MUST-HAVE APPS FOR YOUR iPAD

ELECTRONIC HOUSE

July/August 2010

SMART | GREEN | SAFE | FUN

HOT SUMMER TECH

- OUTDOOR THEATERS
- WATER CONSERVATION TIPS
- SMART VACATION HOMES

LIFT IT, LOWER IT, HIDE IT

Motorizing TVs, projection screens, window treatments and more

DIGITAL DOCTORS' VISITS

The next wave in home healthcare

CRESTRON
CEDIABooth 1410 / SR 1



By the end of the year component outputs will only support standard definition signals, and by 2013 component outputs and analog video will be gone forever. Crestron DigitalMedia™ manages, distributes and controls all analog and uncompressed 1080p signals, including HDMI/DVI, DisplayPort, Ethernet and long distance over just one copper wire or fiber. DM is the only complete source-to-display solution for the digital age.

crestron.com/digitalmedia

2010 Crestron Electronics, Inc. All rights reserved

CRESTRON DIGITALMEDIA DM™

DESIGNED, ENGINEERED AND MANUFACTURED IN NORTH AMERICA

Love at First Sight!



Shown: Floorstanding SE 3, SE Center, SE Sub. *(Bookshelf model also available.)*

© Paradigm Electronics Inc.

"... a great size, pleasingly compact and attractive and capable of an ASTONISHINGLY BIG SOUND."

- Chris Martens, The Perfect Vision

Special Edition SE SERIES

Factors necessary for a healthy relationship: Love, Trust, Respect, Commitment, and a truly phenomenal music and home theater system that doesn't dominate the living space. As fans of 'happily ever after,' we kept this in mind designing Special Edition (SE) speakers: Soft edges, clean lines, reference quality components, an easy-to-live-with footprint for the subwoofer and gorgeous real wood veneer cabinets! Sound quality? "These speakers mastered the frequency spectrum, from top to bottom," says *Home Theater*. Price? An SE system leaves room in the budget for that romantic vacation you promised.

Paradigm®

THE ULTIMATE IN SOUND FOR MUSIC AND HOME THEATER™



SE Sub is PBK™ READY

Paradigm Perfect Bass Kit™ Digital Room Correction system

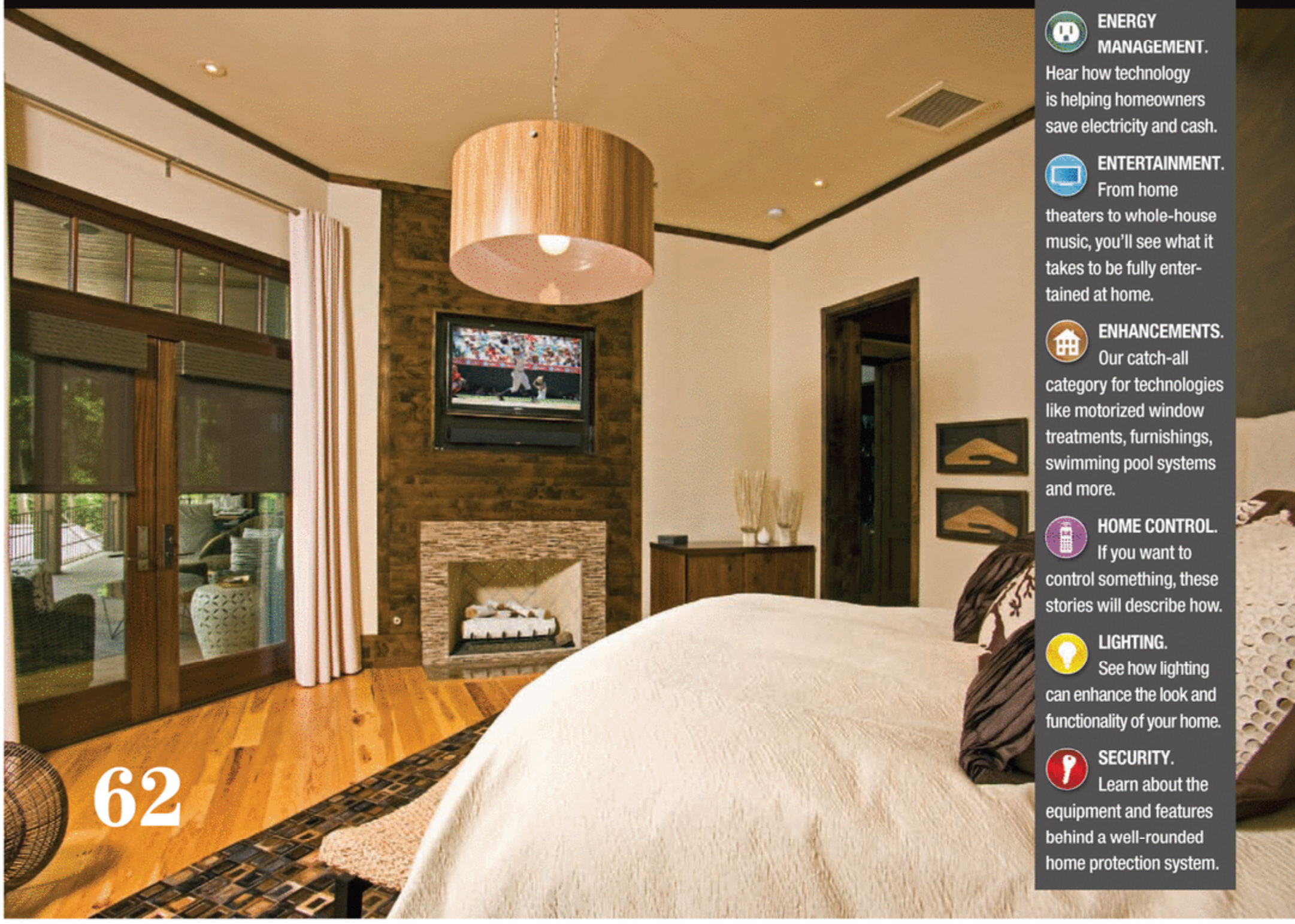
For more info visit **www.paradigm.com**

Paradigm: Rated #1 Price/Value for Twenty Years! The only speaker brand to achieve such success. *Inside Track* annual independent nationwide survey of consumer electronics specialist retailers and custom installers.

ELECTRONIC HOUSE

Features

July/August 2010



62

TECH INDEX

Want to learn about a specific technology? Follow these icons to find your subject matter of choice.

ENERGY MANAGEMENT. Hear how technology is helping homeowners save electricity and cash.

ENTERTAINMENT. From home theaters to whole-house music, you'll see what it takes to be fully entertained at home.

ENHANCEMENTS. Our catch-all category for technologies like motorized window treatments, furnishings, swimming pool systems and more.

HOME CONTROL. If you want to control something, these stories will describe how.

LIGHTING. See how lighting can enhance the look and functionality of your home.

SECURITY. Learn about the equipment and features behind a well-rounded home protection system.

HOMES OF THE YEAR

41 PART TWO Looking for inspiration? Four award-winning projects showcase amazing applications and backyard fun.

- 42 Outdoor Space GOLD
- 44 Outdoor Space SILVER
- 46 Amazing Applications GOLD
- 48 Amazing Applications SILVER

TECH TRENDS

50 THE NEW WAVE OF HEALTHCARE

It's the next wave of healthcare: New home-based systems give families the tools to monitor the health and safety of their aging loved ones.

OUTDOOR TECH

54 PRO TIPS FOR OUTDOOR ELECTRONICS

Electronics pros share 29 tips for tricking out your backyard with awesome technology.

HOME CONTROL

58 THE ART OF MOTORIZATION

Motorization expert Donny Hackett automates everything from window coverings to revolving home theater floors—by using some unusual parts.

HOME OF THE MONTH

62 BETTER LATE THAN NEVER

These homeowners had an *aha* moment when they realized how motorization could preserve the aesthetics of their vacation getaway.

ON THE COVER ▶

Must-have iPad apps **page 12**
Outdoor electr onics **pages 42, 44, 54, 80**
Motorization **pages 46, 58**
Home healthcar e systems **page 50**



Be **Inspired**

The Electronic House email newsletter keeps you inspired and up-to-date on everything you need to create and maintain your electronic home lifestyle.

What's **Inside**

- Inspiration to bring your own electronic home to life
- Articles and slideshows showcasing the coolest electronic homes and home theaters
- Insider details on electronic home installations — from the pros and homeowners
- Full equipment lists from theses installations, with links to the manufacturers' sites
- Guidance, expert info and buying advice
- The latest home entertainment and home systems product news
- The inside scoop on Electronic House sweepstakes and giveaways

Don't miss another day of information and inspiration!

www.electronichouse.com/eh/newsletters

ELECTRONIC HOUSE

Departments

HOMEFRONT

8 SECURITY Home protection tips.
10 iPAD Cool apps and more.
12 POWER Clean, safe home power.

QUICK HIT

14 COOL THINGS Products galore, and a voice-enabled remote.
30 ANATOMY LESSON Internet-connected surveillance cameras.
32 INNOVATIONS Future energy savers.
80 PARTING SHOT Rooftop theater.

COLUMNS

6 EDITOR'S NOTE Tech for older folks.
18 NEAR FUTURE Switch to 3D.
20 GREEN TECH Water conservation via electronics.
22 INDUSTRY INSIDER Are Geeks that cheap?

EH IDEAS

24 HI-TECH REMODEL '70s rec room re-do.
26 SMART VACATION HOUSE Simplicity rules when controlling a mountain retreat.
28 STUFFING IT IN A SOFFIT When your ceiling can't accommodate all the gear you'd like it to.

REVIEWS

34 SVS Speaker/subwoofer package.
36 ONKYO Network A/V receiver.
38 BENQ Mini LED projector.

DIY (DO-IT-YOURSELF)

70 THEATER Retail experience helped craft this theater.
72 HELP Installing a TV mount; building a home theater.

IN EVERY ISSUE

74 Showcase
75 Installer Directory
79 Advertiser's Index









AVIOR™

Convergence through Connectivity

Cut the Cord, Go Wireless!

Wireless Audio & Video Entertainment

Over 100 HDTV channels may satisfy some home entertainment enthusiasts but it barely scratches the surface of the thousands of feeds available on the Internet which now include the latest Hollywood blockbusters. The challenge is streaming media content to your HDTV in the living room from the PC, which typically is on the opposite side of the room! And with the explosion of interest in web-based Internet TV entertainment, top HDTV manufacturers now offer Internet access on their newest models. Unfortunately, in many of those instances your viewing choices are limited and you still need an Internet connection next to your television. The best and most affordable solution is cutting the video and audio cables from your PC to your TV with utilizing the latest wireless ultra-wideband (UWB) technology to achieve the desired result that doesn't require buying the latest Internet ready television or running multiple wires.

IOGEAR's new home entertainment solution offers a complete setup, with three adapters that make it simple to stream content from any PC to a big screen television in-room up to 30 feet away. The solution consists of three compact adapters: audio receiver for speaker connectivity, video receiver for a HDTV or monitor and wireless USB transmitter for the hosting PC. It delivers HD streaming at resolutions up to 720p and supports stereo sound so you can get a complete home entertainment experience. With thousands of sites with feeds available, there's no need to shortchange your Internet TV entertainment options. It's time to let IOGEAR help you cut the cord!

Stream your PC content to your flat Panel TV, wirelessly!



GWU8000T
Wireless USB Transmitter



GWV8000R
Wireless Video Receiver



GWA8000R
Wireless Audio Receiver

http://avior.iogear.com

Powered by IOGEAR



Granny Gets Google

The number of seniors who choose to age at home rather than at an assisted care facility is on the rise. According to Grand Care Systems, a manufacturer of digital home health tech for the elderly, 89 percent of Americans don't want to leave their homes when they get older.

To do this, seniors need technology. Monitoring systems, which can help them maintain healthy, independent lifestyles, are useful tools (see page 50 for a full report). Just as important, though, are technologies that can minimize the social isolation seniors often feel as they age in place, and broadband access is a good first step, says Brian Bischoff, president and CEO of Healthsense, a company that offers a WiFi-certified remote monitoring system for seniors. "It's a great avenue for socializing and staying connected." And the market is ripe, with seniors adopting the Internet faster than any other age group. According to a study by Pew Research, broadband usage among adults 65 and older grew from 19 percent in May 2008 to 30 percent in April 2009. And with organizations like Project GOAL (Get Older Adults online) preaching the importance of the Internet to the aging population, these numbers are bound to keep climbing.

The trick is finding a computer system that can provide seniors with an easy, non-threatening link to the web. Two products that accomplish this beautifully come from My Gait (*www.mygait.com*) and BigScreenLive (*www.bigscreenlive.com*). The Go PC from My Gait comes complete with hardware, software and tech support, and has all the functionality of a standard Internet-connected PC, but displays information with large fonts and buttons and a customized interface. A color-coded keyboard and the ability to magnify portions of the screen up to 200 percent and are also helpful.

For seniors who already own a PC, BigScreenLive *(www.bigscreenlive.com)* offers a downloadable software application that takes over the screen on a Windows PC. Users can still access everything they could before. The interface, made up of larger icons in a friendlier format, just makes it easier. Plus, the software protects the PC from unsolicited email, viruses, phishing and pop-up advertisements.

Once seniors get a taste of the Internet, who knows what other types of technologies they'll want. Automation, whole-house A/V and energy management systems all have the potential make it easier for seniors to stay and home and feel connected … especially when there's something as cool as streaming media to show off to the grandkids.

—Lisa Montgomery

ELECTRONIC HOUSE

Volume 25 No.4 July/August 2010

EDITOR Lisa Montgomery 269.465.5230
lmontgomery@ehpub.com
SENIOR EDITOR Steve Castle 978.632.6409
MANAGING EDITOR Arlen Schweiger, x250
EDITOR AT LARGE Julie Jacobson 651.275.9564
SENIOR TECHNOLOGY EDITOR Stephen Hopkins 404.216.4401
WEB EDITOR Steve Crowe, x330

ART DIRECTOR Dorian Gittlitz, x288
ASSOCIATE ART DIRECTOR Katie Stockham, x257

ADVERTISING SALES
NATIONAL/VP SALES Steve Nesbitt, x248
EAST Martin M. Cohn, x235
CENTRAL Gary Schroeder 800.615.3188
WEST/CANADA Ray Lyons, x297
AD PRODUCTION DIRECTOR Manuela Rosengard, x226
AD PRODUCTION MANAGER Jason Litchfield, x252
CLIENT SERVICES MANAGER Jeffrey Miller, x253

INTERNET
DIRECTOR OF ONLINE SALES Jeff Fox, x324
SENIOR INTERNET PRODUCT MANAGER Guy Caiola, x232
WEB ART DIRECTOR John Brillon, x263
WEB DEVELOPER Peter Smith, x325
AD TRAFFICKING Lauren McDonald, x305

PRESIDENT Kenneth D. Moyes, x222
VP FINANCE AND ADMINISTRATION Steve Martini, x328
EXECUTIVE PUBLISHER, CE DIVISION Kevin McPherson, x264
VP MARKETING Christine Ayers
VP AUDIENCE DEVELOPMENT Elizabeth Crews, x256
MARKETING DIRECTOR Karen Bligh, x309

INSTALLER DIRECTORY, LIST RENTALS & CUSTOM REPRINTS
Ellen Cotton, ecotton@ehpub.com, x240

Subscription Inquiries 800.305.0633
www.electronichouse.com/customerservice

EH Publishing, Inc.
111 Speen Street, Suite 200, P.O. Box 989
Framingham, MA 01701-2000
508.663.1500 ■ Fax 508.663.1599
www.electronichouse.com

PROUD MEMBER OF

CABA CEA Consumer Electronics Association CEDIA

I need a control solution that fits the budget I have today—and the dreams I have for tomorrow.



I am the face of Control4.

Control4's affordable home control solution let me ditch the five remotes cluttering my coffee table and manage all my entertainment gear—like DVRs, movies, music, and game stations—right from my TV screen. I thought that was cool, but the same system also lets me control lighting, security, temperature, and manage my energy use. I started with my home theater, knowing I can add more features and capabilities throughout the house—when I can afford it. Finally, a home control solution designed for me.







Control4®

FIND OUT MORE ABOUT HOME THEATER SOLUTIONS AT
www.control4.com/scalable2

CEDIA CUSTOM ELECTRONIC DESIGN & INSTALLATION ASSOCIATION
Member

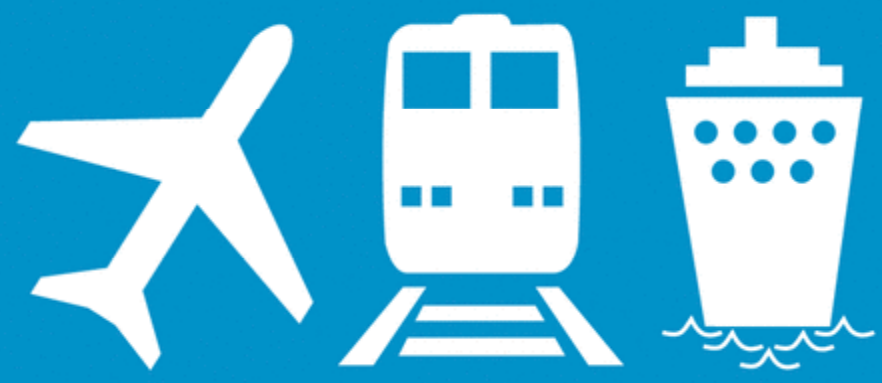
©2010 Control4. All rights reserved. Control4, the Control4 logo, the Control4iQ logo and the Control4 certified logo are registered trademarks or trademarks of Control4 Corporation in the United States and/or other countries. All other names and brands may be claimed as the property of their respective owners.



POOL PATROL

With more than 600 child drowning deaths in the United States in 2010, swimming pool safety should be a top priority of pool owners. Most state laws require that a fence or wall separate the pool from the house. However, there are other steps you can take to ensure a safe swimming environment.

- A **surveillance camera** aimed at the pool allows you to monitor the area from inside your house. Images can be transmitted to the screen of your TV.
- A **motion sensor** can set off an alarm any time someone steps into the pool area.
- A **door sensor** can alert you whenever the gate to the swimming pool area opens.
- A specially designed **pool sensor**, like SonarGuard, can monitor for changes in the density of the water when someone enters the pool, then trigger an alarm.
- A **home control system** can tie all of these sensors together to provide a more effective notification procedure. For example, between the hours of 10 p.m. and 10 a.m., all of the sensors could be set to trigger a siren. During the afternoon, only the surveillance cameras might be active. And when you're away from home, the home automation system could send you a text alert when a sensor is tripped.



Planning a getaway?

Let technology house-sit for you. Bad things can happen while you're gone, and these affordable gadgets will alert you so you can respond.

WATER SHUT OFF. A tiny pinprick in the hose of your icemaker could cause a lot of damage in one week. A device like OnSite Pro's (*www.onsiteproducts.com*) Icemaker/Water Filter Valve Shutoff Kit ($100) automatically shuts off the water supply to your icemaker as soon as it detects a leak.

RANDOM LIGHTING. Devices that turn on and off lights at random times are better than standard timers at convincing others that you're home. UPM Marketing (upm-marketing.com) makes a programmable module (less than $25) that installs by plugging into a wall outlet. Three random lighting patterns can be programmed into the device and set to run in seven-day cycles.

POWER NOTIFICATION. It's unlikely that the power will go out for a long duration during your vacation, but it's better to be safe than sorry. A Freeze Alarm (less than $200) from Protected Home (www.protectedhome.com) can call up to three people to inform them that the power to your home has been out for a certain period of time or that the temperature has dropped below a certain level. There may not be much you can do to fix the problem, but at least someone can take care of the food in your fridge before it goes bad.

ALL BASES COVERED. Want to monitor temperature, water and power while you're gone? The HomeSitter ($99) from Protected Home can watch for all three conditions. You and others can be notified of extreme temperature swings, leaks and blackouts so you can react accordingly.

SECURITY
THE MOST AFFORDABLE WAY TO AUTOMATE

If you're looking for an inexpensive way to automate, start with a security system. For less than $3,500, you can have lights, thermostats and other devices adjust according to whether you are home, asleep or away. As a bonus, you'll be able to access the electronics in your home remotely from a cell phone, iPhone, laptop or other mobile device.



Tip: Change the Code

Most residential security systems permit the use of multiple access codes. Take advantage of this feature. You'll be able to better monitor the comings and goings of your kids, housekeeper, babysitter and trusted friends and neighbors. Per parameters programmed into the security system, your sitter's security code might only allow her access between the hours of 3 and 6 p.m., for example. Your neighbor's passcode, meanwhile, might only be active for the week you're away.

OLSON PHOTOGRAPHICS; GLENN CAMPBELL

64% *of residential burglaries happen during the day, according to FBI statistics.*

© Stewart Filmscreen Corporation 2010

Sleek, Stylish, Sophisticated Solution

The Cabaret Screen's contemporary design allows seamless blending into any environment

Stewart's Cabaret is an exciting new addition to Stewart's line of electric retractable screens. With a beautiful new housing, the Cabaret offers an innovative approach to motorized roll down screens.



The Cabaret is perfect for creating media rooms within family rooms, game rooms or any living space in the home. The stylish removable aluminum valance comes in various finishes, and can be customized with the color of your choosing. Mood lighting is also available in millions of colors using Stewart's RGB LED system which slightly illuminates the room making the Cabaret an attractive light fixture as well. Its sleek and contemporary design and unique mounting system makes front projection possible in new and retrofit applications. The Cabaret screen is available with a variety of Stewart's front and rear projection materials including FireHawk, StudioTek 130 and GrayHawk RS.

There is no project too large or too impossible for Stewart Filmscreen. Our strength is the development of high-end, near-impossible solutions that create the most unforgettable home cinemas and entertainment experiences in the world. Ranked #1 overall in the Home Video/Screen group of the *inside track* survey for 12 consecutive years, you can feel confident that you will receive unparalleled products and superior customer service from Stewart Filmscreen. Contact your local sales representative to find out how you can seamlessly transform your multi-media room into a home cinema.

For additional information on Stewart Filmscreen: www.stewartfilmscreen.com/reps

CEDIA Custom Electronic Design & Installation Association Member

THX Certified

isf

#1 Twelve Consecutive Years inside track

Stewart Filmscreen | Residential



5 MUST-HAVE iPAD APPS

The iPad works with the existing 150,000 iPhone apps now available. Unfortunately, not all of them look so great when blown up on the iPad's 10-inch screen. Here are five apps we can't wait to test on Apple's latest device.

1 Yahoo! Entertainment. Though it isn't all entertainment; it also bundles sports, finance, tech and other news into a pretty package. Movies, books, TV, music, fashion and JibJab round out the entertainment features. When you're done staring at the iPad, the free app's programming guide can direct you to what's stare-worthy on TV.

2 Star Walk. Sorry, but this $4.99 app doesn't have anything to do with Ewoks, Clone Wars or the birthplace of Boba Fett. Instead, it provides an up-close peek at galaxies far and not so far away. Tilt the iPad toward the sky, and the screen will display the constellations around you in real time. Search for favorite celestial objects to see where they are and what they're about, with a gorgeous window to 9,000 stars, planets, Wikipedia links, 3D images and more.

3 Savant Rosie 4i. As far as the iPad is concerned, Apple-based automation provider Savant is king of home control. The company now offers a home control interface specifically for the iPad. Savant packs in a built-in demo mode, which shows how the $9.99 app can control multiple zones of A/V, lighting, security and a slew of other systems (Savant's Rosie or Protégé system required). See also: apps from Crestron, Control4, and HomeSeer.

4 MLB At Bat 2010. For couch-bound baseball lovers, this $14.99 app complements the season better than a foam finger and beer koozie. It provides just about everything that MLB.com offers, as well as live streaming games, box scores, stats, and more. The real hook is the Live Game feature, which provides live simulation of games that are blacked out.

5 iSpy Cameras. For a mere 99 cents, this app allows users an around-the-world bird's-eye view of bridges, ballparks, stores and more. There are many public cams to choose from, some with remote controls. Zip around or zoom in to get a better look. Search for targets by category, country, city, state or keywords. Rate cameras, save favorites, or leave fate up to the random feature. The interface allows you to watch multiple cameras at once or remain fixed on a favorite. It's a vacation for the eyes. —*Rachel Cericola*

Putting iPad to Work



Paul Hughes, president and founder of Lincroft, N.J.-based HomeBase Systems, has one of the first "fully deployed, working" iPad-controlled home automation systems. The residence in Ringwood, N.J., employs a Lifeware automation system that can be controlled via two iPads and one iPhone. The devices command lighting (individual lights or groups of lights), security, HVAC, cameras, swimming pool equipment, two iPod docks, two tuners, three media servers and a Russound audio system.

Hughes says that after the control system was functioning properly, it took only three hours to integrate the iPads, which he'd finished programming less than 48 hours after the product launch. Hughes says the homeowner has already asked him to program two more iPads. "He's looking at it this way: If two iPads cost $1,000 and one breaks or falls in the pool, an additional one would be cheaper than buying a home control touchpanel."

