PEACE

In the theater's hideaway mode, the family often hangs out at the adjacent kitchenette at the other end of the room, where a sliding glass door leads to a patio and swimming pool. Or, the kids might play a video game or watch cartoons on a 65-inch high-definition Samsung TV that's mounted to the wall in the theater area, while the adults catch a sporting event on the 40-inch Samsung display on the wall in the kitchen area.

“The TV is what gets used when the parents are away and a babysitter is in charge,” says Moore. “We've had clients who have had the lens of their very expensive video projector crushed by a bat swung by a neighborhood kid. No joke. Motorizing the screen and projector to enter the room only when the parents are home will prevent this from ever happening at this house.”

STOWED FOR SAFETY

Because the owners had put the multipurpose media room on the drawing board before construction of their home had begun, Moore and the builder, Simonini Homes, of Charlotte, N.C., collaborated closely to ensure proper ceiling clearance for the Chief motorized lifts, the Epson video projector, and the Slate screen from Screen Innovations.

There was also plenty of room worked into the design so that five Paradigm speakers could be recessed into the ceiling and two Paradigm subwoofers tucked into the walls. Of course, the theater would need processors, receivers, switchers, and other components to provide the family with engaging A/V content, so Moore worked a roomy, well-ventilated equipment closet into the blueprints, as well.

BEHIND-THE-SCENES MAGIC

This area is where Moore and his team spent a good chunk of time configuring the Savant system that would operate the A/V equipment in the multipurpose media room and distribute video and audio to 11 other TVs and 13 pairs of RBH speakers throughout the house. To make it simple for everyone — kids, adults, babysitters — to enjoy the A/V setup, Moore programmed the Savant system to streamline the process of selecting something to watch and choosing where to watch it (65-inch TV, 40-inch TV, or the 120-inch projection screen) to a simple



MULTIPURPOSE ROOM



tap of a button on any iPad or smartphone that's handy. A Savant app presents the video options—three cable boxes, a Blu-ray disc player, and two Apple TV boxes. A user simply touches his or her choice, selects the displays to which they'd like the content sent, and the Savant system carries through the command, lowering the projector and screen from the ceiling if necessary. In seconds the home theater, and other entertainment zones, are humming with great A/V.

MORE ON THE ENTERTAINMENT DOCKET

The Savant system is capable of much more than supervising this multifaceted entertainment system. It can control lights, thermostats, motorized window shades, swimming pool pumps — you name it. The family

is perfectly content with how the systems in this space work together to create a sensational entertainment experience that'll last them a lifetime, thanks to a solid protection plan from Moore Audio Design. Soon lighting controls will be woven into the Savant system, too.

“We selected a budget-minded yet bright projector and a light-rejecting screen to combat any light that's on or sunlight that's streaming through the glass doors, but having the ability to dim the lights from the Savant app will add to the ambiance and enjoyment,” says Moore. Plugging the media room light switches into the system will require nothing more than a few hours of programming time to add one more layer of convenience and enjoyment to this family-friendly, multipurpose entertainment hangout. **EH**



PUTTING THE AMP IN AMPHITHEATER

20 speakers and 220-inch disappearing screen set the stage for big-time backyard entertainment.

WHEN MOST HOMEOWNERS ADD AN ENTERTAINMENT SYSTEM to an outdoor space, they stick with a modest-size weather-hardy TV and surround-sound system. This type of setup is nothing to sneeze at, but the owner took the idea several steps further by turning an unruly, unusable hillside into an honest-to-goodness amphitheater, complete with big, beefy, professional-grade speakers; a stealthy, motorized 220-inch screen; a full-featured, live-performance stage with connections for musical instruments and microphones; and a slew of automated lighting for visual effect. Although the equipment and features of this outdoor entertainment system are full-blown and full of bells-and-whistles, the owners need only grab a smartphone and touch a button to cue the sophisticated assemblage of A/V components.

