

Jay Cobb, President of Hi-Tech Home writes "Tech Talk" columns for several local magazines in Central California. The purpose is to help clear the confusion about electronic systems with concise answers while minimizing the use of technical jargon. Hopefully you will find these Q&A's helpful.

Q&A

Q. How do I prepare for the digital television transition?

A. When the transition takes place at midnight, all full-power television stations in the United States will stop broadcasting in analog and switch to 100% digital broadcasting. Congress created the TV Converter Box Coupon Program for households wishing to keep using their analog TV sets after the transition date. The Program allows U.S. households to obtain up to two coupons, each worth \$40, that can be applied toward the cost of eligible converter boxes. A TV connected to cable, satellite or other pay TV service or a TV that has a digital tuner does not require a TV converter box from this program. For additional information, please visit www.dtv2009.gov.

Q. What are the quality differences between 720p, 1080i, and 1080p high definition resolution?

A. Although the 720p option has fewer lines of resolution, it is better when watching fast moving action, like sports and action packed video games. 1080i is great for slow moving programs with lots of close-ups like TV shows or nature documentaries on The Discovery Channel. 1080p combines the superior resolution of 1080i with the smoothness of 720p. It offers twice the resolution of 720p. Bottom line....although 1080p content is limited, it does offer the best resolution for fast moving action or slow moving programs.

Q. What are the major quality differences to consider when purchasing a plasma or LCD TV?

A. They both offer a great picture, however each TV has its advantage for its particular application. You should consider a plasma if your viewing room does not have a lot of ambient light or you can easily reduce the light by closing the blinds. Plasma TV's offer the best image under controlled lighting situations. You should consider a LCD in a room with lots of uncontrolled ambient light. LCD TVs are better at resisting glare from sunlight or room lights. LCDs offer more 1080p models than plasma and are usually more energy efficient. Bottom line....if you're concerned about a slight improvement in energy efficiency, want more model options for 1080p, and you have a room with an uncontrollable amount of ambient light, the LCD is a better option, otherwise the plasma is the better option.

Q. Can I place a flat panel TV above a fireplace?

A. There are a few precautions to take when operating a flat panel TV over your fireplace. Build a fire in the fireplace then tape a thermometer to the wall above the mantel, in the place where the flat panel TV would reside. If the temperature rises above 90 degrees, then you'll need to take precautionary steps to ensure proper functionality of your TV. Although a flat panel TV has its own cooling system, it would not be advisable to run the TV for a long period of time while its environment is this hot. The surrounding heat will force the flat panel TV to work harder to cool itself, thus shortening the overall lifespan of the unit over time. A flat panel TV may still run for short periods of time without harming the unit.

Q. Can a flat panel TV be mounted onto a brick fireplace?

A. In order to secure a flat panel TV appropriately onto a brick fireplace, you'll need to use several cement anchors with the correct wall mount for the TV. Again, the amount of heat to which your flat panel TV is exposed should be a concern here, as some brick fireplaces can radiate quite a bit of heat. You will also need to take precaution if you plan to use a cantilever mount to install a large TV (50" or above) on a brick surface because of the downward pressure caused by extending a TV.

Q. In addition to an alarm system, what other security options are available to protect my family and home?

A. There are several options available. Surveillance cameras are the most common additional layer of security. Cameras are now available in IP (internet protocol), which offer several benefits over analog cameras. They offer remote viewing, management and recording, are less expensive to install, more scalable and offer data redundancy. Another layer of security is automated lighting control from motion. Motion sensors can be programmed during certain times of the day to turn certain lights on outside or inside your home to warn off intruders. This layer in itself could be the best deterrent in that motion systems are bypassed in a traditional alarm system and if an intruder were to break a window and not open the window the alarm would not sound on. However, once someone is in the home, the motion sensors will activate lights to turn on to give the impression that someone is awake and aware that they are in the house. Intruders don't like well lit areas.

Q. What are my options for renting or buying movies beyond the traditional rental stores like Blockbuster or mail order programs like Netflix.