ON THE WEB Check out the video at *www.electronichouse.com/4more/ipadinstall*

WHAT THE PROS SAY ...

We asked some custom electronics (CE) pros what role Apple's iPad may play in home A/V and automation. In light of the relatively low $499 starting cost and the amount of applications that work similarly on the iPhone, their responses were mainly positive.

"It's poised to open up opportunities for people interested in home control but who can't afford a large touchpanel." —*Joe Calderaro, Audio Video Interiors, Medina, Ohio*

"The more space you have on a screen, the less you'll have to scroll or flip to get to what you want. This will make the iPad a great interface for managing large collections of media and for browsing information. For example, with the iPad [and its 10-inch screen], you'll be able to browse on-demand listings without having to turn on the TV." —*Derek Cowburn, DistinctAV, McCordsville, Ind.*

"I would love an iPad-controlled house. I imagine sitting on the couch and reading the daily news or watching a video, surfing the web, playing a game, or whatever other app I'd be using … and the doorbell rings. I'd switch to my cool control app, look at the front-door camera, and turn on the porch light (or ignore the salesperson)." —*Zac*

"I'm implementing a Crestron system in my new home. I had planned to use a TPS-6X in a tabletop configuration, but I have decided to hold off and seriously look at using an iPad. My reasoning: cost, it can do other things if needed, and it can be integrated with other IP services." —*Bryan*

"I mostly want to control my A/V equipment, and the iPad would be great for that, as I now use my iPhone/iPod touch. I'd like to be able to automate my lighting at some point, so the iPad would make it even easier and be much more cost effective for a poor Mac-user like myself." —*D.K. Jones*

… AND WHAT YOU SAY

Good Stream Fun >>>

Do you like to read or watch TV before turning in for the night? The iPad's function as an e-reader is attractive enough, but watching high-quality streaming video and easily navigating your selections hits the portable sweet spot. A free, downloadable app from **Netflix** lets you access the service's Watch Instantly selections on the iPad's 10-inch screen, making it perfect for mobile viewing. Mega-streaming site **Hulu** is also said to have an iPad app in the works.



COURTESY OF APPLE

You won't find a more engaged buying audience **anywhere.**



Interested in finding out how to advertise in *Electronic House* or any of our other publications? If the answer is yes, please contact Steve Nesbitt at snesbitt@ehpub.com.



A REAL TURN-ON (AND OFF)

Even the most crammed equipment racks can be rigged to minimize energy consumption. In the case of this Rhode Island home, a Control4 automation system manages much of the power usage in this multirack setup.

Most of the devices in the rack are plugged into power strips and connected to a couple of Control4 appliance modules. At night, the modules shut off the connected gear. But some devices should never be powered down.

1. CENTRAL CONTROL SYSTEM (in this case, Control4). Although thermostats, security and other subsystems can operate without the controller, you'll want to keep it on to activate scenes or to check the security cameras.

2. NETWORKING GEAR. Keep your routers, switches and other networking gear powered up. Often, you need the network to use your control system, telephones, cameras, and even security reporting.

3. AUDIO/VIDEO SYSTEMS. When determining which A/V products to route through appliance modules, consider the time each takes to reboot, and the way it communicates when the power switch is off. In this case, the Niveus Media Center remains on because it feeds cable TV, music and other content throughout the house.

4. DEVICES WITH STANDBY POWER. In this rack, the NuVo multiroom audio system needs no appliance module. When it is inactive, the system shuts down automatically, but maintains communications with the network,.

Cheaper than Homeowner's Insurance

Good surge-protection devices come with a connected equipment warranty: If they don't work, the manufacturer will reimburse you for fried equipment—up to a certain amount. Consumers can expect warranties in the five-to-six-figure range. For example, a $33 eight-outlet Belkin PureAV home theater surge protector comes with a $150,000 guarantee on connected gear.

Shopping for a power Conditioner?

A power conditioner can help eliminate interference on a power line and protect your electronic equipment from harmful surges or voltage spikes. But what else can it do? David Haddad of electronics installation firm Vidacom in Chicago, Ill., suggests how to shop for some powerful bells and whistles.

1. If the power conditioner has **controllable outlets**, can every outlet be controlled individually? Or are certain banks of outlets controllable? The former allows for more flexibility because power can be killed or reset on an outlet-by-outlet basis.
2. Does the unit have a built-in **web server** for monitoring and control of the outlets? Or does it require a third-party control system for monitoring and control?
3. Can the power conditioner send an **email** in the event of a power outage or brownout? This is useful for monitoring systems remotely.
4. Does the unit allow for setting **schedules**? For example, turn outlet "A" off at midnight and back on at 6 a.m.? Few units currently have this capability, but expect to see more in the future.

POWERFUL PRODUCTS



Boot 'em up. Whenever you call the cable company about a bad Internet connection, what's the first thing they say? Unplug your modem and router, wait 15 seconds, plug in your modem, wait, plug in your router. The **AV550SC Backup from Tripp Lite** ($250) does a proper reboot for you, whether you're home or not. The unit, which includes battery back up and surge protection, automatically restarts your modem and router in the event of a power outage or a network freeze-up.

Checking in. It's vogue to check your nanny cam from a remote computer, so why not monitor your A/V rack as well? From the Internet cloud, the **Panamax/Furman Bluebolt** lets you (or your installer) turn on and off devices, reboot a system, receive notifications of problems, and in the future monitor energy loads. Simply add an Internet card ($249) to the existing MB-1500 and F1500 universal power supplies, or purchase the company's new M4315-Pro and M4320-Pro power conditioners ($699 and $799) and log on to the secure *mybluebolt.com*.





All about the timing. You've heard of programmable thermostats? How about programmable surge protectors? Via the LCD screen on **APC's P6GC Timer Essential SurgeArrest** ($20), you can turn certain outlets on and off at six different times.

Light power. It's a light! It's a power strip! It's a surge suppressor! The **PDLT-815RV-RN** rack-mount power strip ($276) from **Middle Atlantic** protects up to eight devices. LED lights on the front panel notify users of surge-suppression status. The unit has a retractable front light to illuminate your components. Two rear USB ports can power LED gooseneck work lights.



A/V control. The **PowerPlay 8000 from PS Audio** ($999) has an especially cool feature: the ability to send up to 15 infrared (IR) commands to operate A/V components. Say you have an outage that sends you into backup-power mode. This unit shuts down your projector correctly, first turning off the lights and then shutting down the fans after an appropriate amount of time to keep the bulb from overheating.





NEW The Lifestyle® V35
home entertainment system

It's time to expect more – and get more – from home theater. Our best surround sound brings your movies, sports, video games and music to life like never before.

And now, our breakthrough Unify™ intelligent integration system also gives you dramatically easier setup and use – with clear onscreen messages, an intuitive universal remote, and the ability to easily add components like a gaming system or a Blu-ray Disc™ player. Bose is known for making home theater thrilling.

Now see how much easier it can be to enjoy.



To learn more,
call 1-800-905-1351, ext. 4250 or visit Bose.com/Lifestyle

BOSE®
Better sound through research®

©2010 Bose Corporation. Patent rights issued and/or pending.

COOLTHINGS

THE LATEST HIGH-TECH GEAR



DREAMY TV LIFT

With the press of its wireless remote, the Dream Machine lift from Auton quietly raises your flat-panel TV out and up from under the bed and into a preset viewing height. From there it's viewable anywhere else in the room because it can swivel 180 degrees. It'll fold back with another click. The lift can hold up to 120 pounds and it slides on polyurethane wheels under the bed so no worries about installation hassles or scratching the floor. From $13,999; *www.auton.com*



PICK A DISC, ANY DISC

Denon Electronics, which will celebrate its 100th anniversary in October, has a head start on one of today's hottest technologies with the introduction of two 3D-ready Universal Blu-ray players. The DBP-1611UD and DBP-2011UDCI Universal Players will receive a firmware upgrade in the fall for 3D playback. Both feature Netflix and YouTube streaming and are DLNA 1.5-certified. The DBP-2011UDCI adds RS-232 connections for third-party controllers, the latest video scaling from Anchor Bay, and new Burr-Brown digital-to-analog audio processing. $399 and $799, respectively; *www.usa.denon.com*



CUSHY AND CONVENIENT

Berkline is fusing comfort with electronic conveniences. The company's new Laptop Recliner features a compartment in the arm for storing a laptop computer, iPad, e-reader and other slim electronic devices. A small swivel-platform can be attached to serve as a small work area. Also, Berkline is enhancing its Concert Series recliners ($699) with a mini audio jack so you can plug in iPods, MP3 players, cell phones and other mobile devices. $649; *www.berkline.com*





RECEIVERS AT THE READY

We're still waiting for more 3D content, but there's no such shortage of gear. The latest to prep is Integra, with its DTR-20.2 and DTR-30.2 receivers. They're THX Select 2 Plus certified and come with HDMI 1.4a ports that allow for 3D video signal pass-through from Blu-ray player to display. The HDMI 1.4a spec is also ready for 3D broadcast content. With five rear HDMI inputs, both receivers can manage a slew of HD sources (the DTR-30.2 adds a front-panel input). $600 and $800, respectively; *www.integrahometheater.com*

WELL-SCULPTED SUBWOOFER

Leave it to Bang & Olufsen to create a subwoofer that looks more like a piece of art than a bass blaster. Don't let the BeoLab 11's looks fool you, though; it stills lowers the boom. Bang & Olufsen would just rather you place it in a corner or on the wall than out of sight. Two facing loudspeaker cabinets that combine 6.5-inch drivers, powered by 200 watts of Class D amplification, produce frequencies of 125Hz and down. Custom colors are available to fit. $1,997 to $2,574; *www.bang-olufsen.com*

FINELY TUNED

LG combined all of the latest TV buzz technologies into its Infinia LX9500 Series models, which offer 3D imagery, Skype video calls and LED backlighting. The LX9500 is a mere 22.3 millimeters thick and has a 16-millimeter bezel. The THX-certified 3D TV has full 1080p resolution, 10,000,000:1 dynamic contrast and TruMotion 480Hz refresh rate. Along with Skype, viewers can access LG's NetCast service for web entertainment such as streaming Pandora radio and movies from Netflix and Vudu. $3,799 for 47-inch; $4,299 for 55-inch; *www.lg.com*



STARLIGHT, STAR BRIGHT

If you're looking for a dreamy projection system for your theater, take a gander at the DreamVision Starlight models. The Starlight1 and Starlight2 use a three-chip LCoS (Liquid Crystal on Silicon) light engine to deliver 1080p high-def, with native contrast of 32,000:1 and 50,000:1, respectively. The HQV processing upscales video sources from 480i to 1080p resolutions to look like full 1080p HD. There's also a 2.35:1 CinemaScope mode for super-widescreen theaters. $6,995 and $9,495; *www.audioplusservices.com*



DABBLING TO SERVE BLU-RAY

For seven years, Kaleidescape has been recognized as having the most reliable multiroom movie server in the industry. But some followers have been twiddling their thumbs while the manufacturer developed a solution for Blu-ray storage. They've finally gotten what they wished for … sort of.

Two new M-Class players (M500, M300) let users add Blu-ray discs to a Kaleidescape movie library and play them throughout the house—with one major caveat: The physical disc must be in the player's tray.

DVD copying is a sticky business. In light of the murky DRM (Digital Rights Management) waters—and especially Kaleidescape's highly publicized legal struggles—the industry has wondered if the company would even touch Blu-ray.

They're touching it, but that's about all for now. The M500 can copy Blu-ray discs onto a legacy Kaleidescape server. The Blu-rays, along with all of the metadata, appear in the standard Kaleidescape library.

In order to play a Blu-ray title, the physical disc must be in an M500 DVD tray. At least you can place it in any tray on the network, and installations typically will have multiple players. The system then verifies that the user actually owns the disc and didn't rip it from a rental.

—Julie Jacobson



STARE AT A WONDER WALL

The Runco WindowWall represents true video-wall technology for the home environment adapted from commercial applications, and it's not simply displays mounted side-by-side. With edge gaps as small as 0.28-inch, mounting depths of only 4.5 inches, and displaced rack-mount electronics, WindowWall allows for tons of custom configurations and applications. Setups can range from a two-panel array to about 20 panels. Sounds like the ultimate sports bar or workaholic home office is ready and waiting. From $20,000; *www.runco.com*

CUTTING THE CORD?

Research firm Convergence Consulting Group estimated that 800,000 U.S. households had cut their cable/satellite/fiber services by the end of 2009, with the number expected to double by the end of 2011.

That's still less than 1 percent of all satellite and cable subscribers, but nearly a million households is significant enough to represent the growing trend, especially as more products and software emerge that can facilitate alternatives (of course, you'll still need some sort of broadband).

We've seen hardware such as wireless A/V kits, connected Blu-ray players, a slew of networked products and TVs at this year's Consumer Electronics Show start to hit the market, as well as the emergence of software aggregators, such as PlayOn and Boxee, that let you enjoy Netflix, Vudu, Hulu, YouTube and other web videos. Tech savvy homeowners are exploring non-corded options like home theater PCs and Mini Macs, and connecting their laptops to their big-screen TVs. What's even more compelling: you'll likely pay less for the equipment than for your yearly cable subscription.

Have your scissors ready? *—Arlen Schweiger*

NETWORK BROADCASTER

URC (Universal Remote Control) is hopping onto your home network with its Network Keypad System, which includes the KP-4000 touchscreen and MRX-1 base station. The units can control "virtually anything on an IP home network, including A/V components, energy management devices, PCs, iPods and whole-house lighting," the company says. The KP-4000 also can display metadata such as cover art, song title, artist and album info for your iTunes library picks. RSS feeds put news, sports, weather and stock info at your fingertips, too. KP-4000 $599; MRX-1 $399; *www.universalremote.com*





WISE WIRELESS STREAMING

Wisair gives you a wireless way to unleash that computer media to your big display with its single-room Wireless USB A/V Adapter Set, compatible with Windows 7, Vista and XP. Video is supported through HDMI and VGA connectivity, and stereo audio can be streamed through HDMI or a 3.5mm audio jack. High-def video transfer is only up to 720p, but the Wireless Set does handle 1400x1050 resolution, so slideshow presentations from quality digital cameras will be ultra crisp. $149; *www.wisair.com*

3D, SKYPE AND MORE

Is there anything not included with today's flat-panel TVs? Panasonic's VT25 Series THX-certified plasmas are all over the 3D trend. You may be too busy watching streaming movies from Amazon and Netflix, or making Skype video calls, though. The sets come in 50-, 54-, 58- and 65-inch sizes, with a new phosphor technology that Panasonic says delivers deep blacks and a 5,000,000:1 native contrast ratio. One pair of active shutter 3D glasses is included. $2,599 to $4,299; *www.panasonic.com*



AN OUTDOOR AD-VENTURA

We're confident the Ventura Series of outdoor-application speakers from British manufacturer KEF can handle the seasonal extremes "across the pond." The all-weather design of the Ventura 4, 5 and 6 Series models includes powder-coated, rust-proof aluminum grilles and brackets, and the aluminum dome tweeter is anodized for protection, too. The tweeters and injection-molded cone woofers are sealed in UV-treated enclosures, and mounting brackets allow for up to 180-degree rotation. $250 to $400 per pair; *www.kef.com*



IT'S YOUR SERVE

The MS-1 Music Server from Cary Audio is the well-respected electronics manufacturer's foray into music sources beyond CD and DVD. Weighing just 8 pounds, the MS-1 manages to let you stuff up to about 2,800 CDs in its 1-terabyte hard drive when ripping in audiophile-friendly FLAC format. Imported discs are added to the library, which can be navigated by artist, album, song or genre wirelessly from your iPhone, iPod touch or iPad. Included Shoutcast gives you streaming web radio, too. $2,500; *www.caryaudio.com*



STYLISH SOUND SYSTEM

Leon Speakers, which custom crafts soundbars to match the style of any flat-panel TV, is now offering full 5.1 and 7.2 systems that are just as sleek, like the Horizon 212 Ultra-Thin Living Space Theater. The system consists of the Hz212 all-in-one LCR front speaker, with a pair of AXIS Series AX-61 in-ceiling surround speakers, and a compact but powerful Aaros 10-inch A10-UT subwoofer and 1,000-watt L3-1K amplifier combination. The surround speakers are custom finished to match any paint color or solid hardwood. $5,575; *www.leonspeakers.com*



AMULET LETS YOU SPEAK UP

Amulet Devices, which makes a voice-enabled remote control for Windows Media Center, will soon make its technology available for third-party development.

"We're coming out with an SDK [software developer's kit] to use with automation," says president Patrick Lawless. The SDK will be available shortly after the company's first product, the Amulet Remote, is released this summer.

Lawless demonstrated the product during the Electronic House Expo (EHX) in March. Move the remote toward your mouth and the voice recognition kicks in. You can, "Play movie *Butch Cassidy and the Sundance Kid*" or ask, "What's on ESPN?"

Amulet also has been working with the Federation for the Blind to provide tools for the visually impaired. During EHX, Lawless demonstrated how people with poor eyesight could navigate a Media Center setup through audible commands and feedback. For example, if you request the Western movie genre, you can say, "Read list"; select a movie and then say, "Read description."

The Amulet Remote uses a 2.4 GHz radio that works over very long distances, according to Lawless. —*Julie Jacobson*



by Arlen Schweiger

Flip-a-Switch 2D to 3D

Special video processing technology lets you view regular content as 3D.

Now that you've bought your spiffy 3D television, you're probably wondering how to best take advantage of the extra dimension.

You may have heard about, or even seen by now, 3D programming from ESPN, Discovery Channel and DirecTV. Then there are 3D Blu-ray discs, but watching them means you'll also have to buy a compatible Blu-ray player and/or receiver with HDMI 1.4 technology. Even after that, you might get tired of watching *Monsters vs. Aliens*, *Cloudy with a Chance of Meatballs* and *My Bloody Valentine* over and over, because there aren't many other choices in terms of 3D content.

It makes you wonder: Did you just blow a couple thousand dollars upgrading to a TV whose main feature you can't use? Let's not get carried away. So many other technologies, like Blu-ray, were slow to take off, too. And just think about HDTV. A decade ago it suffered from many of the same ailments as the nascent 3D TV trend—limited programming, extra hardware, premium pricing, skepticism among consumers.

Some companies are trying to ease your doubts. They're talking up technology that provides "real-time 2D-to-3D conversion" of any content at the switch of a menu setting. That way, even if you don't subscribe to ESPN 3D, you'll be able to feel like you're on the field for those *Monday Night Football* games come September.

Samsung, Panasonic and Toshiba made note of the technology during this year's Consumer Electronics Show (CES). Toshiba planned to include its "TriVector" technology in upcoming Cell TVs, shown as prototypes during CES and expected "later this year." Panasonic's V Series



sets with the processing technology were due out in May and June.

Already shipping 3D HDTVs that feature 2D-to-3D conversion, Samsung explained to me: "The process is based on the analysis of hundreds of millions of images that were used to determine what types of image characteristics provide depth information. The TV's processor looks for those characteristics on a near pixel-by-pixel basis. For example, if an image is brighter or has more detail, it's more likely to be in the foreground. Larger objects that have less detail can more safely be relegated to the background."

Makes sense; and yes, expect to see blurry, double images if you're viewing "3D mode" without the requisite glasses. Samsung adds that the processing works especially well with your crisp high-res photos that can be displayed through the USB port, for extra slideshow pop.

And no, just because you can flip a switch to real-time 3D, don't expect miracles. Back to analogies, it may be more like upscaled DVDs versus Blu-ray resolution. "The quality of the source material impacts the quality of the 3D imagery," says Samsung. So think twice before converting the local news because you want a closer look at the pretty anchorwoman. EH

For the latest 3D information, check out ElectronicHouse.com's *new sister website,* **Explore3DTV.com.**

WARNING: 3D HAZARDOUS?

3D TV may not be all fun and games for everyone. Samsung has posted on its website a medical warning, "Viewing TV Using the 3D Function" to read before you or your child watches 3D.

According to the safety information, "Pregnant women, the elderly, sufferers of serious medical conditions, those who are sleep deprived or under the influence of alcohol should avoid utilizing the unit's 3D functionality."

The ramifications can be very serious. Under the "Photosensitive Seizure Warning and Other Health Risks" section, Samsung recommends to those who have a history of epileptic seizure or stroke when exposed to flashing images or lights to consult a doctor before using 3D.

Other symptoms to keep in mind that you may experience, notes Samsung, include light-headedness, dizziness, involuntary movements such as eye or muscle twitching, nausea and loss of awareness.

Start Here.



Go Anywhere.

Subscribe to the Dream. *A 64% savings.*

www.electronichouse.com/sub



by Steve Castle

Save Water, Save Money



Rainwater harvesting and recirculation pumps can save you thousands of gallons of precious H_2O—and thousands of precious bucks.

When we think of green and electronics, energy efficiency usually comes to mind. But conserving water is a fundamental way to be green and more sustainable. Water conservation is a huge concern in California and the southwest—and could be practiced even in areas that get plenty of rainfall.

After all, you can save thousands of gallons of water—and lots of money on your water bills—by installing a rainwater harvesting and irrigation system. With this type of system, the rainwater from your home's gutters is routed directly to a tank or a series of tanks. The water is then used to irrigate your plantings and lawn.

"Our water bill to date has been the lowest we've had in years, with no excess usage charges," says Kimberly Lancaster, owner of the Green Life Smart Life green home project (*www.greenlifesmartlife.com*) in Rhode Island, which uses a 5,000-gallon rainwater harvesting system.

A rainwater harvesting system can cost hundreds to thousands of dollars, depending on how elaborate you make it. Many also have automated irrigation systems.

And although these systems may not interface directly with a home control system, some very cool and innovative things are being done with them.

"Our irrigation system, even in how it uses water, is incredibly efficient," says Lancaster. "It gauges evapotranspiration [how much water is evaporated into the atmosphere] to determine how much water the landscaping needs. We installed native drought tolerant landscaping and in total reduced our lawn's watering needs by 59 percent."

What happens if there's no rainwater to feed Lancaster's landscape? A sensor alerts a geothermal well pump to use that water to fill the cistern.

Automation will also play a role in a rainwater harvesting system designed by custom electronics professional John Morra of MCC Inc., in Point Pleasant, N.J. Unlike most rainwater harvesting systems that use an underground tank, or cistern, this system will utilize four 1,500-gallon water tanks located in a crawl space. Should the tanks overflow, sensor strips, like those used in the tanks of boats, will activate a pump, which can also be controlled via a Lutron lighting control system.

Morra won't stop there. He's planning to tie a water recirculation pump to light switches in the bathroom, so when you enter and turn on a light, the cool water in the sink tap is pumped back into the water tank and replaced with warm water. As a result, water isn't wasted while you wait for it to warm up.

Recirculation pumps can also be connected to motion and occupancy sensors to activate whenever someone enters a bathroom.

With systems like these, you'll be able to reduce your household consumption of water to save money and conserve our most precious and life-sustaining resource.

Senior editor Steve Castle writes the Green Tech Blog at ElectronicHouse.com *and is the co-founder of GreenTech Advocates (*greentechadvocates.com*).*

OTHER WAYS TO SAVE H_2O

Use low-flow showerheads and faucets ■ Use 1.6-gallon or non-flush toilets (if you can stand the latter) ■ Use an automated irrigation system ■ Choose WaterSense-labeled fixtures ■ Buy an Energy Star-rated dishwasher ■ Fix dripping faucets ■ Wash dishes and clothes with full loads ■ Practice xeriscaping (the use of native and low-water plants) ■ Recycle graywater (from showers, sinks, dishwashers)

Start Here.



Go Anywhere.

Subscribe to the Dream. *A 64% savings.*

www.electronichouse.com/sub



by Julie Jacobson

Is Geek Squad That Cheap?

If you think you can get a truly professional A/V install for a few hundred bucks, think again.

You may be used to seeing my face at the front of Electronic House, *but I'm stepping back a few pages and happily handing over the editorial reins to Lisa Montgomery. Lisa was the original editor of* Electronic House, *joining the magazine back in 1990. She's been a driving force for the publication all these years. I'm still involved, but focused primarily on our trade magazine* CE Pro *(CE stands for custom electronics), which serves professional home systems integrators. That's the disclaimer. In this and future columns, you'll definitely see a bias toward specialty A/V retailers and installation firms. I love Geek Squad and admire DIYers, but someone has to speak up for the locals.*

It's become cliché to talk about $99 TV installs from those big-box guys. $99? Where did that come from?

Let's take Best Buy's Geek Squad, although the offerings are similar for Zip Installation and other national installer networks. The price for mounting a 42-inch-or-larger TV starts at $350.

For that, the Geeks will unpack the TV (!), mount it, conceal the wires in a wall (assuming a single stud bay and no insulation), hook up two video components, "neatly dress" exposed wires, program a satellite or cable remote to operate the TV, and teach you how to use it.

Add $50 to connect to the home network, and $99 each for anything special, like an additional component, unusual mounting surface, motorization, multiple-stud bay, remote control programming … you get the picture.