SYSTEMS & EQUIPMENT

Home Control: Elan
Lighting Control: Elan
Speakers: Niles, Yamaha
Video Projector: Optoma
Projection Screen: Vutec

HIGHLIGHTS

- ◆ 16-foot-tall projection screen ascends from beneath a stage
- ◆ Professional mixing board handles audio for live performances

- ◆ 20 speakers blanket the backyard with even, well-balanced sound

THE PROFESSIONALS

Systems Design & Installation
AM House
Los Angeles, Calif.
www.amhouse.net

OUTDOOR SPACE

WORKING THE LAND

The control of this elaborate outdoor entertainment system might be a cinch, but its implementation certainly wasn't, says Justin Brees from AM House, the Los Angeles, Calif.-based firm hired by the homeowners to design and install the electronic gear during the drastic renovation of their backyard. "The entire hillside had to be backfilled, which took 18 months, in order to create enough space for the theater gear and for the hundreds of people the homeowners planned to host during charity events and special occasions." Several tiers would be carved into the backyard, creating the look and feel of an actual amphitheater. Using this landscape design as a template, AM House configured a system that would also perform on par with that of a commercial amphitheater, which among other tasks required carrying a 1,200-pound-screen from the delivery truck parked in the driveway at the front of the house to the custom-built stage at the rear of the house.

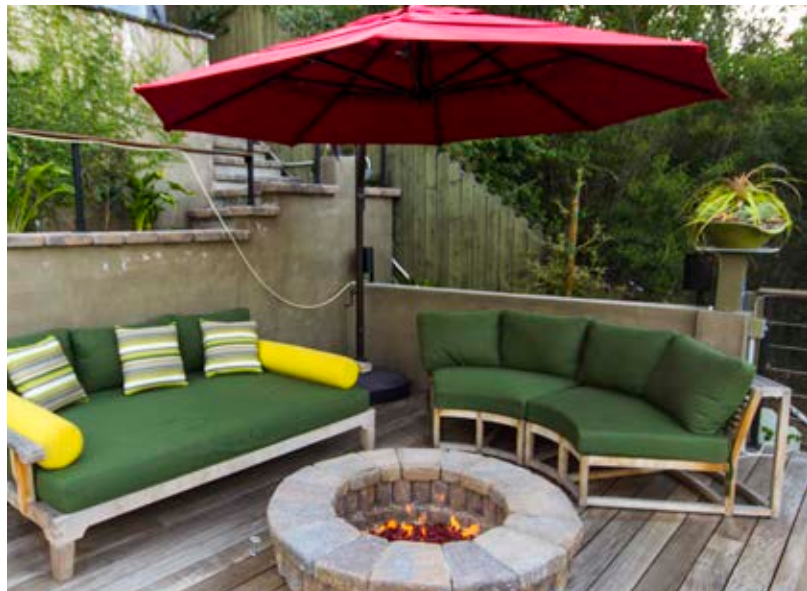
STAGE PRESENCE

The 20 Niles Audio speakers that pepper the grounds were positioned to blanket the entire yard with even, dynamic audio, be it dialogue from a movie soundtrack, tunes from musical instruments, oral presentations from a microphone, or music from a rack of components located inside the house. When a live performance has been planned, the homeowners can roll out four additional Yamaha DBR12 speakers from underneath the stage, plug them into the system, and use a professional 10-channel Mackie mixing board to tweak the volume, tone, and dynamics of the various audio signals feeding into them—similar to how it's done at a commercial venue.

But no matter what's playing on the stage—a movie, music, or a live performance—the audio can be directed to every speaker outside, as well as to speakers inside the house, or the owners can choose to have the audio play through only certain groups of speakers. "For example, they can choose to broadcast audio from a movie on only the speakers near the screen while the speakers around the swimming pool and gardens remain silent, or even play music from a different audio component," Brees says. As yet another option, the owners and friends can don a Sony Walkman (20 sets are available) to listen to the movie audio without having to use the speakers. AM House installed FM antennas to direct the audio wirelessly to the portable, wearable players. "It's a good way to hear a movie without bothering anyone else who may want to enjoy some peace and quiet," Brees says.

APP-CONTROLLABLE EVENTS

The homeowners are able to select and direct music to as many as six different outdoor listening zones via an Elan g! app that was installed by AM House onto the owners' smartphones and tablets. The same app can be used to operate a 3,600 lumen Optoma video projector, a Vutec motorized projection screen, dozens of lights, and a Jandy swimming pool and spa system. AM House designed the g! interface to streamline the process of preparing the backyard for parties, neighborhood movie





nights, and other occasions. The owners need only touch a button to have all of the appropriate gear activate and adjust perfectly for whatever activity has been planned.