A. In addition to your cable or satellite options, there are a few new options available called "movies on-demand." You can now download movies directly to a receiver connected to your TV through your internet connection. They can be rented or purchased and stored onto a hard drive without making a trip to the rental store. Apple, Vudu and Netflix all make a receiver that allows you to rent or purchase movies and TV shows from the comfort of your home. Apple offers over 2,100 movie titles and TV shows and 330 movie titles in HD for an upfront cost from \$229 for the receiver and rental fees range from \$2.99 to \$4.99 depending on the type of movie, while purchases range from \$10 to \$15. Vudu offers over 10,000 movie titles and TV shows and 1,100 movie titles in HD for an upfront cost from \$299 for the receiver and rental fees range from \$.99 to \$5.99 depending on the type of movie, while purchases range from \$4.99 to \$19.99. Netflix offers 12,000 movie titles and TV shows for an upfront cost of \$99 for the receiver and plans from \$9/month, but does not currently have HD movies available. Netflix also gives you the capability to order DVD's through their mail order program. Furthermore, the Netflix receiver is also built into the LG BD300 Blu-ray player and the Samsung BD-P2500/BD-P2550 Blu-ray player. Microsoft Xbox 360 and Tivo will soon have the Netflix receiver built-in. Each service has a different benefit based on the application and exactly what you're trying to achieve. If you like watching movies, this is a must have in my opinion. They can be purchased through any of the big box retailers, online, or through a local home theater provider. Bottom line...the Netflix's receiver is the best option for standard definition movies due to price and sheer volume of movies available; however, the Vudu receiver offers the best video quality and offers the most extensive selection of HD titles.

Q. What is the difference between response time and refresh rate for flat panel TV's?

A. Response times and refresh rates are different technologies, both of which affect the image quality. Response time is most important with LCD screens. It is the time it takes for one of the individual color pixels on your screen to turn on or off. The larger the number, the longer it will take for the pixel to switch. Long response times can cause what is known as "image smearing." This is most noticeable on fast action scenes and sports where movement can appear to be blurred. This happens because the screen cannot physically keep up with the movement. Current screens have response times between 4 and 8 milliseconds. Refresh rate refers to how many frames of information you see on your screen every second. A progressive HD image effectively shows you 60 images per second or 60 Hertz. Some screens now offer refresh rates of 120Hz or now even 240Hz. The idea is that the more images you see per second, the sharper the picture. Because some of these technologies work better than others, a screen with a higher refresh rate won't always produce a better image. Again the difference will be

more noticeable with action scenes and sports; however, less action-packed scenes can look unnaturally smooth, especially with a TV that offers a refresh rate of 240Hz.

Q. The coverage for my wireless router is not very good? Do I have any other options?

A. There is a solution available that offers great coverage throughout the home and practically disappears when installed. It is called an in-ceiling wireless access point and it is no bigger than a traditional can light. It provides broad whole house coverage for surfing the Internet both indoors and outdoors. It is 802.11g, backwards compatible to 802.11b, supports data rates of up to 54 Mbps, and it offers integrated security features.

Q. Is there such a thing as a wireless flat panel TV?

A. Yes, these TVs are available. They come with a base station, which enables wireless communication between your components (cable/satellite box, DVD player, game console, etc.) and the TV. Instead of connecting your components to the TV, you connect them to the base station. The base station communicates wirelessly with the TV over distances up to 26 feet and at speeds up to 150Mbps, which is plenty for 1080p video. The only wire that would need to be connected from the TV would be the power cord to a power source. These TVs are best utilized in situations where you absolutely cannot get video wiring to your components. Wireless technology has become very advanced for the home; however, interference issues can still arise, which could degrade the quality of the picture.

Q. Are wireless speakers worth purchasing yet?

A. If you are an audiophile the answer is simply no. If you are looking for an inexpensive solution and you are okay with having low-end or mediocre sound then wireless speakers could be a good solution. There is, however, another solution available which works sort of like a wireless speaker. Instead of the speaker being wireless, you would plug a traditionally wired speaker into a wireless device that communicates back to your equipment. The advantages to this solution would still maintain the quality of the fidelity, yet you can place the speaker or a pair of speakers just about anywhere. Contact a local custom dealer for more detailed information.