So that ends up being, oh, maybe $600 or $700 for a modest install. You bring the mount and the cables. And although they might be able to "neatly dress" your power cords, the Geeks certainly can't plant them behind the walls. For that, you'll want to hire an electrician at $100 per hour, bringing the installation to at least $700.

Now, $700 is a great deal for mounting a nice TV, as long as it is done well. It should be a two-hour job for the pros and possibly a four- to eight-hour job for the uninitiated do-it-yourselfer (or in my case a couple of days and a whole lot of frustration, resulting in a crooked TV with cables all over the place, several misplaced pilot holes, and an I-told-you-so look from my TV-deprived husband).

If that price works for you, why not give your local A/V shop a call?

Asked to review pricing from Geek Squad and other national providers, CE pros say their own fees are on par or slightly higher. Often, they're more capable, better trained and more committed than their mass-market counterparts. Plus, many of them have electricians on staff.

While the national guys usually can only "neatly dress" your power cables, "We would likely install an actual electrical outlet," says CE pro Michael Philpott of MultiMedia Interiors, San Diego, Calif. "We're licensed to do it, it's less expensive, and it looks better." EH

10 QUESTIONS TO ASK THE INSTALLER

What started out as a $399 job may end up to be much more than that. Here are some questions to ask to keep the price in check:

1. Do you supply the mount? The cables?
2. If the components you hook up don't work (HDMI issues, for example) will you troubleshoot the system?
3. Do you use finish plates where the wires go in and out of the wall?
4. Do you patch holes made for fishing wires?
5. What if my interconnects are not CL-2 rated for a behind-the-wall installation?
6. Does your "consultation" include the placement of the television for optimal viewing?
7. How long are you willing to "train" me on how to use the system?
8. What happens if something goes wrong in six months, like glitches with cable service? Will you come back out?
9. What if one of my components is an A/V receiver? Will you establish the proper connections and volume controls?
10. If you charge for hooking my TV to the home network, will you guarantee that it will work?

ELECTRONIC HOUSE DIGITAL

ACCESS TO BACK ISSUES

ADVERTISER INDEX

KEYWORD SEARCHES



AUTOMATED TABLE OF CONTENTS

HYPERLINKS

PHOTO COURTESY OF HP PRODUCTS

Get your digital edition now!

8 issues (1 year) for only $9.95!

www.electronichouse.com/sub

or call 800-305-0633

AVAILABLE ANYTIME. ANYWHERE.

That '70s Room





Connecting audio/video systems to a Control4 system helped bring this 1970s-style rec room up to date.

SYSTEM AND ROOM DESIGN
TriPhase Technologies
Carmel, Ind.
www.triphase-tech.com

INTERIOR DESIGNER
DJ Interiors
Carmel, Ind.

GENERAL CONTRACTOR
Williams Custom Art Builders
Fishers, Ind.

The owners of this 22-by-18-foot space had no intention of converting their 1970s-style basement rec room into a theater. They were going to leave the outdated area as is and focus their remodeling efforts on the main living areas, where a Control4 system would be installed to automate the lights and thermostats—and spread music and video throughout the house.

The contractors and interior designers hired for the job couldn't help but mention the outdated rec room, though.

"When we spoke to the owners about the possibilities for that area, they decided to add a home theater [as well as a wine cellar, a bar and a billiards area] to the plans," says Tom Wilburn, sales manager at custom electronics firm TriPhase Technologies in Carmel, Ind.

What really sold the owners on including a dedicated theater was the ability to connect it to the Control4 system. As Wilburn explains, this connection would allow them to set the lights and adjust the thermostat in the theater, plus control every light, thermostat and audio/video component upstairs—all from a single remote while seated comfortably in their theater chairs. The video distribution capabilities of the Control4 system would also let the owners watch any movie that was playing in the theater on any of 10 TVs located throughout the house. Plus, a wireless keyboard, they'd be able to use a wireless keyboard to access a PC to retrieve Internet content like Hulu videos and view them on the theater's 122-inch Stewart Filmscreen.

To simplify all of this control, TriPhase programmed the Control4 system to launch a string of commands, called a macro, whenever a particular button was pressed. By touching the THEATER button found on a keypad at the top of the stairs, for example, the owners can rev up the Planar video projector, turn on the Marantz audio/video receiver and activate the lights. An INTERMISSION button, which can be engaged from the wireless Control4 touchpanel, pauses the movie, illuminates the bar near the back of the theater and turns on the fan in the powder room.

And because playing video games calls for a completely different room environment than movie watching, TriPhase created a special gaming button. The command activates the Nintendo Wii console, lowers the temperature, leaves most of the lights on and pulls motorized masking material across portions of the screen to change it from a CinemaScope size (2.35:1) to a more appropriate aspect ratio of 16:9.

The owners finalized the update with macro commands that impact parts of the basement besides the viewing area. A WINE button activates the lights in the wine cellar and broadcasts a jazz station through the theater's seven speakers. A billiards command, meanwhile, illuminates the pool table and switches the audio to a rock station. —*Lisa Montgomery* **EH**

ON THE WEB For more info and a full equipment list, go to *www.electronichouse.com/4more/70sroom*



What's Hot

- ✔ CinemaScope-size screens.
- ✔ Getting your movies online.
- ✔ Two-way remotes that confirm that your commands were received.
- ✔ Multifunctional theaters that cater to gamers.
- ✔ 7.2+ surround-sound systems.

... and What's Not

- ✘ Square screens.
- ✘ Going to the movie store to rent a flick.
- ✘ Pressing the power button 100 times to make sure your receiver got the signal.
- ✘ Theaters set up for movies only.
- ✘ 5.1 surround-sound.





MAKE IT EASY

How to keep a control system simple for you and your guests.

Simplicity rules when considering a home control system for a vacation home—especially if you have guests or renters; so does making sure the home's electronics and entertainment components blend in well with the natural surroundings.

This 4,100-square-foot vacation home in the Blue Ridge Mountains near Asheville, N.C., was designed as a cool-air summer retreat. Or, as Scott Varn of local electronic installation company Harmony Interiors likes to call it, "hip mountain air." Asheville, after all, is a haven for craftsman and artisans, such as Jim Koerber, who is responsible for the home's gorgeous natural woodwork, some of it made from local locust trees and mountain laurel branches.

The Blue Moon Lodge, as it is called, was not only built within a beautiful natural setting; it was made from natural and eco-friendly materials, from the giant poplar posts to the refurbished 100-year-old barn boards to the solar electric systems, organic sheets, and Energy Star appliances.

The owners live in South Carolina and often rent out the home, so simplicity and remote operation of the control system was a must. "They may be there only on a weekend or a getaway, and you don't want to be tech support," says Varn.

To preclude complications, he steered the owners away from fancy touchscreens and toward the simple keypads of a Control4 home control system. Buttons on a keypad near the entry are marked HELLO, GOODBYE, and SHUTDOWN. HELLO sets the temperature in the home to a comfortable setting and puts on appropriate lighting. GOODBYE is designed for when the home is unoccupied temporarily. The setting doesn't change the temperature, but it activates some of the exterior lighting for a safer, more comfortable return home at night. Finally, SHUTDOWN lowers the temperature, arms the security system, keeps the outdoor lights off, and cuts power to many of the electronics to help the owners save energy.

SYSTEM AND ROOM DESIGN
Harmony Interiors
Asheville, N.C.
www.harmonyinteriors.com

ARCHITECT
Michael McDonough
Asheville, N.C.

BUILDER
Koerber Construction
Pisgah Forest, N.C.





With these simple push-button settings, guests and renters can walk in and intuitively interact with the system. Remote access via a secure website allows the owners to get the house ready for occupants who are on their way.

The entertainment systems are easy to use, as well. A six-button keypad in each room allows simple control of whole-house music sources. There are engraved buttons for XM (Satellite Radio), FM, IPOD, SKIP and VOLUME UP and VOLUME DOWN. Users can choose between four preselected XM and FM stations by pressing the SKIP button. A Sonance iPort iPod dock in the kitchen allows iTunes to be played throughout the house, but Varn and Harmony didn't want to complicate the control with a special interface for that.

"We consider an interface to go with an iPod [dock] a bad idea, because you have to learn it. Everybody knows how to use their iPod, so we put it in a mode to control it their own way," Varn says. "The whole project was an exercise in not trying to overdo."

The surround-sound system downstairs features a 52-inch Sharp LCD TV recessed into a natural stone hearth so it blends in, while unobtrusive Bose cube speakers dangle from the ceiling. And on the back porch is a pair of James Loudspeakers, enclosed in teak to blend with the natural woodwork. "We didn't just want to hang big speakers out there that didn't fit in," Varn says. So the folks at James, who do custom design work, crafted two-way teak speakers to provide the background music as guests gaze out to the Blue Ridge Mountains. —*Steven Castle* **EH**

BACK-UP SINGERS

Thinking of installing in-wall or in-ceiling speakers? Even if they're just going to be playing background music, don't skimp on the speaker construction. An in-wall or in-ceiling speaker with a backbox (an enclosure around the back of the speaker) can offer many sonic benefits, says Scott Varn of Asheville, N.C.-based Harmony Interiors.

For starters, a backbox forms a barrier to prevent sound from penetrating into adjacent rooms. It also protects the circuitry and wiring from exposure to insulation and other in-wall hazards.

Furthermore, speakers that come with backboxes are often tuned to accommodate the sonic effects of the backboxes. In other words, the final sound of the speaker depends on the construction of the backbox. Speakers without backboxes, on the other hand, will sound different depending on what kind of wall or ceiling they go into and the conditions of the structure.

Varn and his company are partial to backbox-style Tannoy in-ceiling speakers, which were used in this mountain vacation home, although companies including Totem, Triad and B&W, among others, also offer speakers with backboxes. Be sure to check with the manufacturer or your custom electronics expert. You'll pay more for backbox speakers, but they are well worth the investment.

LOST: THE COMPLETE FIFTH SEASON © WDSHE. ALL RIGHTS RESERVED.

ELECTRONICS OVERHEAD



Look up. Your ceiling may not be able to accommodate all the gear you'd like to put there. But a soffit can.

A ton of technology can go into and onto a ceiling. There's the usual wiring, light fixtures, and heating and cooling ductwork, but the ceiling can also be a good spot to mount speakers and a video projector. All of this technology can make your ceiling look like a block of Swiss cheese. And your ceiling may not even be able to accommodate some of these products.

What can help? A structural soffit that frames a recessed or coffered part of the ceiling.

Constructed of wood or Sheetrock, a soffit adds architectural interest to a flat ceiling and provides an open cavity in which to install all sorts of electronics. "It's a great place to put surround speakers," says Gustavo Serafini of Pure Audio Video in Fort Lauderdale, Fla. "It gives you more flexibility in placement than an ordinary ceiling does, and it offers an open channel through which to run cabling."

Soffits also prove incredibly helpful when doing a retrofit installation, adds Jamie Wedel of The Home Theater Store, Kennesaw, Ga. "The installer can use the soffit to run wiring to the front, side and rear speakers, as well as provide an HDMI (High Definition Multimedia Interface), component video or Category 5 cabling run to the display. We also like to run AC power through the soffits to provide an outlet for indirect lighting, wiring to wall or column sconces and sometimes fiber-optic starlight ceilings." If electrical wiring will be installed, make sure it's placed at least a foot from low-voltage wiring, he advises.

Soffits are frequently used to hide video projectors, because it is often less laborious and expensive to build a soffit than to work around structural obstacles like heating and cooling ducts above a ceiling.

Soffits are also a good way to cover the ductwork in an unfinished basement. "A general contractor or HVAC contractor can route the ductwork away from the center of the room and reposition it toward the outer walls," says Wedel. "He can then frame a soffit or tray ceiling around the ducts to give the room a nice, neat appearance and avoid the plain vanilla box look." Besides being more eye-appealing than a flat ceiling, soffits can fool the eye into thinking that a room is longer or wider than it actually is.

Lastly, a soffit can enhance the acoustics of a home theater. Instead of having sound waves reflect



A perimeter soffit makes the video pr ojector less notice - able and pr ovides a place for extra lighting and surr ound speakers. Systems design and installation by Pr emier Home Theater, Newton, N.J.

harshly off a flat ceiling, a soffit can break up, or diffuse, the sound waves for a more realistic, three-dimensional listening experience.

Regardless of the application, a soffit is fairly economical for a do-it-yourselfer to construct and install. Building a soffit around the perimeter of a 13-by-18-foot room, for example, should cost no more than $1,000, according to Serafini. Between $300 and $400 of that total should go toward a consultation with an architect or builder, who can advise you on the best size and placement of your soffit. —*Lisa Montgomery* EH

BE SURE YOUR SOFFIT HAS:

- **AN ACCESS DOOR.** Eventually you or your custom electronics pro will need to get inside to service any equipment that's housed in the soffit.
- **VENTILATION.** Video projectors, in particular, can generate a lot of heat. Make sure the warm air can be expelled from the soffit.
- **A CLEAR CHANNEL.** You'll need a clear pathway for cabling with enough room to place low-voltage wiring away from high-voltage electrical wiring.
- **ENOUGH SPACE.** Make sure your ceiling is high enough so that you'll still have plenty of headroom once the soffit is installed.

Keeping Watch

Important features, functions and setups of an IP surveillance camera.

Surveillance cameras are an important component of home security. They can visually monitor key areas of your home and property, record activity and alert you immediately if they notice anything unusual. IP (Internet Protocol) cameras are able to transmit images and signals via the Internet, making them a popular choice for on-the-go families.

By Richie Scholl, Worthington Distribution, www.worthdist.com



CAMERAS

- Choose indoor or weatherproof models based on your application.
- Fixed, pan/tilt, and pan/tilt/zoom (PTZ) models are available. Fixed cameras will always be looking at one specified area. PTZ cameras, by contrast, can be manipulated manually or automatically. For this type of camera, consider having a "home" position that the camera returns to after a few minutes of inactivity.
- Cameras differ in their ability to see in the dark. Use a camera with a night mode or a low lux rating if vision in the dark is important. Standalone IR illuminators can provide night-viewing capabilities for standard cameras. They have built-in sensors that activate the illuminator automatically when necessary.
- One-way and two-way audio features are available on many cameras. One-way audio allows a user to hear the sound that a built-in microphone in the camera picks up. Two-way audio adds the ability for the user to speak into a computer microphone and have that sound played through the camera.
- Form factors vary by manufacturer. Many cameras are shaped as a square unit with a bubbled lens. More traditional bullet and dome styles are now available. Keep in mind that an IP (Internet Protocol) camera will always be larger than standard analog camera.
- Most IP cameras require a hardwired Ethernet connection, although wireless WiFi IP cameras are available.

POWER OVER ETHERNET (PoE)

- PoE capability greatly simplifies the installation of an IP camera because only one wire is necessary to carry both power and Ethernet signals.
- Use a PoE switch at the head end, or PoE injectors somewhere between the switch and the camera.
- PoE is a standard, which ensures compatibility between equipment from different manufacturers.

RECORDING

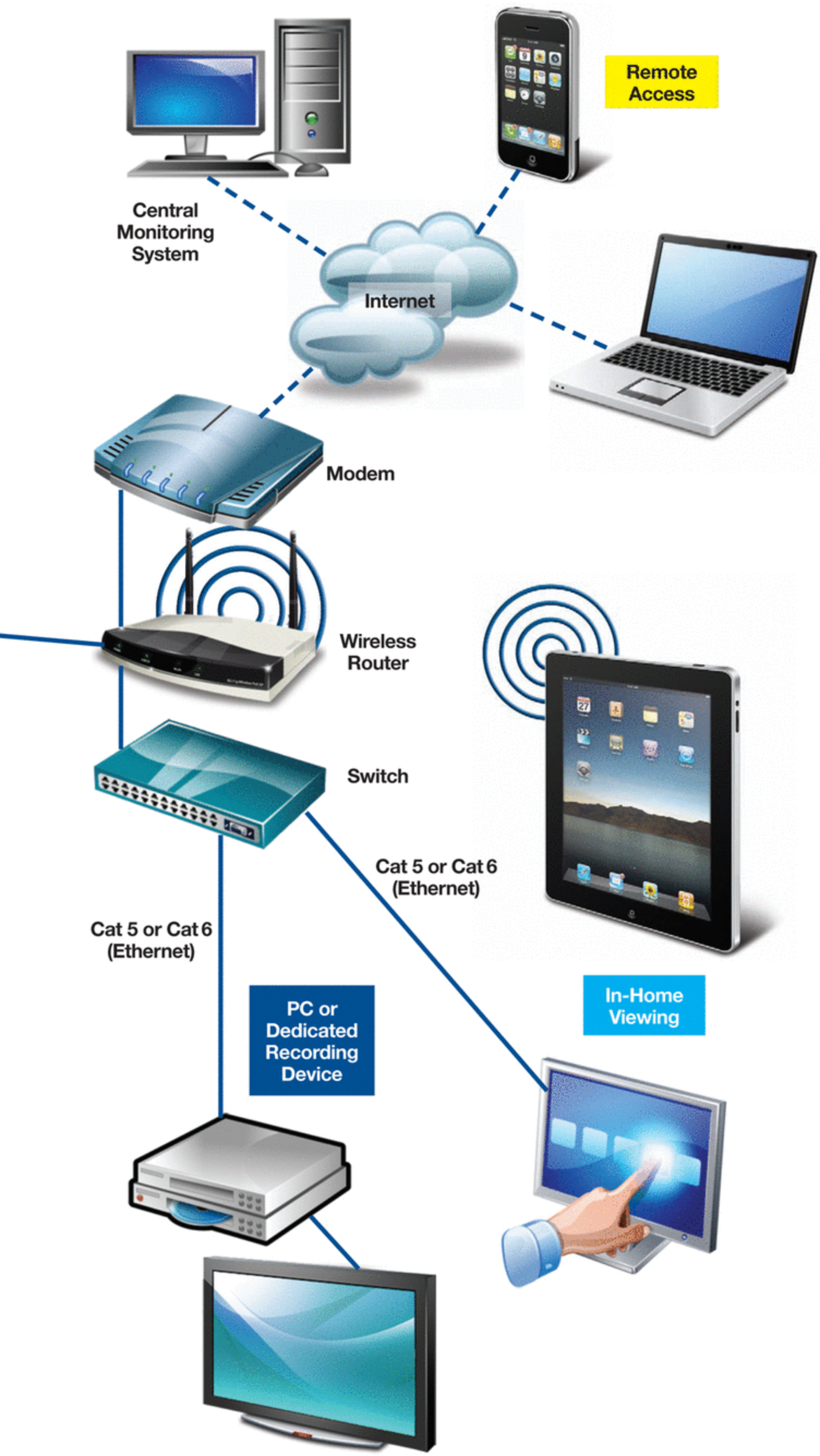
- The most cost-effective option for recording is PC software that records video to a local hard drive. Make sure you have plenty of space available or pick up an external hard drive. Video storage eats space quickly.
- Another option is a hybrid DVR. This is a device that can record images from both analog and IP cameras.
- Some IP cameras have built-in storage or memory card slots. They can store still frames or short video snippets, based on motion.

IN-HOME VIEWING

- Look for a TV monitoring adapter that's compatible with your cameras so that you can view multiple images on a standard television.
- Many IP cameras also have an analog video output that can be connected to more traditional video distribution systems.
- When tied to a control system, televisions can automatically display images from cameras if, for example, motion is detected. Or the system can be programmed to display a picture-in-picture image from the front door whenever the doorbell is pressed.

REMOTE VIEWING

- Some cameras have web servers built in, so all you need is an Internet connection. They are more expensive than their simpler IP counterparts, but for single-camera installations this is an attractive option.
- Motion sensing allows some cameras to send still frames to a specified email address when movement is detected.
- A port will have to be opened on the website's router to permit access to the camera. Stay away from port 80, as it is typically blocked by ISPs.
- Use a Dynamic DNS (DDNS) service to preclude the need for an expensive static IP address. These services are available free of charge.
- Many manufacturers have IP cameras that can automatically configure the router and provide the DDNS.
- Many security monitoring stations support video monitoring. They can view your cameras remotely upon sensor activity or some other alarm event.



ANALOG VS. IP CAMERAS

While the discussion here focuses on IP-enabled camera systems, you might also consider an analog solution. Analog cameras can communicate over Cat 5 or coax cables. They connect to a dedicated hub, from which the images can be delivered to local TV sets or the web. Which solution is best for you?

COST

Generally, analog cameras cost less than their IP counterparts, so they make sense especially for very large installations. For big jobs, you can get away with many inexpensive cameras that tie into one very capable hub. On the other hand, if you simply require one or two cameras, you can integrate IP products quite cheaply into your existing home network.

FLEXIBILITY

Without a doubt, analog camera systems offer greater flexibility than IP solutions. Analog products have been around for years, so you can find something for any need–whether you want a camera that's tiny, ultra-durable, or really fast. Numerous products are available for viewing and controlling banks of analog cameras; the IP world is playing catch-up.

INTEROPERABILITY

It's easier to mix-and-match analog products than it is with IP. Usually, you can pick and choose from a variety of cameras and hubs, and everything should work seamlessly. With IP solutions, interoperability can be more challenging, especially if you want to view multiple cameras through one unified interface.

REMOTE ACCESS

IP cameras are built for networking, so they can be better suited for remote surveillance.

WIRELESS

IP cameras utilize a standard wireless protocol (WiFi) so they can take advantage of existing wireless networks–encrypted ones, at that. Wireless IP cameras from disparate manufacturers can enjoy the same network, including wireless boosters known as wireless access points or WAPs. Wireless analog cameras do not adhere to a single standard, so you cannot mix-and-match. Distance may be limited and network security can be an issue.

INFRASTRUCTURE

The case for IP cameras: If you already have a home network, why not use them?

GRAPHIC ELEMENTS CREATED BY WWW.GUIFX.COM, WITH ADDITIONAL CONTRIBUTIONS FROM WWW.GUIJABOARD.COM



GOODBYE, stand by

With several energy-saving initiatives, 'sleep' will be the new 'off.' *by Steven Castle*

Quick Quiz: What uses more energy?

A. Large data centers.

B. Business computers.

C. Home computers.

If you answered A or B, you're wrong. According to Lawrence Berkeley National Laboratory researchers, home computers are responsible for more energy usage than even large data centers—if you don't include the cooling costs of those centers.

How are we using more energy to power our home computers? Because many of them are on all of the time. They're on even when we're not using them. "Most PC energy occurs when nobody is there," says Lawrence Berkeley Lab's (LBL) Bruce Nordman.

So is the answer shutting off our computers? No, says Nordman, because not enough people will do it. But you can put them to sleep when they're not being used. Nordman says that going from idle to sleep saves about 95 percent in electricity. Think about that the next time you leave that laptop or PC running all night.

Still want your computer or network device to remain on so it can receive updates or stream music, photos or video to your home entertainment center?

The Lawrence Berkeley National Laboratory is working on several ways to incorporate energy-saving technologies into devices so saving energy will be easier and we won't have to think about it.

Some of this technology may even be invisible to you, but it certainly won't hurt to look for it.

Energy Efficient Ethernet

Nearly every device with an Ethernet port for a high-speed Internet or Category 5 connection may soon have this—and it could cut all Ethernet power usage by 50 percent, while delivering more bandwidth. The technology standard necessary for this is called IEEE 802.3az, and it should be finalized later this year.

The energy-saving innovation it uses is called Low Power Idle, in which parts of the network can be put to sleep, or in a low-power state, when no data is being transmitted. In other words, only essential circuitry remains on. Devices will need 802.3az to power down or initiate the low-power state, "and under typical usage it will drop power [usage in those devices] by about 90 percent," says Nordman.

According to published reports, LBL estimates that the 802.3az effort could save $450 million in energy in the United States in just one year, with $200 million of that savings achieved from home computers alone.

Network Proxying

Although the Energy Efficient Ethernet 802.3az standard could save us millions of dollars in energy costs, Nordman says network proxying is even more promising in terms of saving energy. With network proxying, a computer on a network, for example, can go to sleep yet still be available to share data. And as Nordman reminds us, going from idle to sleep saves about 95 percent in power usage.

Some commercial software systems already enable computers on a network to wake for events like backups, but in this case, the technology is built into the devices, such as a SmartNICs (network interface controllers). According to Nordman, some Apple computers like iMacs can also do this, and Apple's Snow Leopard operating system via iTunes can look for audio files on computers to play through the house, even if the computers are asleep. The standard may be fully approved by the time you read this, and we could soon see products like printers, set-top boxes and video game consoles using the technology.

WHAT USES WHAT

Here's a breakdown of what devices use what in electricity, with the numbers in terawatt hours (TWh) per year, as compiled by Lawrence Berkeley National Laboratory's Bruce Nordman.