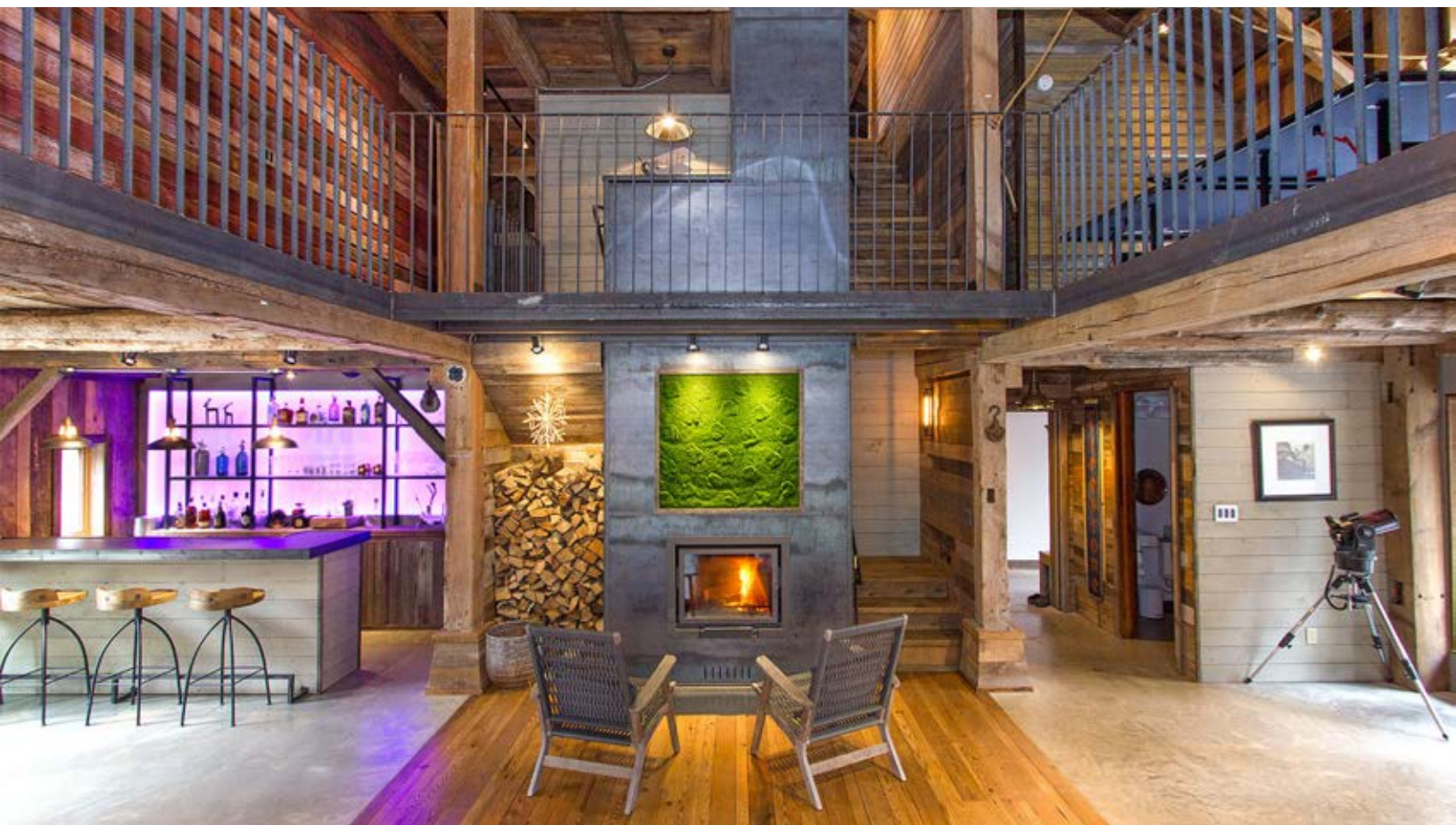
Video presentations are particularly impressive, given the enormous size of the screen, which stretches nearly 9 feet wide and 16 feet tall, the clarity and brightness of the 3,600 lumens hitting the screen, and the remarkable way in which the screen reveals itself. On command from the Elan g! app, a motorized lift activates and the screen ascends from its waterproof hiding spot beneath the stage. Meanwhile, the super-bright projector fires up from its custom-built enclosure 28 feet away from the screen, and exterior lighting, except for a few step lights, fades to black. The owners can choose content from an Apple TV located inside the house or a Samsung Blu-Ray Disc player that shares space with the Optoma projector. The video signals, as well as audio signals, travel to the projector and speakers over avenues of high-speed cabling that was trenched into the yard by AM House during the excavation.

AN EXTENSION OF A/V LOVE

This elaborate outdoor entertainment space may be the most tricked-out area on the property, but it's not the only A/V locale. The extensive backyard makeover took place more than two years after the homeowners had hired AM House to install a whole-house audio and video system into their 2,300-square-foot home. This system is still fully



utilized, and provided AM House with a solid foundation on which to expand the system's reach to the outdoors. It also gives the homeowners access to all the features they have grown to love about their initial Elan system, like the ability to view real-time images from surveillance cameras on any display and hear the doorbell ring through every speaker. Their familiarity with the Elan g! system bred a comfort level that gave them the confidence to set the bar high for their newly redesigned backyard. "They knew they loved the system, so extending its reach and adding new features seemed only natural," Brees says. **EH**



A MODERN DAY BARN RAISING

A barn from the 1800s morphs into a high-tech residence that manages an eco-friendly existence.

MORE THAN 100 YEARS AGO, the barn that now occupies a pristine piece of property in the Catskill Mountains functioned as all barns do, by housing livestock, feed, and farm implements. But that was then, and this is now, and based on the level of technology recently incorporated into the relocated and refurbished building, you'd never guess that its roots date back to before Thomas Edison invented the light bulb.

FUNCTIONAL AND FRUGAL LIGHTING

Thanks to its purposeful orientation to the sun and the addition of dozens of controllable LED fixtures, this unique dwelling never lacks light, yet it remains extremely energy efficient. The Lutron HomeWorks system that was installed and programmed by the New York City-based home systems integration firm Cloud9 Smarthome ensures that the lighting in this "green" home operates only when necessary and only at the most appropriate brightness level, which according to Jordan Wills, director of marketing, is 80 percent. The HomeWorks system was

SYSTEMS & EQUIPMENT

Home Control: Savant
Lighting Control: Lutron
Energy Management: Savant
Whole-House Audio/Video: Savant
Audio System: McIntosh Laboratories, Bang & Olufsen
Surveillance Cameras: Axis
Speakers: Bowers & Wilkins, Sony, Spondor
TVs: Sony

- ◆ Energy management system ready to help homeowners live off the grid
- ◆ High-end listening room really rocks

THE PROFESSIONALS
Systems Design & Installation
Cloud9 Smarthome
New York, N.Y.
www.c9ny.com

HIGHLIGHTS

- ◆ Old-style punch-clock functions as a modern-day lighting control keypad

UNIQUE SPACE

integrated with a Savant home control system, which enables the homeowners to press one button on a tablet or iPhone to turn off every fixture as they retire for the night or leave the residence for the day. If they plan to be gone for more than a day, they can pull up the Savant TrueControl app to activate a “vacation” setting, which turns the lights on and off randomly to mimic occupancy. “This adds a level of security by making the house look as if someone is home,” Wills explains.

Despite the modern approach to the barn’s lighting, the homeowners maintained the vintage charm of the residence by turning an old-fashioned punch-clock (pictured below) into a keypad that can be used to control select groups of LED lights. The specially-designed “keypad” fits right in with the reclaimed doors, sinks, and light fixtures.

A TECHNOLOGICAL ESCAPE

Lighting isn’t the only technological component helping the owners of this repurposed barn lead a greener, simpler, more efficient lifestyle. “Their goal from the start was to use technology in order to get away from it,” Wills says. “Every piece of electronic equipment was chosen for its low-consumption of electricity. No cable or phone service was ordered; only Internet, with Wi-Fi extending down to the pond as their only link to the outside world.” Even the home’s one and only TV in the family room, a 55-inch Sony, is “disconnected,” as the cord-cutting homeowners rely on an Apple TV as their only video source.

Getting away from it all was, in fact, the main impetus for the renovation, which involved moving the barn from Vermont to a secluded piece of property in the Catskills. When the owners arrive to their getaway—by electric car, of course— they press a button on a Lutron remote that’s clipped to the visor of their vehicle, and the 4,500-square-foot home rolls out the welcome mat. Configured by Cloud9, this Welcome scene activates a preset group of energy-efficient LED lights for a safe, stumble-free nighttime arrival. If the owners would also like music to greet them, they can pull up a Savant mobile app on their smartphones to turn on a mix of vintage and modern McIntosh and Bang & Olufsen audio equipment and have their favorite tunes delivered to a variety of speakers that Cloud9 placed strategically inside and outside the barn.