Data Centers

Servers	22.5
Storage	2.7
Network	2.7
Telecom	10.0
Total TWh/year	**37.9**

Commercial

PC, Desktop	47.2
PC, Notebook	7.3
Monitors	11.1
Copiers	9.7
Printers	5.7
Network	8.8
Total TWh/year	**89.8**

Residential

Modem, router, etc.	7.3
Imaging	2.6
PC, Desktop	21.0
PC, Notebook	2.8
Monitors	7.7
Rechargeable Electronics	6
VCR	5
DVD player	4.4
Security system	1.6
TV, Analog	51.0
TV, Digital	16.0
Clock Radio	2.3
Cable set-top box	10.0
Satellite set-top box	9.0
Stereo	6.1
Compact Audio	6.2
Home Theater	2.2
Portable Audio	0.7
Total TWh/year	**161.9**

Streaming and Streamlining

Lawrence Berkeley Lab researchers also plan to take aim at streamlining consumer electronic (CE) controls, so devices can tell whether a connected electronics component is on or off, and switch it accordingly. "It's hard for devices to know what they're connected to and make a decision on turning off," Nordman says. In other words, the TV is shut off, but the DVD player doesn't know it and can play a menu for days or weeks.

Most CE devices are still in a two-state world of on or off, Nordman says. "We need to go to a three-state model, where things are going to sleep."

In addition, the lab has worked on Audio Video Bridging (AVB), which allows smoother audio and video streaming over Ethernet. AVB isn't intended to save energy, but will provide more network efficiencies and make up for latency issues, such as music streamed over Ethernet milliseconds out of phase. As the demand for streaming picks up, look for more products to incorporate AVB standards.

In the home of the near future, Nordman says, very few devices will be turned off—or have to be turned off. They'll just be using less power by going to sleep. **EH**

Super Suite Package

SVS blends price and performance in a no-frills speaker/sub offering. *by Stephen Hopkins*

AT A GLANCE

Specs:

SPEAKERS

> Mirror-image, dedicated right/left configuration
> Removable fabric grille
> Ferro-fluid cooled tweeters
> 6-inch black-poly woofers
> Audiophile-grade crossovers

SUBWOOFER

> Long-throw 12-inch NSD AL driver
> Full-featured 325-watt BASH digital amp
> Front-firing woofer/port for easy installs
> Built-in, flush-mount amp configuration
> Patented 4-inch high-flow flared ports (in and out)
> Heavy-duty removable 8- foot power cord
> 18 x 21 x 25 inches
> $1,699 for complete package

Pros:

> Neutral sound ideal for home cinema
> Easy subwoofer integration at THX 80Hz crossover
> Dynamic sound with smooth transitions from low vocals to loud action
> Solid build quality with understated design

Cons:

> Minimalist cabinet finish may not be visually appealing
> Sealed design not ideal for 2-channel music
> Speakers are only available in black



SVS has been manufacturing big bang-for-the-buck subwoofers in cylinder form for more than 10 years. But while SVS introduced many home theater owners to the sub-20Hz range at an affordable price, some couldn't see past the unusual shapes. It wasn't long before SVS branched into the more traditional box subs with equivalent performance. The latest addition includes full-range speakers features the STS-02 floorstanding speaker, SBS-02 bookshelves and SCS-02 center channel.

At first glance, the STS-02 looks like any other black-box loudspeaker. But don't mistake its lack of bling for poor build quality. It's a solid piece made of computer-milled MDF with a vacuum-formed textured finish. The two-way design of its ClearSilk F2 tweeters and matte black 6-inch SoftCap polywoofers is simple and well implemented.

In no single performance characteristic does the speaker draw attention to itself. It simply reproduces any given sound neutrally and effortlessly. High frequencies are clear and detailed. Midrange is smooth without losing snap. Mid-bass and bass are clean with no unwanted boom.

Low-frequency extension, however, is not a strength of the STS-02. It doesn't try to reach below 80Hz, because it's intended to be used with a subwoofer. This limits the STS-02's usefulness for two-channel music listening and makes it better suited for home cinema applications.

Similarly, the SCS-02 center and SBS-02 surround speakers only draw attention to the sound being reproduced. Their sealed design allows them to roll off properly when paired with the same 80Hz THX crossover as the STS-02, though the tradeoff is total output. The SBS-02 would not be my first choice as a main speaker, but it would work well with a capable subwoofer in a small or secondary system where reference level is not required.

The last component of the suite, the PB12-NSD subwoofer, had no issues reproducing the upper end of the bass band. Larger drivers often lose poise in the 40-to-100Hz range, but the PB12-NSD stays in check. Its prowess in the upper bass doesn't mean the PB12-NSD can't reach low, though. My single PB12-NSD placed near the front wall was able to produce up to 111 decibels with frequencies as low as 17Hz. Better placement of the sub may have resulted in even greater results.

While the pieces of the SVS puzzle are intriguing separately, the entire system sings when locked together. The price tag makes it ideal for anyone looking to get the most home theater bang for the buck. The STS-02 is available for $749, and adding the SBS-02 surrounds and SCS-01 center equates to a combo discount price of $1,169. Adding an SVS subwoofer to your package nets a 5 percent discount on the sub itself, with the tested PB12-NSD getting knocked down from $599 to $569. **EH**

Stephen Hopkins is an avid DIYer and Electronic House*'s resident 3D expert.*

ELECTRONIC HOUSE DIGITAL

ACCESS TO BACK ISSUES

ADVERTISER INDEX

KEYWORD SEARCHES



AUTOMATED TABLE OF CONTENTS

HYPERLINKS

PHOTO COURTESY OF HP PRODUCTS

Get your digital edition now!

8 issues (1 year) for only $9.95!

www.electronichouse.com/sub

or call 800-305-0633

AVAILABLE ANYTIME. ANYWHERE.

A Solid Building Block

Easy setup, support for tons of technology highlight Onkyo's latest receiver. *by Stephen Hopkins*

AT A GLANCE

Specs:

> 9.2 channels
> 135 watts per channel
> Dolby decoder
> DTS and Dolby PLIIz
> THX processing mode
> Audyssey Dynamic EQ
> Audyssey DSX
> 8 audio inputs/2 outputs
> 3 digital audio inputs
> 3 component video inputs/1 output
> 6 HDMI inputs/2 outputs
> 1080p and i upscaling
> RS-232, IR, Ethernet connectivity
> 17⅛ x 7 13/16 x 18¼ inches
> 51.8 pounds
> $1,599

Pros:

> Beefy amplification with plenty of power
> Easy setup of Network Audio and Internet Radio
> Plethora of audio processing including Audyssey, Dolby and THX modes
> ISF video calibration allows independent video tweaking for each input

Cons:

> Loud click when switching sources or audio formats
> Runs extremely warm to the touch
> Can't apply Audyssey High and Wide simultaneously

Buying an audio/video receiver in the age of HDMI is a balancing act. Some have impressive video processing but anemic amplification. Others have robust amps but limited audio processing. The Onkyo TX-NR1007, however, strikes a good balance. Its amps are beefy, its audio processing state of the art, and its video processing adequate. The balancing act doesn't tip the budget scale, either.

The NR1007 sits a bit north of the middle of Onkyo's 2009/2010 audio/video receiver (AVR) lineup. While it's not the flagship, it packs a lot of the same features and muscle of the TX-NR5007 ($2,699) where it matters most. It's hard to draw your eyes from the laundry list of logos and certifications decorating the NR1007's flip-down front panel. Among the most important are THX Ultra 2 Plus certification, Audyssey MultEQ XT with DSX Processing, Dolby PLIIz and DLNA Certification. While it's not the first AVR to offer DSX and PLIIz, the NR1007 is the first to offer nine channels of amplification.

For whatever reason, Onkyo is one of the few AVR manufacturers to color-code speaker binding posts, which helps take the guesswork out of wiring connections. The NR1007 also features dual subwoofer outputs. While I don't quite buy the ".2" part of the "9.2" designation (there's only one discrete LFE channel encoded in Dolby and DTS content), the NR1007 does apply independent Audyssey MultEQ XT measurements and corrections to each subwoofer. This allows owners of dual subwoofer setups to tame the response of each subwoofer individually.

Beyond simplifying the physical connections of cabling, Onkyo has made big steps in modernizing the setup process. The on-screen display offers helpful graphics and pleasing fonts, making the guided setup process easy to understand and visually appealing. The handheld remote that comes with the NR1007 helps, too. It lets you select the other devices you wish to control by manufacturer and type (display, DVD/Blu-ray, cable box, etc.), sync those products to the remote, and test that the programming is correct.

As a bonus, the NR1007 offers access to networked audio and Internet radio stations. I tested networked audio through the PlayOn DLNA server I already run for online video transcoding, and every audio file on the server played perfectly on the NR1007, including lossless FLAC, MP3, WMA and OGG files. I also tested a handful of Internet radio stations, including Pandora, and found sound quality pleasing.





The one notable distraction I discovered was a loud "click" that occurred every time I changed the input of the sound format. A firmware update via the Internet connection minimized the noise, but it still remained.

Many AVRs could easily drive the SVS S-series tower and surround speakers I tested with to reference levels, but the NR1007 (rated at 135 watts per channel) was able to accomplish this through convincing dynamic transitions from soft sounds to loud passages, and soft to loud within the same passage. I tested both the width and the height channels, and the AVR did an impressive job of widening the overall soundstage and separating overhead and ambient material from the main track.

Beyond audio power and processing, the NR1007 is a capable video switcher and processor. Its Faroudja DCDi Cinema processor can handle basic analog-to-video transcoding and scaling better than the DCDi Edge processing used in lower-end AVRs. **EH**

Stephen Hopkins is an avid DIYer and Electronic House*'s resident 3D expert.*

INSTALLERS YOU CAN TRUST



CONNECTHOME IS THE NATIONAL DEALER NETWORK YOU CAN TRUST TO INSTALL YOUR HOME TECHNOLOGY

Residential automation, whole-house entertainment, and networking is a must for the 21st century home. But the fast changing technology can be confusing and the options seem endless. You need a *professional installing dealer you can trust* to guide you through the process of creating a home with the latest technology for convenience, security and energy efficiency.

Of more than 5,000 companies reviewed by ConnectHome over the past 8 years, less than 100 have met our high standards of quality and customer service!

ConnectHome is the answer.

ConnectHome is the nation's premier installing dealer network for the professional sales and installation of residential networking, control and entertainment systems. Take the risk out of choosing a dealer, and make your life easier. Peace of mind is priceless!

ConnectHome®
Residential Automation & Networking

1-800-422-4024 WWW.CONNECTHOME.COM

Little Bundle of Video

BenQ's LED pocket projector serves up big pictures at a small price. *by Arlen Schweiger*

AT A GLANCE

Specs:

> SVGA 858 x 600 native resolution
> 3 LED (RGB) light source
> Video inputs: PC D-sub 15 pin (VGA); Component (via VGA adapter); Composite
> Audio inputs: L/R RCA
> USB reader slot (.avi, .mp4, .mov movie file extensions; .jpg, .bmp, .gif, .tiff photos)
> iPod input (optional dock with cable)
> Stereo audio output 3.4mm min jack (for USB reader)
> 100 lumens
> 2,000:1 contrast ratio
> Built-in 2-watt speakers
> 5.35 x 2.24 x 4.72-inch dimensions
> 1.4 pounds
> $499

Pros:

> Ultra-quiet operation
> Solid LED color saturation
> Affordable and portable, with long lifespan

Cons:

> No adjustable zoom
> Lacks HDMI compatibility
> Need to frequently tweak focus

You're adding a TV to the playroom so the kids can watch Nickelodeon while you're glued to football in the family room. For $500 you can plant a 32- or 37-inch flat panel in there … but wouldn't an 80-inch screen be sweeter?

That's the question BenQ is hoping you'll ask, and it answers with its Joybee GP1 Mini LED Projector. The GP1 is not intended to be the centerpiece of a dedicated theater. It doesn't even project in native high-def, though it downconverts very well.



Rather, BenQ has crammed this compact product with features that embrace its portability and flexibility, while providing the wow of a mammoth image compared to most secondary room TVs.

Don't have a projection screen? Don't worry. BenQ isn't expecting everyone to own one. It presents "Wall Color" as the first setting under the Picture menu, so if your wall isn't white you can optimize for light yellow, pink, light green, blue and blackboard options.

My screenless media room was ideal. The GP1's portability comes into play, because the lens does not zoom. That may be a drawback, but you create the image size based on its placement. BenQ says it can project images up to 80 diagonal inches, but the best position in my room produced an uncompromised 90-inch picture.

You can connect video sources through the rear multi-input socket, which offers VGA and composite inputs, plus a connection for an optional iPod dock and cable, or the USB reader slot. Hooking up a Cambridge Audio DVD player to the composite input was no problem, but I wanted better image quality through component cables. The manual made it seem simple to do via a VGA to component adapter, but I encountered difficulty obtaining such a device. Once acquired, the system was smooth going, and a selector on the small remote made toggling between sources painless.

Keystone image correction proved easy with up/down remote buttons, while plentiful menu settings for each video source—including several user memory presets—let you calibrate to multiple viewing tastes. I found myself fine-tuning settings such as brightness and color temperature as I moved from DVD to HD DVD and from HD cable to PC sources.

Three major benefits of the GP1: super quiet operation, long lifespan and ambient light playback. The projector was barely audible despite the fact that I was sitting less than a foot away. With its LED light engine, you need not worry about lamp replacement, and its 100 lumens worked well even while one of my four ceiling lights remained on.

The GP1 delivered crisp, realistic images with vivid colors, especially reds, blues and greens. The red of Arizona Cardinals football jerseys, for example, appeared striking and deep, while jungle and sky images on *Lost* episodes looked textured and bold. And though the resolution isn't native HD, the GP1 accepts 720p and 1080i signals, rendering the content from my HD DVD player on a large scale with natural detail. Guests didn't mind that the picture wasn't "true HD." They were too busy gawking at its size. **EH**

Arlen Schweiger is Electronic House*'s managing editor.*

DESIGNED, ENGINEERED AND MANUFACTURED IN NORTH AMERICA

"Bass, Perfected."

– Dennis Burger, Home Entertainment





SUB 12 & Paradigm's Perfect Bass Kit™

"… throw in the Perfect Bass Kit and quite frankly one of the best 12-inch subs I've heard in its class is elevated into another category altogether."

- Dennis Burger, Home Entertainment

The SUB 12's unique dual amplifier configuration and state-of-the-art driver design allow it to play **Lower**, **Louder** and with **Less Distortion** than any other subwoofer in its price range! 3,400 watts of Dynamic Peak Power, 1,700 watts RMS Continuous, and a comprehensive range of input and control facilities make setup a snap! And unlike many designs on the market, not an ounce of low-frequency extension or output was sacrificed to keep its size and style in line with today's living spaces. But what about the room? The perfect sub, but chances are a less than perfect room. Paradigm's Perfect Bass Kit scientifically calculates to adjust for problems of the room, in less than 5 minutes!

Beautiful real wood veneer finishes: Rosenut, Black Ash or Cherry and Piano Black.

PARADIGM REFERENCE

PBK™ READY



Paradigm Perfect Bass Kit digital room correction system sold sep. See your Dealer for more information.

For more info visit **www.paradigm.com**

AVAILABLE ANYTIME. ANYWHERE.

ELECTRONICHOUSE DIGITAL

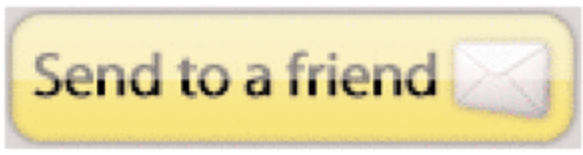
The Digital Toolbar

Have you tried...

- Searching by keyword? 

- Using the advertiser or article index?
- The 'Send to a Friend' feature?

Just click this button on any page:











ELECTRONIC HOUSE 2010 HOME OF THE YEAR

HOME OF THE YEAR WINNERS

part II

The best outdoor installs and amazing applications.

Just like the movie industry, *Electronic House* thought it would be a good idea to run a sequel to our annual Home of the Year competition. In Part II of our popular contest, we pay tribute to some truly amazing outdoor projects and downright clever implementations of technology. You'll see backyards, rooftops and swimming pools brimming with speakers, screens, touchpads and tricked-out lights. Inside the house you'll be inspired by a motorized lift that lowers a 485-pound, 103-inch plasma TV from the ceiling and a hidden home theater door that can only be opened by pushing a secret stone. There's a lot more we'd like to share, so be sure to visit *www.electronichouse.com/specials/hoty10* to see the rest of this year's Home of the Year winners.

ELECTRONIC HOUSE 2010 HOME OF THE YEAR

LIFT & TUCK

Hidden electronics transform this backyard into an entertainment paradise.

by Lisa Montgomery, photography by Joseph Hilliard

When you entertain large groups of people, as do the owners of this 11,000-square-foot-home, it helps to have an open area outside where people can mingle. A swimming pool provides a great place to hang out, as does a barbeque pit and kitchenette. Then there's technology. Normally reserved for the indoors, a theater and a slew of speakers can really impress guests.

The trick to adding technology outdoors, says Don Russell of Southern Cinema Design of Cumming, Ga., is finding products that can blend into the landscape without compromising performance. He and his team were able to achieve both goals for this extensive backyard project. Every stitch of hardware is cleverly hidden: speakers are in the bushes, components are in an outdoor equipment closet, and a projector and screen are tucked under the roofline of a rotunda.

Only when the owners press a button on a Control4 remote does the technology reveal itself—and then the whole environment changes. The effect can be different depending on the type of gathering, the time of day and the preferences of the family. For an afternoon barbeque, for example, the owners might grab a handheld remote to cue their Control4 whole-house music system. XM Satellite Radio and Rhapsody provide an array of musical choices. The system simplifies the selection process, having already categorized the music by genre, favorite stations and so on. The owners enter their selections on the Control4 remote, iPhone or a keypad mounted near the patio door.

A total of 15 weather-hardy speakers ensures that the entire acre is enveloped in music. Southern Cinema Design chose weatherproof models only—mainly from Klipsch and StereoStone—including speakers styled like

THE TEAM

Systems Design and Installation
Southern Cinema Design
Cumming, Ga.
www.southerncinema.com

Pool and LED Lighting
Abyss Pools
Port Orange, Fla.

OUTDOOR THEATER TIPS

■ **INVEST IN A SUPER-BRIGHT VIDEO PROJECTOR.** Though it's dark outside, the projector will need to combat light from the moon, stars, porch lights, etc. Look for a projector that can output a minimum of 1,500 lumens.

■ **SELECT A SCREEN.** The best match for a high-lumen projector is a high-intensity screen with a gain of at least 1.3 to 1.

■ **SURROUND-SOUND.** Doing a 5.1- or 7.1-channel surround sound system outside is best accomplished by following the same placement guidelines as an indoor theater: three in front and surround channels in the sides or back.

■ **COMPONENTS.** If your house is a long way from the planned outdoor theater area, wiring your family room Blu-ray player to it might be a challenge. Consider a dedicated set of components for the outdoor theater, and place them in a well-protected building closer to the projector and screen. You'll need shorter wiring runs, which will typically yield better video and sound than long wiring runs. Also make sure the components can access the Internet from the outdoor area.

■ **CONTROL.** Convenient and portable, a handheld remote is the way to go. An RF model will typically work better than an IR remote. And it never hurts to have it be a waterproof model.

For some more backyard theater ideas, check out more from *ProjectorPeople.com*'s backyard page as well as *Backyardtheater.com*.





Led lighting in and ar ound the pool cr eates a spectacular outdoor entertainment ar ea (opposite page). t hey can be tur ned off via r emote so that nothing interfer es with the image on the 123-inch stewart f ilmscreen scr een. t he scr een is motorized to r oll up into a soffit (inset) when the show's over; it' s r eplaced by a L ed starfield on the ceiling.

rocks, units designed to be tucked inside planters and others that were mounted to eaves and other structures. Since the pool is a popular place during the day, the owners can choose to have music play through the speakers in that area only. Or they can also fire up the speakers serving the basketball court and the fire pit. Southern Cinema Design set up the music system to treat each of the three outdoor areas as independent audio zones so everybody can listen to something different at the same time.

When night falls, video and lighting take the stage. A full-fledged projection system in the rotunda, and a commercial-grade, weather-resistant Klipsch surround-sound system changes the area into an outdoor cinema. A few button presses on the Control4 remote begins the transformation: the waterfall that spills into the pool from the top of the rotunda stops, the 123-inch Stewart Filmscreen descends from a soffit, and the A/V gear stowed inside an equipment closet activates. The owners can choose to watch video from a high-def DirecTV DVR, Sony Blu-ray player or a movie from their 400-disc changer. After the movie is over, the owners can treat guests to a light show. Colored LEDs shoot sparks of color in and around the pool. The owners use the Control4 remote to manipulate the effects and to add musical accompaniment.

It's a lot of high-tech activity for one backyard, but shutting down the systems for the night is a cinch, thanks to the GOODNIGHT button on the remote. Touching it signals the screen to roll up, the A/V gear to power down and all but a few pathway lights leading to the house to switch off. **EH**

sy ste ms & eQUIPmeNt

Screen: Stewart Filmscreen
Projector: Christie Digital
Control: Control4
A/V Distribution: Control4
Speakers: Klipsch, StereoStone
A/V Components: Sony
Lighting: Control4

sIze of oUtd oo r eNt er ta INmeNt ar ea
6,000 sq. ft.

Pr oj ect dUr at Io N
60 hours

SURROGATES © BVHE. ALL RIGHTS RESERVED.

ELECTRONIC HOUSE 2010 HOME OF THE YEAR







backyard HORSEPOWER

This three-zone system covers the pool, patio and the owners' two ponies. *by Steven Castle, photography by Andre Neves*

The ponies ha ve Their own music, 24/7. It could be pop music, classical or even talk radio.

They also have their own security system. Views from cameras inside and outside of their barn are visible on touchscreens and TVs in the main house. And when their gate is open, a voice prompt over the security system alerts the homeowners.

"They wanted to do something really nice outdoors. Then we found out they wanted to have a pony barn out there," says Netzer Martinez of Sixth Avenue Electronics, the installation firm for this northern New Jersey project.

"They wanted to make sure the ponies had music," Martinez says of the homeowners. Apparently, the two Shetland ponies, Summer and Autumn, like company, so the audio system is set up to deliver a constant stream of an FM station. (We just hope they don't really have to endure talk radio.) The barn is one of three outdoor listening areas.

The other two zones cover the pool/patio area, and the cabana, which features a 50-inch Panasonic plasma TV.

The cabana is enclosed with glass doors, making it a four-season entertainment retreat. There are no independent speakers in this location, however. The family just uses the audio from the TV. Though if they're watching a baseball or football game, they can route that audio to several hidden speakers at the pool and patio area.

THE TEAM

Systems Design and Installation
Sixth Avenue Electronics
Springfield, N.J.
www.6ave.com



The homeowners enjoy great entertainment in the great outdoors, and so do ponies Summer and Autumn, who have their own audio zone, complete with Elan in-ceiling/in-barn speakers. A year-round cabana helps to protect the 50-inch plasma TV, and Rockustics planter speakers fire sound from the bottom, while flora flourishes on top.



The ponies, however, don't have to listen to the big game if they don't want to. They have their music. (We hope.)

The pool and patio area get their sound from Rockustics OmniPlanter and Rock series speakers that—you guessed it—are designed to look like flower planters and rocks. The two pairs of Planter speakers fire sound downward and out of ports on their bottoms, while flowers bloom merrily on top. One pair is on the patio, while assorted Rock speakers surround the pool, spa and waterfall.

All of this audio comes from an Elan System12 multizone audio system, with the homeowners' music collection stored on an Elan VIA!dj hard-drive-based system. The owners can control the system from a 4-inch N800 touchscreen-style remote outside and various touchpanels inside the house.

While controlling the music is easy, installing all the cables that make this outdoor area rock wasn't (see sidebar). Sixth Avenue trenched three separate lengths of 2-inch conduit to the pony barn and cabana each for power, security, and audio/video wiring. From a closet in back of the cabana, connections to the pool area speaker locations were added later.

The carefully planned prewire allows the addition of one more TV to the outside. Guess where? Yep, the ponies were smart enough to wire for video ahead of time. They may end up with a better A/V system than the one that's in the cabana. **EH**

sy ste ms & eQUIPmeNt

Whole-house audio: Elan
Video: Panasonic
Speakers: Rockustics, Elan
Lighting: HAI
Cabling: Monster Cable

OUTDOOR PLANS

HOW TO PREPARE FOR AN OUTDOOR ELECTRONICS INSTALLATION.

HAVE AN IDEA AHEAD OF TIME. "The best jobs I've done come from the customers' ideas, and if you really want to do something, stick with it. The end result is usually much better than what I envisioned," says Netzer Martinez of electronics installation firm Sixth Avenue Electronics, Springfield, N.J.

RUN THE WIRES NOW. This is a good idea, even if you're not going to do something for years. The pony barn on this property, for instance, was wired for video right away despite the fact that there's no TV there. "We went back and forth on this project several times, and ran several different conduits to the barn, pool and cabana [in preparation for the addition of TVs and other equipment]," Martinez says.

BE FLEXIBLE. The location of the pool changed mid-way through the project, which made pinning down placement for the speakers difficult. Sixth Avenue installers gave themselves some wiggle room by running conduit with speaker wire to a closet behind the cabana. Only after the speakers were placed permanently in the mulched garden areas were they connected to the wiring.