COST-CUTTING COMFORT

Just as the Savant system ensures that the homeowners never enter a dark house, it guarantees that the temperature is always comfortable upon their arrival—as long as they tap into the Savant app a few days before they plan to reconnect with their rustic getaway home. As Wills explains, the high-mass concrete slab with radiant heating tubes that was poured during the rebuild of the barn is super-efficient but takes two to three days to ramp up to the proper temperature in the winter. Therefore, the owners kick start the 8-zone Savant heating system from their smartphones at their primary residence 85 miles away. Once the temperature of the house has reached the ideal level, the radiant floor heating system requires very little energy to maintain it. Last winter, for example, the homeowners spent just \$800 to fuel the system, says Wills. A Big Ass





Fans ceiling fan, also controllable remotely or locally via a Savant mobile app, can supplement the heating system by circulating warm air throughout the residence. A traditional fireplace helps out, too. There's no need for AC. The home stays cool enough in the summer on its own.

THE ART OF MUSIC LISTENING

Introducing a nearly 200-year-old barn to the modern age was no easy feat for the home systems integrators at Cloud9, certainly, but there was one area that was actually primed for the incorporation of cutting-edge technology. The previous owner of the barn had used a portion of the space as a recording studio, and had reinforced the room with 1 1/2-inch thick walls and acoustically engineered construction. The current owners never planned to record their own music, but benefitted from the finely tuned area by calling on Cloud 9 to convert it into a high-end listening room. They outfitted it with a Sony HAPZ1ES DSD media player, Sony TA-A1ES amplifier, and a pair of top-caliber Sony SS-NA2 ES speakers. "These three pieces are a match made in heaven and one of the true bargains in hi-fi," Wills says.

SOLAR, TESLA, AND MORE

So far, the Savant system and its complementary suite of electronic components have afforded the homeowners the opportunity to curb their



reliance on energy, and Savant's Ethernet-based power metering control allows them to monitor their success. The Smart Energy Monitor, which is attached to the home's incoming electrical service, captures and logs overall electricity usage and production in real time. The owners view the data via the TrueControl app on their iOS smartphones or tablets. Still, they're eager to add more technology as they inch ever closer to their ultimate goals of Net Zero consumption and living off the grid completely. The solar panels and a Tesla battery scheduled for installation and integration with the Savant home automation system could be the final technological twist that this "old-fashioned" homestead needs to disconnect and function independently—much like it did 200 years ago. **EH**



CRACKING THE CODE

Overcoming strict building restrictions transforms a modest condo into a high-tech luxury residence.

WHAT STARTED OUT AS A FAIRLY ORDINARY CONDOMINIUM

What started out as a fairly ordinary condominium unit has morphed into a twice-the-size luxury vacation home for a pair of professionals who knew that the secret to easy, carefree getaways would require the addition of a solid, distributed audio/video setup and a professionally configured automation system to boot. They also knew that to get the job done right, they'd need to hire a home systems integration firm as the renovation of the condo was taking place—a project that would involve knocking down walls to connect two adjoining units to form a more spacious 2,800-square-foot residence. It also would require a company that would respect their sense of style and cater to their need for simplicity in this extreme transformation.

RULES OF EXPANSION

As the home systems integration team at Anaheim Hills, Calif.-based Surreal Systems discovered, these requests, while completely reasonable, would prove far more difficult to implement than expected, and would

SYSTEMS & EQUIPMENT

Home Control: Savant
Lighting Control: Lutron
Whole-House Audio/Video: Savant
Speakers: Leon Speakers, Sonance
TVs: Samsung
Home Networking: Cisco, Netgear, Ruckus

HIGHLIGHTS

- ◆ Speakers sink into unforgiving wall surfaces and are rendered invisible in some areas
- ◆ Tablets are the chosen mode of control over motorized shades, lights, security system and more

- ◆ Clever integration of technology follows strict building regulations

THE PROFESSIONALS

Systems Design & Installation
Surreal Systems
Anaheim Hills, Calif.
www.surrealsystems.com

Builder

Rosten Construction, Costa Mesa, Calif.