PROTECT YOUR ELECTRONICS. The Rockustics speakers in by the swimming pool and patio are designed to withstand Mother Nature. Make sure any electronics that will be exposed to the elements or even receive an occasional splash of water from a pool are either weatherproof or waterproof (see page 57). The plasma TV is not made for the outdoors, but Sixth Avenue made sure it would be protected from the weather.

ELECTRONIC HOUSE 2010 HOME OF THE YEAR

don't drop THAT PLASMA

Unless that 103-inch baby is on a heavy-duty lift. *by Steven Castle, photography by Shawn St. Peter*



Have a 103-inch plasma screen descend from a lift in the ceiling? Ben Henkel and his team at Integrated Systems (iSys) in Tarzana, Calif., didn't know if it had been done.

Panasonic's titanic plasma screen had mounting holes for its own wall-mount system, but not for any commercially available motorized lift on the market. A lift would have to be completely customized. So Henkel turned to Art Walker at Activated Designs in Valencia, Calif., to make something that could carry the 485-pounder.

Walker built a pretty standard but heavy-duty lift that uses a rack-and-pinion like mechanism to lower the plasma from a 4-by-10-foot wall cavity above this great room/family room/rec room. Walker's lift lowers the plasma in about 10 seconds, says Henkel. And Walker's elegant lift also uses hydraulics, so it doesn't sound like a freight train when it lowers the plasma out of the ceiling.

The plasma lowers on side rails in the cavity, but the only visible piece of the lift when it's in place is the center post.

Getting the lift and plasma screen in place were challenges in and of themselves. By the time the lift was ready to be installed, the ceiling had been framed out, so Henkel's crew had to take the lift apart and install it in three parts. This meant making sure they lined up the two side rails perfectly. The lift installation took two nights. Then it was time to hoist 485 pounds of 1080p-capable HD. This requires some scaffolding, six men, and a lot of care. But Walker's customized mounting system worked to perfection, and the 103-inch display was soon doing the old up and down in this room.

The mammoth plasma screen wasn't the only unique aspect of this installation, though. The owner of the house, a Hollywood actor who lives in the Hollywood Hills overlooking L.A., wanted to be able to view the plasma screen while he was relaxing on the patio by the pool. The mount was designed so the plasma could be rotated 65 degrees to face the patio.





Because of the unique viewing alternatives, the plasma is in the center of the space, which is divided by cabinets beneath the screen. Three Triad InCeiling Mini/8 LCRs provide the front-channel sound, and four more Triad InCeiling Silver/8 Omni SEs supply the surround channels. However, when the actor is on the patio or watching something like CNN, he can press a button on an RTI T2 color touchpanel remote to switch to 7-channel stereo sound, using the full array of surround speakers to listen in simple two-channel stereo.

systems & equipment

Video Display: Panasonic
Motorized Lift: Activated Designs
Speakers: Triad
Subwoofers: Velodyne, Triad
Processor: Lexicon
Amplifiers: Lexicon, Triad
Control: RTI

room size
20 x 35 feet

project duration
2 years

THE TEAM

Systems Design and Installation
Integrated Systems (iSys)
Tarzana, Calif.
www.isysla.com

Custom Motorized Lift
Activated Designs
Valencia. Calif.

Two subwoofers boom some bass—and both are hidden. A Velodyne DD-15 fires from the front cabinets, while an in-wall Triad sub rocks 'em from the back side wall.

The equipment rack is in a nearby closet, home to a Lexicon processor and amplifier, Sony Blu-ray player, DirecTV HD receiver, Furman power conditioner, RTI control processor and Triad subwoofer amp.

But we all know the real star of this room. "The whole room was designed around the plasma and the lift," says Henkel. **EH**

LIFT TIPS

Art Walker of custom lift maker Activated Designs in Valencia. Calif., offers these tips for shopping for a TV lift.

LISTEN TO THE LIFT. "You're all excited about it moving the TV, and you never think how loud it might be," he says.

STAY AWAY FROM HYDRAULIC MOTORS. They often require maintenance, Walker says, because the seals need replacing.

LOOK FOR TELESCOPING POSTS. You almost don't hear the motor. It's elegant and sleek.

CHECK THE TRAVEL TIME. Can you live with waiting 10, 20, or 30 seconds?

CHECK THE ACTION. Is it smooth, or does it oscillate or vibrate? If the latter, keep looking.

For details on how the lift in this project was constructed, go to *www.electronichouse.com/4more/103plasmalift*

ELECTRONIC HOUSE 2010 HOME OF THE YEAR



no stone left UNTURNED

An electronic rock reveals a hidden home theater. *by Lisa Montgomery, photography by Shawn St. Peter*

THE TEAM

Systems Design and Installation
Electronic Essentials
Vancouver, Wash.
www.electronic-essentials.com

Builder
Tamarak Homes
Vancouver, Wash.

Architect
Blondino Design
Vacouver, Wash.

Interior Design
Living Life with Color
Portland, Ore.

A home the Ater should have at least one element that wows. It could be an enormous CinemaScope screen or an audio system that rattles the rafters. Dimmable lighting can heighten the anticipation of a special event, and elevated seating is one of the best ways to evoke a sense of being inside a real movie theater.

The 15-by-18-foot home theater of Michael and Cyndi Parker has all of the above, but what really has their friends' tongues wagging, says John Vandruff of Electronic Essentials of Vancouver, Wash., is a small switch built into the surface of a massive stone fireplace in the adjacent gentleman's parlor. Neither the guests nor the homeowners can see the switch—not that it's much to look at. That's because it's connected to and hidden behind one of the stones within the fireplace facade.

When pressed, the "secret" stone throws the switch that signals a motorized arm to open a door to the theater. Like the stone, the door is imperceptible, having been integrated into the parlor's wood paneling. "There is absolutely no indication that a theater exists beyond the walls of the parlor," says Vandruff. And once visitors are inside—the door shuts automatically after eight seconds—no one would ever know the room was occupied.

The hidden door has a lot to door with this. So does the



a hinged door disguised as wall paneling swings open to reveal a home theater when a "secret" stone on the fireplace is pressed. Inside, a 9.2 surround-sound system, 110-inch cinemascope screen, RTI remote and a host of a/V components await.

room's level of soundproofing. Through the use of special construction techniques and acoustical materials, as well as collaboration with the architect and builder, Electronic Essentials was able to reduce the amount of sound that seeps into and out of the theater. "When the door shuts, you can hear a pin drop," says Vandruff. More importantly, "when the 9.2 surround-sound system is playing at a normal volume level, nobody in the parlor can hear it."

People in the parlor are able to see what's playing on the theater's 110-inch CinemaScope screen, however. An Elan distribution system routes high-def video from a suite of audio/video components in a nearby closet to both the theater's Runco CineWide projector and the parlor's 55-inch LG LCD TV. Available to both areas, as well as to TVs in the rest of the house, are an Escient media server, Samsung Blu-ray player, Vudu high-def movie player, two high-def Motorola DVRs and two Xbox 360s. This setup is particularly useful for video game parties, says Vandruff. A team of players in the theater can challenge a team in the parlor—if they can find the stone that gets them inside. **EH**

MAKING AN ENTRANCE

Pushing a secret stone may be a clever way to enter a theater, but there are plenty of other slick options. Remember, getting fancy always adds to the bottom line. The stone setup was $3,000 of the $99,000 bill.

ONE FOR THE BOOKS. Choose a novel in your bookshelf to act as a trigger. When you pull out the book, the door to your theater opens. Attached to motorized levers, the bookshelf itself can function as the door.

FEEL THE PRESSURE. A pressure mat beneath a rug or carpet at the theater threshold can swing open the door whenever somebody steps on it. It's a great hands-free way to get inside when you're carrying sodas and popcorn buckets.

TOUCHY SUBJECT. A button on a touchpanel or keypad mounted somewhere in the house, like the kitchen, can rev up all the theater gear and slide open the door.

CRACK THE CODE. Like a combination lock, a keypad or touchpanel can be set up to grant access to your theater only when a secret code is entered. This is a good way to monitor the kids' movie watching and video game time.

systems & eQUIPmeNt

Screen: Stewart Filmscreen
Projector: Runco
TVs: LG
Speakers: RBH Sound
Subwoofers: RBH Sound
Receiver: Integra
Control: RTI
Lighting: Lutron

room size

15 x 18 feet

Project dUration

250 hours



THE NEW WAVE OF HEALTHCARE

Electronic systems allow seniors to age comfortably and safely in their own homes. *by Lisa Montgomery*

Talk To jus T abou T anybody , and they'll have a story to share about an aging loved one. Often, those stories are punctuated with feelings of worry, guilt and uncertainty over how to best care for their elderly parent or friend.

Recently, a number of up-and-coming electronics manufacturers have developed a variety of technologies aimed squarely at this growing market of concerned caregivers. The solutions, they hope, will afford seniors the means to lead an independent life at home while giving their family members the assurance that all is well.

According to healthcare statistics, the timing couldn't be better. In a June 2009 report from the AARP Policy Institute, the population of people 65 or older is projected to grow by 89 percent between 2007 and 2030, more than four times faster than the population overall. The aging population will skyrocket by another 118 percent between the years 2030 and 2050.

"The silver tsunami is coming," says Laura Mitchell, director of business relations at Grand Care Systems, a manufacturer of monitoring systems for seniors. "As the generation of baby boomers grows older, we simply won't have the resources—facilities or manpower—to adequately take care of our aging population, unless we invest in the development of digital home healthcare technology." Factor in the astronomical costs of long-term care, and it's easy to see why some healthcare analysts believe the digital home healthcare industry will grow from a $2 billion business to a $20 billion industry by 2020.

Innovative Start-ups

Like any emerging industry, the digital home healthcare market today consists mainly of small start-up companies, although big names like GE, Intel and Philips are major players as well (see sidebar). Little synergy exists between the manufacturers, resulting in an industry that's "somewhat chaotic right now," says Laurie Orlov of market research firm Aging in Place Technology Watch. "Products that should probably be sold together as a package are being sold separately, and pricing is all over the board." Still, the technologies available are innovative, affordable and—most importantly—cater to the needs of both stay-at-home seniors and the people who care for them.

To gain a clearer sense of some of the solutions gaining steam, Orlov divides digital home healthcare products and systems into four main categories: safety and security, communication and engagement, health and wellness, and learning and contribution. Although technologies that help seniors stay mentally sharp are important, the systems and products that fall under the first three categories are expected to have the biggest impact on the aging-at-home lifestyle.



The home safety and security market is driven largely by companies with systems designed to monitor the activities of an individual and report those findings to a preselected group of people. Personal emergency response system (PERS) devices, which typically alert caregivers of a critical situation after it has occurred, are one example of this type of product. However, today's breed of alert systems focus on more on preventing and mitigating problems than sending out an S.O.S. Referred to as ADL (activities of daily living) monitoring systems, they employ a combination of small, unobtrusive wireless environmental sensors, a networking base unit, specially configured software, and the Internet to communicate to caregivers the daily routines of their elderly stay-at-home parents. The sensors and networking unit capture information about the person's movement throughout the day and distribute it to a secure web server, where the software analyzes and organizes the data. Invited caregivers can then log on to review the recorded information. They can also receive instant alerts via email or text when specified sensors are tripped or if no activity has been recorded within a certain period of time.

Another advantage of ADL systems over typical PERS devices is that neither the user nor caregiver needs to interact with the technology, says Kip Meacham, vice president of marketing for ADL

BIG NAMES IN DIGITAL HEALTH

GE: QuietCare is a system of sensors that monitors the activities of an elderly person. It is marketed mainly as a tool for retirement communities.

Intel: Health Guide monitors and reports vital signs to a secure web portal. Today that data is typically accessed and reviewed by professional healthcare providers.

Philips: Offers a PERS (personal emergency response system) device that can measure the direction, velocity, height and impact of the subscriber's movement to detect a fall—no button pushing is required of the user.

Also available from Philips is an automated medication dispensing system, which handles both pills and liquids.

AUTOMATION FOR THE ELDERLY

Systems like those from Grand Care Systems and CloseBy Network offer turnkey solutions to monitoring the well-being of aging parents. However, there is another option that could provide more bang for your buck. Most home automation systems can be tailored by a custom electronics professional (CE pro) to provide many of the same benefits, and some dealers are doing just that. Eric Crawford, president of Home Theater & Automation in Meridian, Idaho, for example, uses the security sensors and control processors from his current portfolio of Control4 products to create his own ADL monitoring systems.

Paul Ebaugh of CyberNet Solutions in Commerce Township, Mich., has taken a slightly different approach. After seven years of installing sophisticated audio/video, automation and security systems into clients' homes, Ebaugh launched a new division within his company to cater exclusively to the age-in-place market. Called Elderwatch, the company's core product is the Grand Care System. "It has all the tools necessary for health and wellness—things that standard automation systems can't really do," he says. When necessary, though, Ebaugh can always pull from his bag of CyberNet products, combining the Grand Care System with video surveillance, security and automation devices.

No matter how you slice it, an automation system can tremendously enhance a senior's quality of life. When a bedside button is pressed, lights can illuminate a pathway from the bedroom to the kitchen. Pushing a different button could turn on the exterior lights or send an instant message to a caregiver for assistance.



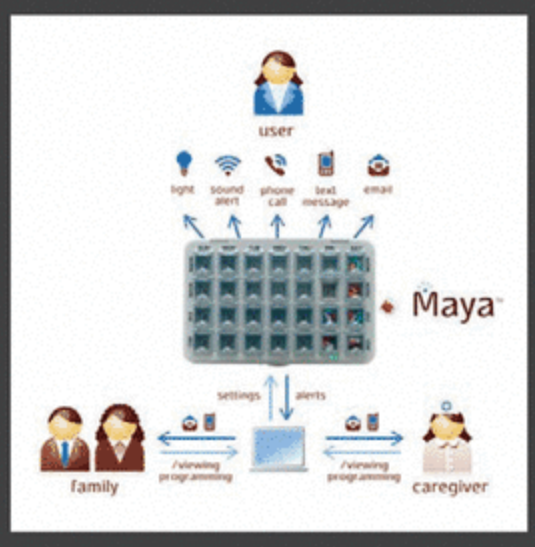
The Grand Care System does more than just monitor a person's health and well being. It can also combat social isolation by providing seniors with a link to loved ones through pictures, messages and music that can be accessed via a touchpanel.

manufacturer CloseBy Network. (PERS devices require a person to press a button or pull a cord for help.) Instead, the wireless system does all the work, generating phone calls, emails or texts automatically and maintaining a continual log of the user's daily routine.

The sensors, similar to those of home security systems, can be used in a variety of ways. Planted underneath the carpet by the bed, they can monitor a user's sleep patterns. Attached to the refrigerator door, they can track when the user has last eaten. By the stove, they can alert someone if the user has forgotten to turn off the burner. Placed in a hallway, they can monitor if a loved one is moving around and maintaining a regular schedule. "It's a very proactive and effective assessment tool," says Mitchell. "Through ADL information gathered by our system, we've been able to help diagnose certain medical problems like sleepwalking and urinary tract infections."

AUTOMATED PILLBOXES

When equipped with technology, even a pillbox can prevent medication mixups. Devices from MedMinder and MedSignals, for example, remind patients to take their pills by flashing an LED next to the appropriate compartment. If the pill is not removed from the box—confirmed by either lifting a lid or removing a cup—a series of alerts, such as beeps and phone calls, are sent to the senior. In the meantime, the events are recorded to a secure website available for review by the caregiver. Tabsafe operates in a similar manner, but instead of pulling out a cup to retrieve meds from a pillbox, users retrieve their pills from a drawer that unlocks at a preset time. The monthly rental fee for an automated pillbox ranges from $50 to $100.



The fact that the sensors are wireless means they can be repositioned and new units can be easily integrated into the system at any time. After noticing a drastic weight loss in his father, Grant Jones, strategic account manager at CloseBy Network, added a contact sensor to the door of his father's refrigerator. "In a week's time, it reported that the door had been open only three times. With that information we were able to discover exactly what was happening and remedy the problem quickly." He and his siblings now take turns delivering meals to their father.

Another feature Jones and other CloseBy Network clients could easily add to the system is automation. The CloseBy software runs on a Control4 processor, which can automate lights, thermostats, audio/video gear and other equipment when programmed by a custom electronics installer. These features can afford seniors a simpler, more convenient means of managing their homes, and since the Control4 system can be accessed remotely, caregivers can monitor and control any device on the network from an iPhone or other mobile device.



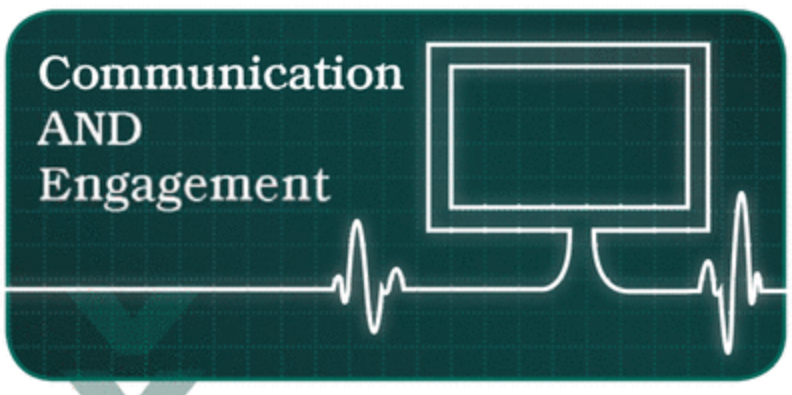
Changes in an elder's routine and environment can indicate potential health problems, but some systems like those from Healthsense, Intel, Grand Care Systems and Wellaware Systems are able to provide evidence that's much more concrete. Optional with these systems are a wireless scale, blood pressure cuff, glucometer and other tools that can measure a person's vital signs.

Measurements taken by these various medical devices are recorded on the system's website, and the entire chart can be shared with the user's physician and family members. If the issue stems from someone forgetting to take his or her medication, the systems can be programmed to deliver friendly reminders by way of a phone call, text or email. Grand Care Systems and Intel also offer the option of having the message displayed on a TV or in-home monitoring device, respectively.

Today, most manufacturers of telehealth systems market their solutions through assisted living facilities and home healthcare agencies. "We see technology as an enabler to support independent living," says Brian Bischoff, president and CEO of Healthsense. "Seniors often still need services like housekeeping, transportation and meal delivery of an assisted care facility." However, it's conceivable that these types of systems will find their way into an increasing number of private homes in the near future. That's certainly Intel's vision. "We recognize through our studies that it's important to extend a person's care community beyond formal caregivers to include family members," says Julie Cheitlin Cherry, Intel director of professional services. "We've done a lot of research to see how the technology can be integrated into a senior's home and lifestyle to enable them to stay at home."

HOW MUCH DOES IT COST?

Monitoring systems like those from CloseBy Network and Grand Care Systems cost between $2,000 and $7,000 (plus installation and subscription), which is less than a two month's stay at an assisted living facility. Dedicated telehealth systems like the eNeighbor from Healthsense, the Health Guide from Intel and the Wellaware system are usually rented or leased from a healthcare facilities and organizations.



As effective as ADL and telehealth systems are at helping seniors maintain their independence, they can't cure the loneliness and isolation that many feel. Grand Care tackles this issue with the same TV interface used to display visual reminders of doctor's appointments and medication schedules. Mitchell explains, "When the caregiver goes to our website to check on the parent's activity, they can also send photos, videos and emails directly to a predesignated Grand Care TV channel." Transmission to a separate touchscreen monitor is an option as well. "The user can touch the music button on the screen, for example, to hear songs that have been downloaded and sent to them by their son, daughter, grandchildren or friends. Everything that's available on the Internet but that a senior might not know how to access, can be sent."

For seniors uncomfortable with paperless forms of communication, Presto and Celery each have developed a standalone product—less than $100 plus a monthly subscription of around $15—that combines the speed and immediacy of the Internet with the physical attributes of snail mail. Friends and family members use Presto's web portal to send letters, reminders, photos and documents via email. The senior retrieves them from a printer designed and configured by Presto to automatically adjust the items to a format that fits on a standard 8½-by-11-inch sheet of paper. "The messages end up looking like Hallmark cards," says Presto president and CEO Peter Radscliff. The web portal also lets caregivers track what's been sent, how much ink is left in the printer and set up times for the system to deliver certain items automatically, like reminders of weekly doctor's visits.

Celery's product delivers email to the senior's home in a manner similar to the Presto unit. However, it also allows the senior to respond in the form of a handwritten note. Just as they would with a standard fax machine, the senior places his or her letter in the tray and hits send. The message is converted to an email, which pops up in the caregiver's inbox.

Priceless Peace of Mind

Seniors may not be as comfortable with technology as their grandkids, but that doesn't mean it can't be just as significant to them. By equipping their homes with certain systems, they can continue to live independently as they age, without having to sacrifice their dignity or privacy. Friends and family benefit, too. They can postpone plans to move a loved one into an assisted healthcare facility, relieving them of the financial burden and emotional strain. Plus, they'll have the peace of mind of knowing their age-in-place parent is happy, healthy and safe—and that's priceless. **EH**

ON THE WEB See what other types of technologies can benefit age-in-place seniors at *www.electronichouse.com/topic/tag/home_healthcare*

OUTDOOR TECH

29 PRO TIPS FOR OUTDOOR ELECTRONICS

Custom electronics pros share their advice on locating TVs, speakers and other techno-goodies in the great outdoors.

by EH and CE Pro staff

So you w ant audio and video in your backyard? Fair enough, although it's not as simple as hooking up a TV and some speakers. Maybe you'd also like to control that outdoor system from a handheld remote … and control the swimming pool system, and automate the sprinkler system, and trench wire out to the cabana for a home theater.

All of a sudden, this has turned into quite a project.

First order of business: Find waterproof and weatherproof electronics—there's a difference (see sidebar, page 57). Do this unless your electronics are going to be very well protected from the elements, such as located inside a roofed cabana or closed-in patio.

Second order of business: Plan now. Know how your outdoor gear is going to be wired. You can always let your custom electronics (CE) pro handle it, or you can read these 29 tips and wield your own shovel and wire stripper.



Electronics Design Group of Piscataway, N.J., not only used a weather-hardy SunBriteTV LCD for this backyard barbecue area, but it created a lift system to keep the TV out of the elements when it's not in use.

VIDEO IN THE SUN

1. Place your TV somewhere where it's protected from the weather, as well as from dirt, moisture and insects.

2. Use a TV meant for the outdoors. "Products from SunBriteTV and Pantel keep condensation out of the TV and are very specialized to last," says Josh Christian of Southern California-based DSI Entertainment Systems.

3. Minimize glare by placing your display in a shaded area. Use an LCD TV instead of a plasma-based model, which is more susceptible to glare.

4. Even with a weatherproof TV, try to install it under an overhang, in custom cabinetry or behind a glass enclosure. A custom cabinetmaker can work with your CE pro to add watertight rubber seals around doors and pressure-treat the wood accordingly.

5. Want an outdoor projection setup? Motorized drop-down screens or inflatable ones can be used with a carefully housed or portable projector for after-dusk viewing. You may still want a bright LCD TV for daytime viewing, though.

6. Locate a projection screen where it can roll up and away when it's not being used, suggests Erich Allen of EAG Design in Kingsport, Tenn. Tucked into a soffit, for example, it will be protected from the elements and raise no visual distractions with the landscape.

7. Consider installing a weather meter indicator, so if conditions get too breezy the screen will retract automatically into its housing.

WILLIAM PSOLKA

AUDIO ALL AROUND

8. For audio, think in terms of coverage, not loudness. What you want is even coverage throughout the outdoor area, without any hot spots or dead spots. "The best way [to accomplish this] is to use a lot of smaller speakers," explains Neal Edmiston, co-owner of Southern, Calif.-based Vision Systems Automation.

9. Position the speakers so that they're firing toward the house. You'll get better sound coverage, and you'll be a better neighbor. Plus, when the speakers are placed away from the house, they won't conflict visually with your home's design and architecture. Blend the speakers into the landscape by choosing models that resemble rocks, planters and other backyard objects from StereoStone, Rockustics, Niles, NuTone and other manufacturers.

10. Need more bass? Complement your outdoor speakers with in-ground subwoofers. "What's great about the in-ground sub is that only part of it sticks out. This allows us to put smaller more inconspicuous speakers in other spots," that a subwoofer might otherwise occupy, Edmiston says. Terra Speakers' AC Sub is a good choice for this.



Finding outdoor speakers to complement the architecture of your home can be difficult. DSI Entertainment Systems in Los Angeles used Sonance in-ceiling models in this installation.

COMPONENTS AND WIRING

11. Locating and wiring source components to an outdoor video display can be a major challenge. The first rule of thumb is to try to keep as much of the gear inside the house as possible, preferably in a central equipment rack.

12. Work with the home or landscape architect early on so conduit and electrical cabling can be trenched into the ground. Ask for multiple 2-inch conduits.

13. Run all outdoor cabling through conduit. This will protect it from rodents and garden tools.

Sanja Resort Living, Greensburg, Ky., included some crafty cabling within the soffit for this install.



14. Even if you'll be using conduit, always use direct-burial cables.

15. It's always a good idea to separate power and A/V cables. Run two or three conduits to accommodate all types of cables and to future-proof your outdoor area.

16. The length of outdoor cabling can cause problems. "You really have to think about what the distance will do to the audio, video and control signals," says Curt Hayes of Audio Design in Deerfield Beach, Fla.

17. Wiring runs often can't be completed at rough-in, so look to "stub out" cable bundles to a weatherproof, surface-mounted box where connections can be made later.

18. Run 14/4 speaker cabling between the source components and an outdoor junction box with a cover plate. Use direct-burial cabling from the box to the speakers.

19. RG-6 and Category 5 Ethernet cabling are safe bets for all other outdoor equipment. Dedicate an individual Cat 5 for each audio, video and control path or two shielded Cat 6 for an HDMI extension.

20. Some CE pros add fiber-optic cabling for HDMI, especially when the run is over 100 feet. Hayes says it's less expensive and has become easier to terminate, but he warns not to run it in lieu of Cat 5 (just in addition to).

CONTROL IN PARADISE

21. Rule number one: Don't bring the remote control near the pool. Rule number two: Always, always, obey rule number one.



22. If simple A/V controls are all you're looking for, a simple weather-resistant controller like the RTI U1 (right, top) is inexpensive and easy to integrate with either local or distributed sources. Its simple design and rugged weatherproofing make it perfect for poolside A/V control.

23. If you're interested in controlling an entire home automation infrastructure from an outdoor environment, a step-up controller like RTI's weather-resistant U2 (right, bottom) can facilitate.

24. An RF (radio frequency) remote is often preferred over IR (infrared) in an outdoor setting, both for greater coverage and to avoid IR interference from sunlight. But if you plan to use an infrared remote control outdoors, you'll need to install an infrared receiver somewhere to capture and relay the signal to the equipment inside. Carl Bevando of multiroom technology manufacturer Xantech suggests locating the receiver in a shady area for the best response. "'Plasma TV friendly' receivers will work best, because of their on-board filtering circuitry," he says.



25. For good wireless roaming range, "we will put Crestron RF repeaters out in the yard and hide them in weatherproof boxes that are hidden throughout the landscaping," says Christian of DSI Entertainment Systems.



POOL CONTROL & IRRIGATION SYSTEMS

26. If you have a swimming pool … and a home control system, think about tying the two together. This way, the operation of the pool system can be synchronized with the settings of the outdoor lights, music and video. Jandy's Aqualink RS Series is a pool system designed to work in concert with home control systems.

27. When more elaborate pool system control is needed independent of an existing automation system, many pool installers turn to the Pentair IntelliTouch system, which offers valve control, chemical monitoring, security integration and other automation features.

28. Consider adding a pool alarm, especially if you have children. Mark Ontiveros of Tustin, Calif.-based Audio Images looks to SonarGuard products to provide peace of mind for clients with kids. Control touch-panels around the house can be triggered by SonarGuard annunciators alerting homeowners "very loudly that 'a child is in the pool.'"

29. Ask your CE pro to integrate your irrigation systems with your home control system. Right from a home control keypad or touch-panel, or remotely from a phone, you'll be able to view the status of the sprinkler system and adjust the settings if necessary.

WATERPROOF, WEATHERPROOF?

Know the difference between waterproof and weatherproof, especially when it comes to outdoor speakers. Waterproof speakers are designed to stand up against a summer storm and poolside horseplay. Weather-proof products, on the other hand, will be able to withstand many other conditions, such as drastic changes in temperature. Keep in mind, not all weatherproof speakers are also waterproof. If you expect your units to make it through rain and shine, ask an A/V specialist for advice.



PHOTOGRAPHY BY OLSON PHOTOGRAPHIC

The Art of MOTORIZATION

Donny Hackett won't just motorize your home theater. He'll do it with leftover motors and parts. *by Steven Castle, photography by Joseph Hilliard*

Donny Hackett calls what he does "adaptation-automation." He likes motorizing things by using leftover motors and other parts. The results are slick and clever, and almost always have an underlying steampunk mentality.

Hackett's home theater designs include wow factors like revolving floors that use electric hoists and automatic doors powered by Shiatsu massage motors. "The Shiatsu motors are from those handheld units you find at every yard sale," he explains. "You can pick one up for under five bucks, and the reversible AC motors are thermally fused, safe, quiet and strong. I use them for small projector lifts, moving pocket doors, masking panels, opening secret hideaway doors, even pushing speakers on drawer slides to silently pop out of cabinets."

Hackett has been involved in the home theater field for about 20 years, coming from his father's drapery business. "Motorized curtains are where it all began for me," he says. "I seriously believe I started designing home theaters just to feed my need for gadgets. It seemed like the one room in the home where anything goes."

Hackett is still designing home theaters under Donny Hackett Design (*www.donnyhackettdesign.com*) in Hendersonville, Tenn., and is working on a reality TV show called *Motorize This* (*www.motorizethis.com*).

We caught up with him recently and quizzed him about motorization today, do-it-yourself versus commercially available products, and what keeps his own motor running.

WHAT'S THE CRAZIEST MOTORIZATION PROJECT YOU'VE EVER DONE? That would be the revolving theater room. It was toured by thousands as part of the "Parade of Homes" competition in Nashville. The builder gave me $20,000 and said I could do whatever I wanted. I always wanted to make a floor spin. I wanted to create a seating arrangement that would morph from a round conversation pit into two rows of theater seats when a movie started. Commercially made automotive rotating display stands start at $20,000, so making one from scratch was my only option. (See sidebar on page 60.)

WHAT KINDS OF MOTORS DO YOU USE IN YOUR PROJECTS? I use all kinds of motors in my projects. AC or DC, with gears, pulleys, chains and belts, sprockets and aircraft cable, car power window or antennas, whatever I can find. Before the Internet, I would pull a nice gearhead motor out of a trashed photocopier and think, "what can I build with this today?" There are great products out there from all of the different companies offering lift units for TVs and projectors, as well as automatic doors and draperies. I've installed many of them. But they were always priced above my pay scale.

WHAT REQUESTS FOR MOTORIZATION HAVE YOU GOTTEN? A builder wanted a 65-inch plasma to drop through a hardwood floor in a living room and be viewable in the game room below. I employed Razor scooter wheels, counter weights and a recycled outdoor awning tube motor. It's being enjoyed today by country music artist Kix Brooks and his family.


ITORIZE
THIS!







BENEATH THE REVOLVING FLOOR

"I purchased four $60 electric hoists from a freight tool supplier, removed the cable drums and fitted 6-inch caster wheels in their place," says home theater designer and motorization expert Donny Hackett. "I welded eight pie-shaped wedges of 1½-inch steel and mounted the winch motors on each corner along with additional casters every 45 degrees. The electrical supplies to each of the motors met at the center hub bearing and were limit-switched to only travel a half turn."

HAVE YOU EVER REFUSED TO MOTORIZE SOMETHING? I tend to say sure, without thinking things through. One customer wanted a weatherproof LCD TV to drop out of a beam in the ceiling of his back deck, rotate around, depending upon where he was sitting or grilling, and then pop back up and disappear. The inside height of the beam was 23 inches and the display was 21 inches. I should have refused, but we got it done, and I'm quite proud of it.

CAN MOTORIZATION ACTUALLY BE ENERGY-EFFICIENT AND GREEN? I don't think we can add motorization to anything and save electricity. We can, however, be energy-efficient. The sun burns all day. It's free. I have a 60-volt electric lawn mower that could charge itself for free if I just add a few solar panels to the top cover. I guess I could do the same to my two Robomowers that automatically cut my grass. If you're going to automate something yourself, start with something that might otherwise be thrown out. Used building supply houses, thrift stores and yards sales are full of unwanted things that could be reborn. Reduce, re-use, recycle …

SHOULD WE BE MOTORIZING WINDOWS MORE? Draperies and blinds should all be motorized. Keeping the sun out of unoccupied rooms can save tons on air conditioning costs during the summer. Likewise, letting the sun in during the winter saves on heating and makes it look like someone's home. It could save you money and add security. They are not as expensive as they used to be. Of course you could rig them up yourself; those little cordless screwdrivers are quite handy for that. And borrow the remote and innards of that unused remote-controlled car.

MOTORIZATION IS EXPENSIVE, BUT CAN IT ACTUALLY SAVE SOMEONE MONEY? I guess it can be expensive, but if you control the sunlight coming through your windows that's got to save you something. My neighbor pays $40 a week to have some bare-chested stranger cut his grass. My robots do it for pennies and keep their shirts on while they're at it. I personally own a MartinLogan Theater center-channel speaker in my home cinema. It now shares the carpeted floor with my 4-year-old daughter and 8-year-old son. I'm finishing a lift unit for the window seat bench, which will

protect the speaker from them while not in use. Saving this gorgeous electrostatic from abuse could save me money—and save my hair from falling out.

WHAT CAN MOTORIZATION MANUFACTURERS DO BETTER IN CREATING THEIR PRODUCTS? Honestly, safety. None of the lifts I installed over the years had any sort of safety stop switches. Ten years ago these units were lifting and dropping 200-pound CRTs and if your child's finger got under that lid, "oops." As far as I know, they are still that way. The TVs may have gotten thinner but the lifts are still dangerous. That's just my opinion. These AC motors are extremely strong. If they could add adjustable torque sensors, making the units just strong enough to do the job and smart enough to stop if an obstruction is detected …

WHAT DO YOU THINK OF MOTORIZATION USED TO HIDE VIDEO DISPLAYS OR SCROLL ARTWORK? Hide them all, including those ugly computer monitors. If it's not turned on, I don't want to see it. Make them all pop up or pop down, whatever it takes. I have a few clients who have purchased beautiful artwork frames with the scrolling limited edition prints concealing flat-panel TVs over their fireplaces. But every time that I have visited these people, I walk by and see the plasma turned off and uncovered. I don't personally sell them, but I could build you one, and it would sense that the display is off and activate.

WHAT DO WE NEED TO MOTORIZE MORE? Doors! I saw a TV ad for a minivan, in which the homeowner approaches her home, her hands full of groceries and presses the keychain remote to unlock and open the front door. Where is that? What in the name of George Jetson is taking so long? We've walked through them at the mall for decades, now we even have them on our vehicles. Why not in our house? I have engineered automatic doors in almost all of my home theater designs. They are safe and quiet, and the homeowners and their guests love them. If someone gets up in the middle of a movie and forgets to close the door, no problem. The answer's right there on your touchscreen remote. How cool is that?

HOW CAN MOTORIZATION HELP THE ELDERLY, OR ASSIST WITH HOME HEALTH CARE? It is exciting to see what Japan and China are working on in terms of robotic assistance for the elderly and in hospitals. Their older citizens are living longer, and the demand for nurses and help around the home is growing quickly. We've all seen the medical assist scooters moving seniors around the mall and grocery stores here, but there they are working on robots that will actually lift them in and out of bed, get their food or medicine, and even keep them company.

WHAT ARE YOUR PERSONAL MOTORIZATION PROJECTS? We are currently in production with my reality TV show, called *Motorize This*, and the next project will feature my Trash Trolley. I always forget to take the garbage out the night before pickup, so I have devised a contraption to ferry the trash to the curb, via electric wheelchair motors, triggered by a sprinkler timer, guided by stud sensors over a buried wire, and recharged by the sunshine. Wish me luck.

YOU'RE NOT MOTORIZED, ARE YOU? Not yet … stay tuned. **EH**

Motorizing a mount for a TV on the wall or a projector in the ceiling can get pricey. According to manufacturers, you'll spend between four and 10 times more for the luxury of being able to move a mount by pushing buttons on a remote control.

However, depending on the layout of your house you might be able to justify the cost. A motorized mount can stretch a display's use to multiple rooms or locations within a room. A TV mounted in the family room, for example, could be extended and rotated to also face the kitchen, dining room, or even through the sliding glass doors leading to the back yard patio. Add up the cost of placing a display at each of these viewing locations, and you'll see that a motorized mount might actually save you money.

For more photos and the complete story about the install shown at right, see page 46.



NOLASCO STUDIOS

TIPS TO INSTALLING A MOTORIZED TV MOUNT

Installing a TV mount requires a good bit of forethought to ensure every thing lines up, fits right, and works as envisioned. Motorized mounts require even more planning. Not only do you need to hit that stud or joist, you need to plan for power, ventilation, edge clearances, and a dozen other design variables. Here are some useful tips:

Display Compatibility. Be sure the mount can accommodate the size and weight of your TV. If you're not sure, use the Mount Finder most manufacturers post on their websites.

Articulation & Travel. The degree by which a mount can extend, tilt and rotate a TV varies by manufacturer. Make sure the one you choose can hit all your viewing sweet spots.

Clearance & Tolerances. Ensure a smooth, bump-free ride for your TV by placing the mount in an area free of obstacles.

Noise. Motors make noise. There's no way around it. Some generate less sound than others, but if you want a dead-quiet installation, the motor for the mount will need to be located in a cavity separate from the viewing area. This is easy to do with ceiling lifts or lifts enclosed in furniture. The motors of wall mounts are tougher, so decide if the noise will bother you before you install.

Ventilation. Anything with a motor that's placed in a wall or ceiling requires ventilation. Planning for exhaust fans and ventilation pathways in the early stages of a design will save headaches down the road.

BETTER LATE *than never*

Motorized devices, lighting systems, surveillance cameras and pool controls weren't at the top of their wish list, but these homeowners are happy to have them now.

by Arlen Schweiger; photography by Joseph Hilliard

Sometimes the *aha* moment comes during a rockin' home theater demonstration. Or finding out you can shut off an entire house's lights from the bedroom touchscreen. Or hearing your iPod playlist sound over the dining room speakers.

But this *aha* came when the lady of the house voiced concerns over what to place above the living room fireplace. Her husband wanted a flat-panel TV; she and the decorator wanted artwork. They discovered they could have both–the art could actually be used to conceal the TV.

That wasn't the only *aha* moment during the course of this extensive home automation project. There were plenty more—and plenty of automation innovations to inspire the homeowners' imaginations.

THE TEAM

Systems Design and Installation
Link Your House
Norcross, Ga.
www.linkyourhouse.com

Architect
Harrison Design & Associates
Atlanta, Ga.

Designer
Gilstrap Edwards
Atlanta, Ga.

Window Treatments
V2K Window Decor
Atlanta, Ga.

Motors Away

"I met the interior decorator [Gretchen Edwards] while I was there on a walk-through, and there was discussion of whether to put a 46-inch flat-panel TV in the living room," explains Frank DeFilippis, design principal of custom electronics firm Link Your House in Atlanta. "The wife thought it was completely unnecessary to put a TV above the fireplace. She wanted it for artwork that had been in storage for a couple of years. While they were talking I kind of raised my hand and said, 'You know, you can put a TV behind artwork and move the art out of the way when you turn the TV on.'"

That was all the decorator and lady of the house needed to hear, and talk quickly turned to other forms of motorization. (For more on motorization options see "The Art of Motorization" on page 58.)

Motorizing and automating window treatments to view the lakefront from the 7,000-square-foot home scored major points with the homeowners. High-voltage wiring powers Somfy and Simu motors to move 20 blinds, three draperies and five massive outdoor screens enclosing a 45-foot porch area.

The owners and guests can use a couple of different

The owners of this Georgia vacation home like to show off their hidden TV trick in the living r oom, made pos - sible by installing a favorite piece of art on a Lift-T ech powered lift mechanism.



© ESPN.





interfaces to command the window treatments: Visitors mainly flip the blind control switches that are mounted to the walls of certain rooms, and the owners have grown comfortable using the remote controls, keypads and touchpanels that are tied to a hybrid HomeLogic and RTI (Remote Technologies Inc.) automation system. "I've caught him showing off his motorized treatments to friends several times now, so I know he loves it," says DeFilippis.

Measures of Concealment

Guests might *ooh* and *ahh* more when home theaters are shown off, but the now-you-see-it, now-you-don't trick in the living room provides plenty of *wow* for this vacation home. DeFilippis mentioned to the lady of the house that a few solutions could work, such as framing the artwork and having it scroll inside the frame to reveal the TV. But she wanted the room's visual feature to be the original art on its canvas. So the 4-by-6-foot piece of art moves up to display the TV—while remaining in view. High cathedral ceilings and a tall fireplace allowed for more than enough room to accommodate a motorized lift.

Link Your House worked with the builder to carve a cavity above the mantle to recess both the LCD screen and center-channel speaker. When the Lift-Tech device moves up, the screen and speaker are exposed and extend out of the cavity. (To see a video of the lift installation, go to *www.electronichouse.com/4more/lakehouselift*)

"It's not fast—it takes about 15 to 20 seconds when you hit the button, but she thought that the lift was really cool," says DeFilippis. "They probably put the



Somfy motors to automate shades and drapes were used for solar windows in this lakefront house, including this bank in the kitchen and dining area. They can be wirelessly controlled from one of the HomeLogic automation touchpanels.

artwork up and down more just to show people [than to watch TV]."

A lot of their viewing takes place in another room that features special motorization systems to hide the video goods. It's not your typical dedicated basement home theater. This multipurpose media room is on the terrace level that leads to the lakefront patio with three sets of French doors comprising a side wall. The room also carries the wooden beams and stone decor from the rest of the house.

"The entire room is built out of stone, which is just horrible acoustically," says DeFilippis. "And an entire wall is basically made out of glass. We talked about using a big plasma or LCD and artwork, but the owners really wanted a screen that could slip into the ceiling and then come down when it's in use."

ADDING IT TOGETHER

Just as the construction of this vacation home—which is expected to become the owners' primary home—expanded from original plans, so did the home electronics installation. The original plans called for audio/video distribution, security and irrigation controls. By the end, the owners had all of that plus lighting, motorized window treatments, motorized display concealments, surveillance cameras, pool/spa controls and more. Here's how most of the roughly $220,000 budget was spent:

Wiring	$16,500
Home control system	$25,000
RF remotes and processor	$15,000
Security and automation	$6,000
A/V distribution and sources	$45,500
A/V sources	$15,500
Speakers	$25,000
Flat panel TVs	$20,000
Media room	$25,000
Lighting controls	$15,000
Drape and blind control	$4,000

Of course, the owner's favorite remote control may be the $200 Apple iPhone he keeps in his pocket at all times.

Link Your House installed a 110-inch Draper screen for that job, but more impressive to the homeowner was the use of a Draper lift that makes the high-def Epson projector disappear into the ceiling as well. The room's sound equipment features unobtrusive Polk Audio THX-certified in-ceiling speakers for all five surround channels, paired with a compact but powerful 8-inch, 800-watt Sunfire subwoofer and amplifier. Even after equalization and calibration measures from Audyssey and Sencore products, the sound quality isn't quite up to golden-ear standards, but it's more than satisfying for the discerning husband who has a background in professional A/V.

Light Their Fire

The installation of the lighting controls and complementary motorized window treatments weren't an afterthought, but they weren't in the original project plans, either. The owners couldn't decide which windows would receive window treatments and which would not, as evidenced by the media room's untreated glass. So it wasn't until more than a year after the wiring phase ended that Link Your House retrofitted for the motorization.





CUE UP THE POOL

The homeowners never imagined how convenient it could be to control their swimming pool ... until the custom electronics pros at Atlanta-based Link Your House swapped the existing Goldline pool and spa system for a Pentair IntelliTouch system. Compatible with the owners' HomeLogic automation system, the IntelliTouch system would be able to be monitored and controlled from a variety of different devices, including an iPhone, RTI remote or HomeLogic touchpanel.

"We don't use the pool remote anymore. Just the electronic remote, since it's more intuitive," says the homeowner. "I especially like it since I can start the spa remotely and get it ready for when we arrive. The iPhone connectivity works very well, too, and we didn't anticipate that when we started [on the project]."

Through these devices the owners can also turn on and off the spa, infinity edge overflow, and exterior pool and dock lights, plus adjust the filtration system and the temperature and salt level of the water.



The room reserved for big-screen movie watching was outfitted with a motorized screen and projector lift so it could return to its everyday facade when the electronics weren't in play. When everything is off, the five in-ceiling speakers also leave little trace that the room doubles as a home theater.

"Prior to Sheetrock [installation], I shot a video of the wiring that was placed to enable optional motorization for each window," says DeFilippis. "Using the video as a guide, the electrical wiring was surgically extracted and made available for the window treatment installers."

Somfy's wireless platform made adding controls for the blinds and drapes much easier, as the installers were able to cut just about anywhere on the walls to fit the DecoFlex keypads.

The project grew even more when the owners decided to add lighting control to the automation system. Link Your House incorporated about 80 lighting loads using the UPB (Universal Powerline Bus) protocol. This protocol enables commands from the automation system to travel to lights over the home's existing electrical wiring, affording a simpler installation than with specialty cabling. Thanks to the integration within the HomeLogic rig, preset "scenes" make controlling banks of lights simple, and housewide commands can be transmitted from touchpanels or an iPhone.

"We weren't going to do the lighting automation at first, but that turned out really well since there are way too many switches to remember what controls are what," says the husband. "We don't even use the switches anymore. We just use the panels. They're labeled much better than the switches, and it works out better for guests since they'd never figure out

IMAGINE THAT TM, ® & © 2008 BY PARAMOUNT PICTURES. ALL RIGHTS RESERVED.



what all the light switches control. We didn't do all the bedrooms with the automated switches, but we'll probably do that at some point."

Watchful Eyes

As much as the man of the house digs the 23 zones of audio that deliver tunes from iPods, satellite radio and cable music channels, he's become almost as big a fan of the security and surveillance system. While traditional security devices for entryways and such were part of the original plans, it wasn't until much later that IP (Internet Protocol) surveillance cameras were added (for more information on IP cameras, see "Keeping Watch," page 30), creating a truly robust security and monitoring system for the homeowners.

Panasonic cameras in the rear of the house were programmed with six presets to save time on panning, tilting and zooming. At the click of his iPhone, the owner can scan areas by the swimming pool, fire pit, cabana, pontoon boat, ski boat and jet skis. That comes in handy when the owners are at their primary residence a couple of hours away.

"I use the security history to see who's been in the house, like cleaning people, contractors, etcetera," the owner says. "With the cameras in the front and back, I can see who's there and also see if the pool is working. I





EQUIPMENT LIST

Control: HomeLogic, RTI, HAI
A/V distribution: Elan
Flat-panel displays: Sharp, Samsung
Projection screen: Draper
Projector: Epson
Speakers: Elan, Klipsch, Bose, Polk
A/V components: Denon, Sunfire, Sony
Motorization: Somfy, Lift-Tech
Lighting: Simply Automated
IP cameras: Panasonic
Power: Tripp Lite, APC
Rack: Middle Atlantic

There's fun for the adults and the kids in this vacation home. The four bedrooms, including the master bedroom and bathroom (left), can access either the Elan housewide audio system or pull tunes and TV sound from local sources. The owners don't have children, but they did create a kids' loft (below), complete with 46-inch TV, surround-sound system and Nintendo Wii for children of friends and relatives.



can see if it's icing in the winter, if the covers have blown off the chairs, if the sprinklers are working and pretty much anything else that I would check on in person."

Pool and spa controls were also a late project addition (see sidebar, page 68)—and a perk that keeps the owner, well, perky. Sometimes, he can't help but play around with the surveillance and pool controls in tandem. "The edge of the pool toward the lake is like an infinity edge, and he can control that," says DeFilippis. "Water spills out into the collection area, and he can turn it on or off, sometimes remotely—he'll be watching the cameras as he does it, so he can see it kick on." And … *aha*! **EH**

© ESPN; *MONSTER VS. ALIENS* © 2009 DREAM WORKS ANIMATION. ALL RIGHTS RESERVED



Best Guy

This retailer used his on-the-job experience to build a classic home theater. *by Rachel Cericola, photography by Nate Bauer*

ABOUT THE PROJECT

MONEY SPENT
TOTAL: $30,000

LOCATION:
Rosemount, Minn.

ROOM SIZE:
21 x 14 x 8 feet

TOTAL PROJECT TIME:
12 months

YEAR COMPLETED: 2007

This Thea Ter room is pre TTy fl y—for a Best Buy guy. We all have our gripes about retail stores, but Jeff Jergerian is the kind of guy we'd want on our side when seeking electronics. He knows his stuff, and he isn't afraid to test some of that knowledge. About five years ago, he took his work experience to task, and turned out a killer basement theater.

Jeff's work at Best Buy puts him in touch with new technology, as well as customers in need of a little help. "This is a perfect role for me, because I want all of these toys to be easy to use and accessible for everyone," he says. "People shouldn't miss out on a great experience because they're intimidated by technology, whether it's home theater, digital imaging or home networking." Of course, it wasn't a bad role when building his theater, either.