BEFORE & AFTER

test their skills as integrators of home technology. Explains Surreal Systems founder and president, Matt Bernath, “The units were part of an older multi-dwelling unit (MDU) building, which had a lot of character and building restrictions. One of the biggest challenges was satisfying our client’s desires for a nicely integrated home while heeding the restrictions of the building and being respectful of the neighbors.” For example, per building codes and structural limitations, speakers were unable to be recessed into the ceilings, as is the common procedure when installing whole-house audio systems. Also, all low-voltage and electrical wiring that was added to the dwelling had to be placed in metal fire-rated conduit, and junction boxes had to be protected with firestop material. It was a new set of rules for the pros at Surreal Systems to follow, but they tackled them head-on to create the relaxing, luxurious environment the homeowners craved.

SPEAKER MOUNTING SOLUTIONS

Because this renovated condo sits underneath units above it, sound from speakers planted in the ceiling would have been a nuisance to neighbors. The ceiling was completely out of the question as an placement option, so Surreal Systems installed 16 Sonance speakers into the walls and cabinets instead. This is a fairly straightforward task for home systems integrators when they are working with drywall and wooden wall studs. In this case, however, only the wall in the guest room was finished in standard drywall; the rest were covered with custom paneling, delicate wallpaper, custom millwork, and natural stone. As is common for most MDUs, the wall studs in this updated condo were made of steel—much less forgiving than wood when fishing speaker cabling, as well as a complete new wiring infrastructure for data, voice, and video distribution. “Technology was completely non-existent in these units prior to our work,” Bernath says, who also added a super-strong, commercial-grade Ruckus wireless networking system to combat the steel studs and signal interference from neighboring units.

DECORATOR-FRIENDLY TECHNOLOGY

By working carefully with the carpenter and interior designer, the installation crew at Surreal Systems was able to recess the speakers into the paneling in just the right positions to ensure that music would evenly blanket each and every area of the condo with no dead spots. In the guest room they took advantage of the drywall by installing a pair of invisible speakers from Sonance. These speakers mount within the wall studs and are covered completely with drywall, and were a big hit with the homeowners. “They wanted their home to be a showpiece, so this meant hiding or disguising all evidence of technology,” Bernath says. The rest of the speakers were faux painted to blend in with the wall surface, and in the great room a soundbar was custom-designed by Leon Speakers to match the width and style of a 65-inch Samsung TV.

TABLET-BASED CONTROL

To add to the high-tech allure, the TV in the great room was placed on a motorized mount that allows the homeowners to swivel it on command from a handheld remote or a mobile app on one of several



BEFORE: KITCHEN



BEFORE & AFTER



iPads. The same iPad app and handheld remote—both from Savant—that operates the movable TV mount can be used to operate a variety of other components and systems, per software programmed by Surreal Systems and carried through by a Savant home automation processor. Using the Savant control platform, music and video from two Apple TV units, three cable boxes, a Sony Blu-Ray Disc player, and a Fusion Research media server can be dispatched to speakers in eight stereo listening zones and/or two surround-sound setups, and to any and all of four Samsung high-def TVs.

Although there is a multitude of entertainment choices, Surreal Systems made sure that the app and remote streamlined what could have been a complicated selection process. Music is at the homeowners' fingertips as they can tap a button on a smartphone or the tablet mounted to the wall at each entry as they step into the house. It's just as quick and easy, says Bernath, to control the Lutron HomeWorks lighting system, Lutron motorized window shades, ADT alarm system, and Axis surveillance cameras.

These Savant-controlled electronic amenities represent the final step in a massive home makeover. They precluded the need for a bevy of individual control devices mounted to the walls, and are fully functional and are simple to set up through the Savant app. Today the homeowners



use the app to adjust the brightness of the lights, move the shades, arm and disarm the security system, and view live video from the surveillance camera. It's a much simpler process than interacting with individual controls located in different places, yet the system is still a work in progress, Bernath says. "The homeowners are experimenting with the controls to determine exactly how they'd like these systems to be synchronized and to adjust based on conditions like the time of day, whether they are home or away, and other variables." Once these preferences are identified, Surreal Systems will program the appropriate settings into the Savant processor.

The initial transformation from an unintelligent, small condo into a smart, spacious home seems to have sparked the homeowners' interest in implementing other high-tech features that will make their renovated dwelling all the more magnificent. **EH**