Although Jeff knows technology, he went into the project with absolutely no construction experience. He had been a home theater fan since the mid-1990s. So when he and wife, Patti, decided to build their current house, a major consideration was whether the basement could accommodate Jeff's dream theater. "I spent a year drawing and designing pieces of the theater, reading construction how-to books and websites to learn how to do the work, and then planning each phase of it until I felt ready to begin the work," he says.

Jeff had originally wanted the room to have a classic feel, with a few art deco elements thrown in. He wanted to have burgundy and gold as the primary base colors. "I looked through many pictures in magazines and books—especially those by Theo Kalomirakis—for inspiration." Eventually, Jeff had legal pads filled with measurements, elevations and other calculations. "Each wall, each column, the stage, the riser, the electrical plans had pages of drawings until I created a blueprint that could allow me to do the actual work," he says. "By the time I built out each element of the room, I had done the work in my head 20 times."

His day job helped that thought process. Jeff was involved in organizing and developing training programs for Best Buy's home theater installers. He could train right along with them. That meant plenty





of hands-on time with Universal Remote Control's MX-3000, as well as mastering cable termination and other wire management tweaks. When it came time to do his own work, Jeff was more than ready.

Jeff's job also came in handy when it was time to choose equipment. He was able to review equipment selections with some of the experts at Best Buy's Magnolia Home Theater stores. "They made suggestions based on what I wanted to accomplish—and my budget, of course. I wasn't let down in the least." Also, like most home theater buffs, he scoured the web and every major home theater magazine.

Still, being an inside man didn't make the job easy. "What took me a year to complete would have been finished by a professional contractor in two or three weeks," Jeff says. "The biggest sense of relief I felt was when I turned on the electricity for the first time after wiring the basement, and finding every outlet working (and grounded) properly, every light switch working." He cites passing his local inspections as a major milestone for the install.

Another important part of the process was the selection and installation of acoustical treatments. He received a lot of tips from the online AVS Forum (*www.avsforum.com*), but there were still concerns. "While I have excellent THX speakers and a THX receiver, the sound can still be negatively impacted if the room itself isn't properly treated," Jeff says. "There is a noticeable difference in the way the theater room 'sounds' when the system is off. There is also no unwanted echo/reflection with familiar noises like conversation or clapping. This reassures me that the sound I'm hearing when the system is on is accurate and true, and minimally affected by the room environment itself."

There were a lot of little touches, as well. Jeff advises other DIYers to take the same approach he did: "Start with the carpet and build the color palette around that." He recruited Patti when picking out the color palette, and she also crafted the front curtain. "The curtain is my favorite part of the theater, because it got my wife involved—and because she did such a good job making it." Her work was so nice, some of the AVS Forumites have asked her to make their curtains, too.

Over the years, Jeff says, the upgrade bug has bitten. He's traded up to a 1080p projector, upgraded his receiver, and added PlayStation 3, Slingbox and Vudu. "The technology is constantly changing, and I don't want any part of the experience to be less than state-of-the-art." **EH**

EQUIPMENT LIST

AUDIO

M&K MX-350THX Subwoofer
M&K S-150THX Front L/R Speakers (2)
M&K SS-150 Surround Speakers (4)
M&K SW-150THX In-Wall Center Speaker
Pioneer Elite SC-05 Receiver

VIDEO

Mitsubishi HC6500 Projector
Monoprice 5x1 HDMI Switcher
Pioneer CLD-D704 Laserdisc Player
Sling Media Slingbox AV
Sony 400-disc DVD Changer
Sony PlayStation 3
Stewart 106-inch Screen
Toshiba HD-A2 HD DVD player
Vudu Box

ACCESSORIES/OTHER

Berkline Motorized Seats w/ ButtKicker Transducer (7)
BTX Motorized Curtain Track
Liberty Speaker Wire
Lutron Grafik Eye
Middle Atlantic Rack
Numinus Star Panels (2)
Panamax Power Protection
URC MRF-300 RF Base Station
URC MX-3000

WANT TO SEE MORE OF WHAT THE DIYer CAN DO? The *DIY Electronic House Showcase* features never-before-seen big screens, gaming devices, wiring, seats, media servers, lighting, HTPCs, racks, collectibles—and much more! The best of the best, in one book! Buy it now at *www.electronichouseideas.com.*

Installing a TV Mount



We explore the contrasts between a $15 and a $110 mount.

When you're ready to attach a TV to the wall, how should you invest your money: In a super-affordable mount from an online retailer or a more expensive unit from a big-name electronics store? We had our own Stephen Hopkins put both types to the test.

Option 1: $15 Ultra-Slim Tilt Mount from Monoprice

The Ultra-Slim Tilt Mount is a rail-based system with a wall plate capable of holding displays from 23 to 37 inches and weighing up to 165 pounds. I had some nitpicks right away. The supplied bubble level, which was mounted right in the middle of the wall plate, had guide lines roughly twice as wide as the bubble level itself, making the level nearly impossible to use. Also, all of the mounting hardware was packaged together in a single clear, plastic bag.

There was nothing unusual or tricky about handling this mount. I ended up using a free level app on my iPod touch. I caught one stud with the included lag bolts. With no stud available to bolt the other side of the mount, I needed to add a special drywall anchor (Moen SecureMount—$16) to the wall.

Attaching the rails to the TV—I used a 32-inch LCD screen—required some trial and error, but after adjusting the tilt of the hanging hooks, I was able to attach the display directly to the wallplate.

Minor issues aside, the Monoprice mount was fairly easy to install—as long as you're willing to use your own level and buy stronger drywall anchors.

Option 2: $110 SmartView Tilt Mount from Monster

This mount is comparable in size and general design to the Monoprice mount, but with a few benefits. It allows the TV to be tilted downward 20 degrees (the Monoprice unit has a 10-degree tilt) and lets you adjust the display vertically by as much as 3 inches.

The Monster mount came with all the standard hardware, properly sorted and individually packaged. Also in the package were clear and detailed instructions, though no bubble level was included.

I used the same technique to mount the SmartView wallplate as I did the Ultra-Slim wallplate, catching one stud with lag bolts and using the Moen anchors for the other side. Attaching the display to the wallplate, however, was a little tricky because it had to be hooked at both the top and the bottom (necessary for the vertical adjustment feature). The Monoprice mount, by comparison, has just one set of hanging hooks.

The Bottom Line: While both mounts were sturdy and well built, the Monoprice unit was slightly easier to hang without aid. As far their ability to tilt your display, the Monster mount wins hands-down.

ON THE WEB For a full comparison, go to *www.electronichouse.com/4more/mountshootout*

Tech Talk Theater-Building Lessons from DIYers

DIYers are no strangers to learning from their mistakes. The folks at the AV Science Forum (*www.avsforum.com*) have a thread to share on this topic (usernames maintained):

dgjks6: After I hung the drywall, I used a Dremel-type tool (made by Black and Decker) to cut out the outlet boxes. When I finished, the other side of the basement worked like a charm. In the theater, I had problems doing it. Then I remembered that in the basement I had all metal boxes, and here I used the 25-cent Home Depot box. The drill went right through the plastic. Next time I'll buy better boxes.

Also, buy a corner trowel if you are going to do your own drywall. It is only $13, but I was too cheap and spent hours in the corners.

Redzot: I wish I had planned better, not let my friends influence that plan, and not trust my best friend to build the bar.

mbec: I should have sealed my foundation walls before I framed (no water problems yet, just the added peace of mind). I bought 8-foot lumber because it was easier to transport—if I had bought longer lumber for the floor plates, my walls would have been straighter, easier and required fewer studs.

I would have put down more Sakrete under my shower base—if you step in this one small spot, it creaks slightly. Lastly, I would have covered up my wife's treadmill better before drywall sanding.

Suntan: Take pictures of all your framing/electrical/ducting before you cover it with drywall. Three years from now when you wonder if that vertical run of Romex wiring that you want to tap into to add another outlet is three studs or four studs away from the wall, you can look at the photos and know before you poke a hole into it.

ELECTRONIC HOUSE IDEAS

Ideas, Information and Knowledge for the Connected Home



HOME STARTER KIT
Only $69.95

Get Started on your Connected Home Projects!

Our experts get you up to speed on the technologies and benefits of a connected home.

Order now at www.electronichouseideas.com

The Ultimate Planning Guide *The Ultimate Planning Guide* is the book with all of the best tips and information you need to plan your own electronic home. Not sure what the benefits are of a home control or lighting system or how a multiroom entertainment system would work in your home? We help you understand this and more!

Electronic House DIY Showcase Take a look at some of the best DIY projects featuring big screens, gaming devices, wiring, seats, media servers, lighting, HTPCs, racks, collectibles—and one party barn supplied by tech savvy and passionate homeowners.

***Electronic House* Homes of the Year Issue** The Home of the Year 2010 issue includes more than 70 pages of stunning photographs and detailed articles of award-winning homes, individual rooms and home theaters that define today's connected home.

***Electronic House* magazine** 2 issues guiding you on technologies, products, trends and benefits of entertainment and home systems. Our product reviews, equipment lists and "all-about" sections are designed to help you with your purchasing decisions.

Connected Home Lifestyle Quick-Hits Series Information designed to give you a complete overview of the key features, benefits, and details on technology for the home.

www.electronichouseideas.com

MARKETPLACE ELECTRONICHOUSE.COM



RADIORA® 2 FROM LUTRON®

Create just the right light in every room of your home with RadioRA 2. This wireless light control system gives you the ability to adjust the amount of electric light with dimmers and switches, and the amount of daylight with electronically controlled shades and drapes. And you can conveniently control it all with keypads, sensors, and other control devices to create the perfect balance of light to suit your lifestyle.

LUTRON® www.lutron.com/radiora2



AUTOMATE ANY ROOM, WITHOUT A HOME CONTROLLER!

Automate any single room, such as a home theater, corporate boardroom, or a school's classrooms. Set up a button on the wireless touchscreen to close curtains, lower a screen or move a piece of retractable art, and turn on appropriate A/V equipment. When you add an HAI home control system to this set up, you can control the room's lighting, temperatures, security and more. Use family photos as icons or backgrounds, customize a golf or equestrian theme, add links to favorite websites, add floorplans, etc!

HAI® since 1985 1-800-229-7256 www.homeauto.com

To advertise in the Marketplace, please contact Karen Bligh at 800-375-8015 x309 or kbligh@ehpub.com.

Start Here.



Go Anywhere.



Subscribe to the Dream. *A 64% savings.*

www.electronichouse.com/subscribe

INSTALLER DIRECTORY

Find custom electronics installers who provide infrastructure wiring, lighting systems, security, home automation, a/v systems and more.

ALABAMA

Home Integration Technology Specialists
526 Parkwood Ave.
Daphne, AL 36526
251-621-8296
Fax: 251-382-1457
chuckerboy@aol.com

ALASKA

Pyramid AV
2240 Seward Highway
Anchorage, AK 99503
907-272-9111
sales@pyramidav.com
www.pyramidav.com

ARIZONA

Automated Environments
1853 S Horne, Ste. 5
Mesa, AZ 85204
480-545-5050
Fax: 480-545-5461
rholland@aearizona.com
aearizona.com

AV Design Consultants
2304 S. Turner, Ste. 5
Springdale, AR 72764
479-365-2201
Fax: 479-365-2202
info@avdci.com
www.avdci.com

Digital Home Lifestyles
4820 East McDowell Rd.
Ste. 104
Phoenix, AZ 85008
602-224-9100
Fax: 602-224-9103
info@digitalhome lifestyles.com
www.digitalhome lifestyles.com

F & N Enterprises
7301 E 22nd St., Ste. 10W
Tucson, AZ 85710
520-290-8119
info@fandnenterprises.com
www.fandnenterprises.com

One Way Media/ Electric/Solar
1625 W. Parsons Rd.
Phoenix, AZ 85085
623-582-9420
info@onewayelectric.com
www.onewayelectric.com

CALIFORNIA

ATSS Automated Technologies
7940 Silverton Ave., Ste. 203
San Diego, CA 92126
858-566-0606
Fax: 858-566-0909
ask-us@atssource.com
www.atssource.com

Convenient Systems, Inc.
Serving All of San Diego County
La Mesa, CA
619-741-6992
Fax: 619-568-3132
info@convenientsystems.net
www.convenientsystems.net

Creative Concept Sound Solutions
72 Argonaut #120
Aliso Viejo, CA 92656
949-855-8055
info@ccss.tv
www.ccss.tv

Elite Entertainment Systems, Inc.
3600 Harbor Blvd., Ste. 97
Oxnard, CA 93035
805-201-6258
877-EES-WORKS
Fax: 805-201-6260
info@eescompany.com
www.eescompany.com

ForTech Solutions
Serving Southern CA
Toll Free: 877-85-4TECH (8324)
818-892-2311
Fax: 818-892-2322
projects@fortech solutions.com
www.fortechsolutions.com

Future Home
By Appointment Only
2034 Cotner Ave.
First Floor
Los Angeles, CA 90025
310-966-9442
www.futurehometheater.com

Innovative
14271 Fern Ave.
Chino, CA 91710
909-287-7900
Fax: 909-614-7770
info@purelyinnovative.com
www.purelyinnovative.com

Nanlow-Dunn, Inc.
2908 E. Whitmore Ave.
Ste. H215
Ceres, CA 95307
info@yourhomeserves you.com
www.yourhomeserves you.com

Pacific Audio Labs
11524 Poema #104
Chatsworth, CA 91311
818-854-2142
Fax: 818-772-8525
pacificaudiolabs@msn.com
www.pacificaudiolabs.com

Parijs Communication Integrators, Inc.
Connecting You With Technology
2828 W. Ave. L2
Lancaster, CA 93536
661-317-0928
Fax: 661-943-2696
Paul@info-pci.com
www.info-pci.com

Smart Homes
7770 Telegraph Rd.
Ste. E403
Ventura, CA 93004
805-813-2214
Fax: 805-267-4178
sales@CaliSmartHomes.com
www.CaliSmartHomes.com

Sound Environments
Citrus Heights, CA 95621
916-705-6325
Fax: 916-727-6326
soundenvironments@ surewest.net
www.sound-environments.com

Twilight Solutions
1875 Olympic Blvd., Ste. 105
Walnut Creek, CA 94596
925-525-6105
877-THX-Sound
Fax: 925-891-9145
jjohnston@twilight sounds.com
www.twilightsounds.com
Electronic House 2010 Home of the Year Winner

Worthington Entertainment Systems
Design-Installation-Calibration
Serving Southern California
Toll Free: 888-586-3096
Fax Line: 800-586-3096
sales@wowtheaters.com
www.wowtheaters.com
Electronic House 2010 Home of the Year Winner

COLORADO

Cobalt Automation Inc.
3577 Main Ave.
Durango, CO 82301
970-247-8010
970-259-9736
info@cobaltautomation.com
www.cobaltautomation.com

HomeTalk
1030 W. Ellsworth Ave., Ste. D
Denver, CO 80223
303-904-2268
Fax: 303-904-2269
info@hometalk.net
www.hometalk.net

CONNECTICUT

Advanced Home Audio
97 Bridgeport Ave., Ste. 11
Shelton, CT 06484
203-922-0051
Fax: 203-816-8252
bill@advancedhome audio.com
www.advancedhome audio.com

AVIT Technology
167 Cherry St., Ste. 287
Milford, CT 06460
888-951-2848 (AVIT)
Fax: 203-951-3030
info@avittechnology.com
www.avittechnology.com

Circuit Wizard LLC
20 Anita Way
Warren, CT 06754
860-868-2043
Fax: 860-868-6783
ed@circuitwizard.com
www.circuitwizard.com

DELAWARE

Beyond The Studs
2702 Lancaster Ave.
Wilmington, DE 19805
302-428-6080
Fax: 302-213-9194
info@beyond-the-studs.com
www.beyond-the-studs.com

Smartis, Inc.
1378 Lynnbury Woods Rd.
Dover, DE 19904
302-653-8355
Fax: 302-336-9702
info@smartisinc.com
www.smartisinc.com

FLORIDA

Atlantic Smart Technologies
130 Juno St., Ste. 1
Jupiter, FL 33458
561-776-0066
Fax: 561-776-4655
info@atlanticsmart.com
www.atlanticsmart.com

Autogy, Multi-Room Music & Movies
Bringing music to every room in South Florida
954-572-1007
info@myautogy.com
www.myautogy.com

AVX, The Audio Video Experts, Inc.
4902 SW 72nd Ave.
Miami, FL 33155
305-591-0006
Fax: 305-591-3127
drp@apsmiami.com
www.avxglobal.com

Big Picture Solutions, Inc.
8123 159th Court N.
Palm Beach Gardens, FL 33418
561-596-7692
Fax: 561-584-6319
joelm@bigpicturesolutions.tv
www.bigpicturesolutions.tv

ComDesign
9850 16th Street North
St. Petersburg, FL 33716
727-579-1600
Fax: 727-578-8978
RWILKIN@comdesigninc.com
www.comdesigninc.com

Electronic Creations
6800 Edgewater Commerce Pkwy.
Orlando, FL 32810
407-299-0905
Fax: 407-522-5433
info@ecinstall.com
www.ecinstall.com

etc., Inc.
2921 N. Australian Ave.
W. Palm Beach, FL 33407
561-881-8118
Fax: 561-882-0110
info@etc.fm
www.etc.fm

FulTech Solutions, Inc.
Also Serving South Georgia, S. Carolina and Philadelphia, PA
8383 Baycenter Rd., Ste. 201
Jacksonville, FL 32256
904-992-6624
Fax: 904-992-6903
www.fultechsolutions.com
www.collegeofsmart.com

H.D.A.V. LLC
10600 46th St. N. Pinellas Park, FL 33762
813-245-3357
hdavllc@gmail.com
www.hdavllc.com

HW Automation, Inc.
Palm Beach County:
561-347-9677
Broward County:
954-322-0136 &
954-322-6236
Statewide Toll Free:
1-866-4HWA-HELP
sales@hwautomation.com
www.hwautomation.com

Integrated Home, LLC
Serving the Greater Delaware Valley
DE 19807
302-656-1624
Fax: 302-504-6006
jbrooks@ihomellc.com
www.ihomellc.com

INSTALLER DIRECTORY

Media Design Associates, Inc.
5450 NW 33 Ave., Ste. 103
Fort Lauderdale, FL 33309
954-334-0000
michael.wohl@mda-usa.com
www.mda-usa.com

Simple Solutions Digital
1140 Holland Dr., Ste. 9
Boca Raton, FL 33487
561-999-4360
info@simplesolutions digital.com
www.simplesolutions digital.com

Sounds At Home
1818 Sunset Pt. Rd., Unit N
Clearwater, FL 33765
727-667-5114
Fax: 727-894-2159
robharvey@soundsat home.com
www.soundsathome.com

Wireless Home, Inc.
660 9th Street North
Naples, FL 34102
800-995-9434
239-774-9434
Fax: 866-328-0708
info@wireless-home.com
www.wireless-home.com

GEORGIA

Atlanta Digital Homes, llc.
950 Herrington Rd.
Ste. C-147
Lawrenceville, GA 30044
404-720-0942
info@adhllc.com
www.adhllc.com

Georgia Home Theater
20 Years Designing Home Automation and Lighting Control
2516 Cobb Parkway
Atlanta, GA 30080
770-955-8909
sales@GHTNet.com
www.GHTNet.com

Horizon Home Theater & Automation, Inc.
The Automation Specialists
321 Westminster Dr.
Canton, GA 30114
770-490-2676
horizonhometheater@ comcast.net

Link Your House, Inc.
3475 Holcomb Bridge
Ste. 202
Atlanta, GA 30092
770-209-0086
Fax: 678-302-9327
info@linkyourhouse.com
www.linkyourhouse.com

Partner Technology
182 Ben Burton Circle
Ste. 800
Bogart, GA 30622
706-425-0474
Fax: 706-425-0175
chris@partnertechnology.net
www.partnertechnology.net

Sight & Sound Contracting
298 Whitfield Rd.
Hogansville, GA 30230
706-302-2812
dtses@charter.net
www.sightandsound contracting.com

HAWAII

Westside Electric, LLC
P.O. Box 1747
Kailua Kona, HI 96745
808-325-1832
westsideelectric@ hawaiiantel.net

ILLINOIS

Automated Lifestyles
6840 32nd St.
Berwyn, IL 60402
708-484-4160
info@alichicago.com
www.alichicago.com

Ellehcor Home Automation & Design
Country Club Hills, IL 60478
888-636-8099
Fax: 888-289-6882
rhoward@ellehcor.net
www.ellehcor.net

Grand Home Automation, Inc.
866-377-2010 (toll free)
sales@grandhome.com
www.grandhome.com

Procom Enterprises, Ltd.
6615 W. Irving Park Rd.
Ste. 201
Chicago, IL 60634
773-545-0101
jzaworski@procom automation.com
www.procomautomation.com
Electronic House 2010 Home of the Year Winner

Remote Audio/Video, LLC
12515 Rhea Dr.
Plainfield, IL 60585
815-254-1660
kris@remote-av.com
www.remote-av.com

Trage Brothers Inc.
7440 Madison St.
Forest Park, IL 60130
708-366-4200
Fax: 708-366-4788
GreggS@trage.com
www.trage.com

Visually Sound
1510 Lakeview Dr.
Darien, IL 60561
630-395-9919
Fax: 630-395-9919
info@visually-sound.com
visually-sound.com

INDIANA

DistinctAV
13402 Chrisfield Lane
Mccordsville, IN 46055
317-770-9400
Fax: 317-863-0351
sales@distinctav.com
www.distinctav.com

IOWA

Automated Lifestyles, Inc.
1737 State St.
Bettendorf, IA 52722
866-828-2719
Fax: 563-355-8505
franco@automated lifestyles.tv
www.automatedlifestyles.tv

oppo®

BLU-RAY DISC PLAYER



the absolute sound 2010 editors' choice awards

Playback Recommended 2009

HOME THEATER REVIEW.COM 2009 BEST OF AWARD

HOME THEATER TOP PICK OF THE YEAR

Stereophile 2009 finalist Product of the Year stereophile.com

Products and reprints of reviews are available from www.oppodigital.com.

OPPO Digital, Inc.
www.oppodigital.com (650) 961-1118
2629 Terminal Blvd. Suite B
Mountain View, CA 94043

KANSAS

Digital Solutions LLC
1642 Butternut Dr.
Wichita, KS 67230
316-259-0579
Fax: 866-334-6513
info@homedigital solutions.com
www.homedigital solutions.com

KENTUCKY

Cornerstone Technologies
8056 Production Dr.
Florence, KY 41042
859-331-4333
cnichols@cornerstone right.com
www.thedigiteam.com.com

LOUISIANA

Acadian Custom Installations
11670 Cedar Park Ave., Ste. A
Baton Rouge, LA 70809
225-906-2589
Fax: 225-906-2594
bryan@aciexperts.net
www.aciexperts.com

MAINE

Custom Home Theater Systems & Automation
99 Pleasant St., Ste #1
Brunswick, ME 04011
207-373-1147
Fax: 207-729-4252
info@customhometheater.biz
www.customhometheater.biz

MARYLAND

Leading Edge Design & Systems
510 McCormick Dr., Ste. A
Glen Burnie, MD 21061
410-787-7036
Fax: 410-787-9462
info@Leds.com
www.Leds.com

QRS Automation Services
3103 Magnolia Ave.
Baltimore, MD 21230
410-355-6010
Fax: 410-355-5602
mrautomate@starpower.net

SmartTOUCH AV
Serving the Washington D.C., Bethesda and Potomac Region
301-340-7200
Smart@Smarttouchusa.com
www.smarttouchusa.com

MASSACHUSETTS

Audio Video Design
170 Needham St.
Newton, MA 02464-1508
617-965-4600
info@avdesigns.com
www.avdesigns.com

Home Smart Home
140 Chestnut St.
North Attleboro, MA 02760
508-809-6014
Fax: 508-809-6016
sales@homesmart home.net
www.homesmarthome.net

Interactive Home Systems
P.O. Box 1270
Concord, MA 01742
978-369-4937
sales@ihomesys.com
www.ihomesys.com

MICHIGAN

Automation Design & Entertainment, Inc.
865 Lenox, Ste. A
Portage, MI 49024
269-324-6072
Fax: 269-324-6081
peter@automation-design.com
www.automation-design.com

Grand Home Automation, Inc.
866-377-2010 (toll free)
sales@grandhome.com
www.grandhome.com

The Sound Vision
By Appointment Only
1668 Telegraph Rd.
Bloomfield Hills, MI 48302
248-804-8011
info@thesoundvision.com
www.thesoundvision.com

MINNESOTA

Enhanced Home Systems, Inc.
9940 Hamilton Rd.
Eden Prairie, MN 55344
952-941-5289
Fax: 952-941-5436
phirschey@ehsystemsinc.com
ehsystemsinc.com

Sensory Environment Design — S.E.D.
1325 Winter St. NE, Ste. 106
Minneapolis, MN 55413
612-746-1800
Fax: 612-435-2248
info@sedexperience.com
www.sedexperience.com

WEBCO Security, Inc.
14015 Sunfish Lake Blvd.
Ste. 100
Ramsey, MN 55303
763-767-7229
Fax: 763-767-7234
sales.webco@webco-mn.com
www.WEBCO-MN.com

NEVADA

Holm Electric
1008 Tahoe Blvd.
Incline Village, NV 89451
775-831-3781
Fax: 775-831-2132
kevinh@holmelectric.com
www.holmelectric.com

Progressive Home
6280 S Valley View Blvd.
Ste. 722
Las Vegas, NV 89118
702-263-7357
info@progressivehome.com
www.progressivehome.com

Sierra Integrated Systems, Inc.
8060 Double R Blvd.
Ste. 500
Reno, NV 89511
775-853-4800
Fax: 775-853-5122
info@ihs-sierra.com
www.ihs-sierra.com
Electronic House 2010 Home of the Year Winner

NEW JERSEY

1 One Sound Choice, LLC
Pompton Plains, NJ 07444
973-316-0678
Sales@OneSoundChoice.com
www.OneSoundChoice.com
Electronic House 2010 Home of the Year Winner

Aggressive Home Automation & Design, Inc.
Green Technology Specialists Serving NY, NJ & CT
973-344-4616
Info@AggressiveHome.com
www.AggressiveHome.com

Allwired Technologies
Serving NJ, NY & Eastern PA
1263 River Ave.
Lakewood, NJ 08701
732-370-1914
info@allwired technology.com
www.allwired technology.com

Digital Realm A/V, LLC
Red Bank, NJ
732-213-2505
www.digitalrealmav.com

Electronics Design Group, Inc.
Serving New Jersey, Metropolitan New York, Southern Connecticut and Eastern Pennsylvania
60 Ethel Rd. West, Ste. 4
Piscataway, NJ 08854
732-650-9800
Fax: 732-650-1250
askedg@edgusa.com
www.edgonline.com
Electronic House 2010 Home of the Year Winner

eInteractive Homes
288 Greve Dr.
New Milford, NJ 07646
201-575-4401
Fax: 201-591-7980
dan@einteractivehomes.com

Intra Home Systems
231 West Parkway, Ste. B
Pompton Plains, NJ 07444
973-248-1501
Fax: 973-248-1502
info@intrahomesystems.com
www.intrahomesystems.com



INSTALLER DIRECTORY

Sawyers Control Systems
133 County Rd. 513
Frenchtown, NJ 08825
908-996-6903
Fax: 908-996-6958
tcallahan@sawyerscontrols.com
www.sawyerscontrols.com

Signature Sound & Video, Inc.
7 Autumn Ridge Dr.
Glassboro, NJ 08028
877-EZ4MYTV
Fax: 610-717-0010
info@sigsv.com
www.sigsv.com

NEW HAMPSHIRE

Xtreme Audio & Video
7 Rita Ave.
Pelham, NH 03076
888-XTRM AV1
Fax: 603-635-7102
info@xtreme-av.com
www.xtreme-av.com

NEW MEXICO

A Sound Look
502 Cerrillos Rd.
Santa Fe, NM 87501
505-983-550
Fax: 505-983-5642
leonard_pascual@asoundlook.com
www.asoundlook.com

NEW YORK

Adirondack Audio & Video, LLC.
1048 State Rte. 9
Queensbury, NY 12804
518-792-3528
Fax: 518-792-3527
jmiller@adkav.com
www.adkav.com

Ambiance Systems
1650 Route 9
Clifton Park, NY 12065
800-694-0770
Fax: 518-373-0871
marc.leidig@ambiancesystems.com
www.ambiancesystems.com

Audio Video Excellence, LLC
17 Gramercy Place
Thornwood, NY 10594
914-747-1411
Fax: 914 747-5171
mespo@audiovideoex.com
www.audiovideoex.com

Cyber Home Networks, Inc.
P.O. Box 10
Stormville, NY 12582
845-223-1628
Fax: 845-223-7030
info@cyberhomeinc.com
www.cyberhomeinc.com

EPI Systems Integration
Metro NY: 212-727-2525
Pawling, NY: 845-855-5785
Bedford Hills, NY:
914-244-9614
sales@episi.com
www.episi.com

HTE (Home Technology Experts)
1152 Montauk Hwy., Ste. D
P.O. Box 1353
Watermill, NY 11976
631-771-3199
Fax: 631-771-3106
info@hteny.com
www.hteny.com

InnerSpace Electronics
74 Fox Island Rd.
Port Chester, NY 10573
914-937-9700
Fax: 914-937-3374
www.innerspaceelectronics.com
Electronic House 2010
Home of the Year Winner

INSTALLS Inc., LLC
241 Main Street, Ste. 500
Buffalo, NY 14203
716-332-1460
Fax: 716-852-2488
john.nettina@installs.com
www.installs.com

Integrated Electronic Solutions
731 North Broadway
White Plains, NY 10603
914-422-0071
Fax: 914-422-0075
info@iesav.net
www.iesav.net

Intelligent Systems
150 Motor Pkwy., Ste. 401
Hauppauge, NY 11788
877-4-Fun-Tek
Fax: 631-928-7846
sales@intelligentsystems.us
www.intelligentsystems.us

Limitless Systems, Inc.
91 Brennan St.
Huntington, NY 11743
631-739-7644
Michael@LimitlessAV.com
www.LimitlessAV.com

Prestige Custom Integrators
17 Roosevelt Blvd., Ste. 1
Massapequa, NY 11758
516-729-3906
Fax: 516-798-1480
mtyzeidy@aol.com
www.prestigeintegrators.com

NORTH CAROLINA

Custom Electrical Systems, Inc.
3625 Stratford Blvd.
Wilmington, NC 28403
910-793-3006
Fax: 910-794-1820
ces@ec.rr.com
www.customelectricalsystems.com

Electronic Home Solutions, LLC
572 N. Seascape Blvd. SW
Holden Beach, NC 28462
910-880-0412
ehsoln@attglobal.net
e-home-solutions.com

Harmony Interiors
235 Montford Ave.
Asheville, NC 28801
800-942-5955
Fax: 828-232-1500
svarn@harmonyinteriors.com
www.harmonyinteriors.com

Integrated Home Solutions Inc.
Serving North Carolina
211 S. Tradd St.
Statesville, NC 28677
704-872-3133
Fax: 704-973-9624
sales@integratedhomesolutions.net
www.integratedhomesolutions.net
Electronic House 2010
Home of the Year Winner

MHS Technologies
430 Pineola St.
Newland, NC 28657
828-733-0141
Fax: 828-733-9064
techinfo@mhstechnologies.com
www.mhstechnologies.com

The Integrated Home
2401 Whitehall Park Dr.
Ste. 850
Charlotte, NC 28273
866-535-0908
Fax: 866-535-0908
info@integratedhomellc.com
www.integratedhomellc.com

OHIO

Audio Video Interiors, Inc.
2753-L Medina Rd.
Medina, OH 44256-8284
330-723-6696
Fax: 330-722-6548
info@audiovideointeriors.net
www.audiovideointeriors.net
Electronic House 2010
Home of the Year Winner

Elite Systems Solutions
19879 Gant Rd.
Waynesfield, OH 45896
419-568-9096
Fax: 419-568-4182
Installer@EliteSystemsSolutions.com
www.EliteSystemsSolutions.com
Electronic House 2010
Home of the Year Winner

PENNSYLVANIA

Current Concepts—Home Automation Specialists
4610 Pleasant View Dr.
Coopersburg, PA 18036
610-791-4458
Fax: 610-791-6539
glen@cchas.com
www.currentconceptshas.com

Kozi Media Design, Inc.
201 Penn Center Blvd., Ste. 400
Pittsburgh, PA 15235
877-PHN-KOZI
(877-746-5694)
724-334-4695
Fax: 724-334-4696
www.kozimediadesign.com

Pittsburgh Custom Home Theater
4928 Somerville St.
Pittsburgh, PA 15201
412-362-1273
Fax: 412-362-1273
info@pghcustomht.com
www.pghcustomht.com

Yeager Services
P.O. Box 20267
York, PA 17402
717-757-6714
Fax: 717-840-1945
kevin@yeagerservices.com

Wasserson Design
1433 Flat Rock Rd.
Narberth, PA 19072
610-668-8000
Fax: 610-667-7373
wasserson@comcast.net
www.wassersondesign.com

SOUTH CAROLINA

Audio Perfection, Inc.
701 Gervais St., Ste. 150
PMB #201
Columbia, SC 29201
803-926-4878
joe@audioperfectioninc.com
www.audioperfectioninc.com

eLifespaces
1799 Meeting St.
P.O. Box 21750
Charleston, SC 29405
843- 577-5644
Fax: 843- 577-5645
info@elifespaces.com
www.elifespaces.com

Legends Security & Sound, Inc.
2500 Decker Blvd., Ste. A-5
Columbia, SC 29206
803-788-1299
contact@legendssecurity.com
www.legendssecurity.com

TENNESSEE

KDaudio/Gent Electric
525 Springdale Dr.
Bristol, TN 37620
423-646-3532
kdaudio@btes.tv
kdaudio.net

Phoenix Unequaled Home Entertainment
1657 N. Shelby Oaks Dr.
Ste. 101
Memphis, TN 38134
901-624-0940
Fax: 901-624-0583
Scott@phoenixcommcorp.com
www.phoenixcommcorp.com

TEXAS

Act One
2317 Valley View Dr.
Cedar Hill, TX 75104
214-212-9071
info@act1home.com
www.act1home.com

Advanced Home Theater Systems
3209 Premier, Ste. 112
Plano, TX 75075
972-516-1849
800-414-1849
info@advancedhometheater.com
www.advancedhometheater.com

Austin's Connection Company
9632 New Foundland Circle
Austin, TX 78758
512-490-2222
connect@austin.rr.com
www.austinsconnection.com

Dominion Design & Integration
16161 College Oak
San Antonio, TX 78249
210-404-9838
Fax: 210-493-8228
info@dominiontx.com
www.dominiontx.com

Krunal Audio Video LLC
8229 Sutherland Lane
Plano, TX 75025
972-757-7860
sales@krunalaudio.com
www.krunalaudio.com

Home Theater Gallery
2625 Old Denton Rd #330
Carrollton, TX 75007
972-956-0000
matthew.mathis@gmail.com
www.thehometheatergallery.com

Premier Home Technologies
11707 South Sam Houston Parkway west, Ste. A
Houston, TX 77301
281-530-7900
Fax: 281-530-7930
workorders@premierhometechnologies.com
www.premierhometechnologies.com

UTAH

AHT Technologies
Serving Utah
472 N 2150 W, Ste. 7
Cedar City, UT 84721
866-381-7657
Fax: 866-775-0788
info@AHTInc.us
www.AHTInc.us

VIRGINIA

Audio Sound
12418 Cedar Lakes Dr.
Fairfax, VA 22033
703-740-0543
sales@audiosoundusa.com
www.audiosoundusa.com

Executive 411
5799F Burke Centre Pkwy.
Burke, VA 22015
(Showroom by Appointment)
703-239-1500
Fax: 703-652-3889
justin@executive411.com
www.executive411.com

SciFiHomes, Inc.
P.O. Box 308
Middletown, VA 22645
540-868-1044
info@scifihomes.com
www.scifihomes.com

Sight and Sound Systems, Inc
23430 Rock Haven Way
Ste. 150
Dulles, VA 20166
703-802-6443
Fax: 703-631-6443
2sales@sightandsound systems.com
www.Sightandsound systems.com

WISCONSIN

Digitek Digital
Serving Southeastern Wisconsin
Pewaukee, WI 53072
262-264-0574
info@digitekdigital.com
www.digitekdigital.com

Future Technologies, Inc.
By Appointment Only
4218 Willow Brook Rd.
De Pere, WI 54115
920-337-9058
sales@future technologiesinc.com
www.futuretechnologies inc.com

Innovative Systems, Inc.
9880 S. Ridgeview Dr.
Oak Creek, WI 53154
414-761-7350
Fax: 414-761-7355
richj@innovative1.com
www.innovative1.com

Logical Home Technology, LLC
N1465 Wieckert Ct.
Greenville, WI 54942
920-757-1300
Fax: 920-757-5756
info@logicalhome technology.com
www.logicalhome technology.com

Smart Innovations
164 E Fairfield Ct.
Milwaukee, WI 53154
800-206-4743
Info@WeAreSmart.net
www.WeAreSmart.net

CANADA

Showcase Home Theater & Automation Inc.
3412 114th Ave. S.E.
Calgary, Alberta, Ontario
Canada T2Z 3V6
403-254-5820
Fax: 403-254-5821
info@showcaseav.ca
www.showcaseav.ca

VIVID F/X Custom Install Services
2021 Grantham Court
Edmonton, Alberta
Canada T5T 6V7
sales@vividfx.ca
www.vividfx.ca

INTERNATIONAL

TechWorX
119/3 Moo1
Samui Town Centre
Bophut, Koh Samui
Surt Thani, 84320
Thailand
+ 66 (0) 8444 39863
Fax: + 66 (0) 77 961 913
info@techworx-projects.com
www.techworx-projects.com

ConnectHome

Residential Automation & Networking

ConnectHome is the nation's premier installing dealer network for the professional sales and installation of residential networking, control and entertainment systems. Take the risk out of choosing a dealer, and make your life easier. Call to talk to a ConnectHome dealer near you...the brand name you can trust.

ALABAMA
Home Integration Technology Specialists

CALIFORNIA
ATSS Automated Technologies
Convenient Systems, Inc.
Elite Entertainment Systems, Inc.
Nanlow-Dunn, Inc.
Parijs Communication Integrators, Inc.
Sound Environments
Twilight Solutions

COLORADO
HomeTalk

DELAWARE
Beyond The Studs

FLORIDA
Atlantic Smart Technologies
Autogy, Multi-Room Music & Movies
H.D.A.V. LLC

GEORGIA
Link Your House, Inc.
Sight & Sound Contracting

HAWAII
Westside Electric, LLC

IOWA
Automated Lifestyles, Inc.

KANSAS
Digital Solutions LLC

MASSACHUSETTS
Interactive Home Systems

NEW JERSEY
eInteractive Homes
Signature Sound & Video, Inc.

NEW MEXICO
A Sound Look

NEW YORK
Intelligent Systems

NORTH CAROLINA
Integrated Home Solutions, Inc.

PENNSYLVANIA
Yeager Services

UTAH
AHT Technologies

VIRGINIA
Executive 411
SciFiHomes, Inc.

WISCONSIN
Innovative Systems, Inc.
Logical Home Technology

See individual state listings in the Installer Directory for contact information.

List your company in the Installer Directory!
Call Ellen Cotton today at
508-663-1500 x240
or email
ecotton@ehpub.com

GUIDE TO THE ADVERTISERS

35 **AUTON MOTORIZED SYSTEMS**
661-257-9282, www.auton.com

19 **BELL'O INTERNATIONAL CORP.**
732-972-1333, www.bello.com

13 **BOSE CORPORATION**
800-905-1351, Bose.com/Lifestyle

37 **CONNECTHOME**
800-422-4024, www.connecthome.com

7 **CONTROL4**
www.control4.com/scalable2

IFC **CRESTRON**
crestron.com/digitalmedia

74 **EH MARKETPLACE**
800-375-8015, electronichouse.com

11 **ELAN**
gbyelan.com

5 **IOGEAR**
avior.iogear.com

BC **LUTRON**
877-258-8766, www.lutron.com

40 **MONITOR AUDIO**
905-428-2800, www.monitoraudiousa.com

76 **OPPO DIGITAL, INC.**
650-961-1118, www.oppodigital.com

3 **PANASONIC**
panasonic.com/viera

1,39 **PARADIGM**
www.paradigm.com

IBC **SONY ELECTRONICS INC.**
sony.com/innovations

9 **STEWART FILMSCREEN**
www.stewartfilmscreen.com/reps

23 **SUNBRITETV**
866-357-8688, www.sunbritetv.com

77 **SUPER BRIGHT LEDS INC.**
superbrightleds.com

21 **VUTEC CORPORATION**
800-770-4700, www.vutec.com

Electronic House provides this index as a service to advertisers. We assume no responsibility for errors or omissions.

PARTING SHOTS

{BLOWS THEM AWAY}

At 30 floors up, this Dallas high-rise has incredible downtown views. But from the rooftop patio, the cityscape almost pales in comparison to what the homeowners can see on the side of their penthouse: a massive 300-inch screen.

That's big enough to be seen from the highway at night. Because of that the owners may need to be mindful of what R-rated movies they show; on the other hand, they don't have to worry about blasting the pseudo surround-sound system, thanks to its rooftop locale.

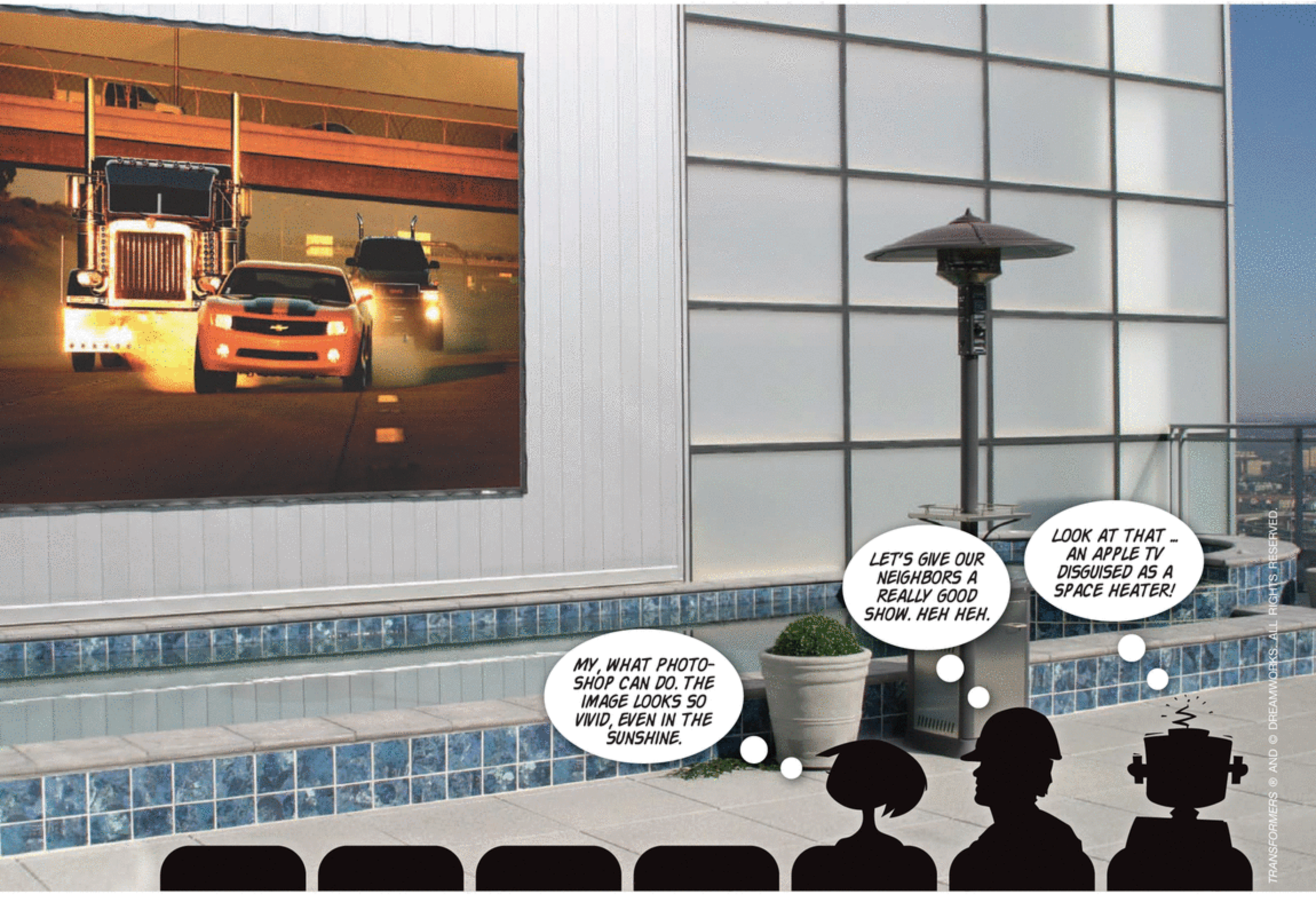
They left the worries to Southlake, Texas-based Futurian Systems, whose installation work wasn't quite as dangerous as constructing skyscrapers, but wasn't nearly as safe as your standard basement theater build, either. For starters, the team needed cooperative weather, notes Futurian president Jeremy Beck.

"Around the outskirts of the pool deck it has joint glass to protect from the wind, but it really kicks up," he says. "If the wind got behind the screen at any point it could potentially rip it from behind or act like a big sail. We had to plan on a day that worked well, when the winds were light and we could build a frame and not worry about the wind pulling guys off the top of the building."

The screen installation went off "flawlessly," Beck says, noting that his team overcame another potential hazard, as they had to climb ladders placed in the pool to reach the area. Futurian chose a waterproof, fixed screen from Da-Lite rather than a motorized drop-down screen that Beck says could have run up to 10 times the cost of the roughly $3,000 model installed. A JVC projector provides the HD images, and Futurian integrated it with the penthouse's Control4 system to access satellite TV and an Axonix movie server.

Movie soundtracks and music are routed to seven Niles Audio planter speakers around the pool and powered by a Denon receiver. The front left and right speakers were configured as center channels to give more dialogue coverage—and because there was no place for a true center. Futurian calibrated the audio as best he could, given the conditions. "There are so many ambient noises up there it would have been virtually impossible to have a processor put all that information together," says Beck. "Wind noise and plane noise were definitely a concern, so we spec'd a receiver with a lot of power." —*Arlen Schweiger*

This installation by Futurian Systems earned our Home of the Year Best Outdoor bronze award. See other winners starting on page 41.



Electronic House (ISSN 0886-6643), volume 25 issue 4, 111 Speen St. Ste. 200, PO Box 989, Framingham, MA 01701-2000, is published 8 times per year with combined issues in Jan/Feb, Mar/Apr, May/June and Jul/Aug by EH Publishing Inc. 508-663-1500. © 2010. Annual subscription rate is $24.95 in the US. Canada remit $39.95 in USD for print and digital editions and $14.95 in USD for digital editions only. All other international remit $14.95 in USD for digital editions only. Periodicals postage paid at Framingham, MA and additional mailing offices. Canadian GST registration #R132182866. POSTMASTER: Send address changes to: *Electronic House*, PO Box 420235, Palm Coast, FL 32142-0235. *Electronic House* is a registered trademark of EH Publishing Inc. All reproduction, including photocopying, is prohibited without written permission. Printed in USA.

Start Here.



Go Anywhere.

Subscribe to the Dream. *A 64% savings.*

www.electronichouse.com/sub

Lutron® — save energy in the perfect light

The **NEW RadioRA® 2** total light control system can **SAVE up to 50%** of lighting energy used in the home. **That's smart.**

The **RadioRA 2** system uses dimmers, switches, shades and keypads to save energy while adding convenience and style. **Now that's brilliant.**

LED Phase Adaptive Dimmer

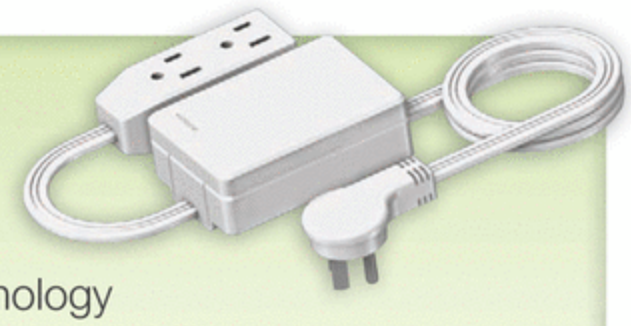


- Controls incandescent, MLV, ELV and energy-saving LED light fixtures*
- Controlled from system keypads using wireless technology

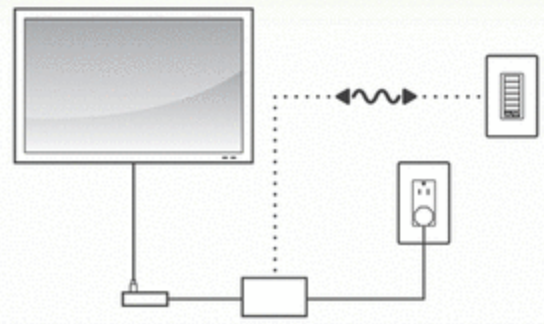


*For compatible LED fixtures, visit www.lutron.com/LED

Plug-in Switch



- Turn off power to vampire loads
- SoftSwitch® technology ensures million-cycle reliability
- Controlled from system keypads using wireless technology



All Off Button

- Turn off all the lights with one button
- Saves energy—a hassle free way to turn off the lights





Pico™ Wireless Controller

- Control lights or shades from anywhere in the house
- Completely wireless with 5-year battery life





For help saving energy on your next project—call Lutron today at **1.877.2LUTRON** or visit **www.lutron.com/radiora2**.

LUTRON®

©2010 Lutron Electronics Co., Inc.

save energy with Lutron™ ®