Q. I really want to place a TV outdoors. Is this possible?

A. Have no fear of your purchase being ruined from the outdoor elements. There are TVs specifically made for extreme temperature variations. These all-weather HDTV's stand up to rain, dust, insects, and temperatures ranging from -24 to 140 degrees Fahrenheit. These TVs are rust-resistant and feature an anti-reflective glass. TV sizes are available from 20" to 65" LCDs and they come in 720p and 1080p models. Some models are brighter than others and also offer a wireless package so you no longer have to worry about the availability of wiring for your cable or satellite receiver. Just plug in the TV to a power source and you can broadcast both audio and video wirelessly over a distance of up to 150 feet from the TV.

Q. What are the advantages and disadvantages to buying a Blu-ray player?

A. The advantages are plenty. You'll receive the best resolution possible on your new HDTV assuming you have a TV that is 1080p capable and you connect your TV to your Blu-ray player with an HDMI cable. You'll still be able to use your DVDs with this new player and it will up-convert the image to a slightly better image than you would have received with a standard DVD player. Blu-ray discs hold more data, which will give you more bonus features such as commentaries, documentaries, and deleted scenes. There are also a few disadvantages to consider. The cost of the Blu-ray players and discs are still relatively expensive and the selection is pretty small. There are currently about 1,000 Blu-ray discs as opposed to about 94,000 DVDs. Another important consideration is you won't receive much benefit

with a Blu-ray player unless your TV is at least 40 inches. Bottom line...if you want the best picture possible and your TV is at least 40 inches and 1080p capable then a Blu-ray player is a must.

Q. I want to convert a room into a theater. Where do I start?

A. You need to contact a local custom dealer. You can find one either in the yellow pages under "home theater" or you can search for a home theater company online through google or yahoo. The dealer will come to your home and determine exactly what you are trying to achieve. They'll take measurements and sketch out your room. They will then create a conceptual design and/or CAD drawing and provide a proposal based upon your needs and specified budget.

Q. What are some new technology trends for 2009?

A. Video-on-Demand, Apple in the Home, Wireless HD, Virtual Surround Sound, and Energy Management are five trends to watch for in 2009.

Video-on-Demand

IP (Internet Protocol) based video-on-demand has finally arrived with a vengeance. Several companies are fighting for market share; they include vendors such as Netflix, Blockbuster, Vudu, Apple, and VideoGiants. The value proposition is convenience and selection. You can order thousands of movies and TV shows from the comfort of your home. It's like having a Blockbuster in your family room.

Apple in the Home

If anyone can grab your attention with new products it's Apple. They have done an incredible job with their ipod, iphone, and attention grabbing commercials. This could be the breakthrough year in reaching out to homeowners with their Apple TV product and potentially new products for the home that may surface.

Wireless HD

Wireless HD is on the rise as more manufacturers are trying to make it easier to install TVs in a market currently focused on retrofit and remodels instead of new construction. Development has improved recently and it could become more mainstream in 2009.

Virtual Surround Sound

As new home construction continues to slow and the demand for remodeling takes its place, virtual surround sound systems simulate the real thing without running wiring for rear channel speakers. This solution is great for a homeowner that wants surround sound but can't get wires to the rear of the room.

Energy Management

Because of legislation, utility companies reaching a capacity crisis, and the election of a democratic president, this could be a significant trend in 2009. Two high impact areas can be cutting energy costs from inefficient lighting or heating and cooling.

Q. What is music-on-demand and what are the advantages?

A. Music-on-demand is exactly that...music when you want it. You can download music to your computer, any internet enabled device, a compatible portable player, or a compatible home audio device. The most popular service is Apple's iTunes; however, another service to consider is Rhapsody. Rhapsody allows you to access millions of songs for one low monthly price without paying per track. Monthly plans start as low as \$12.99/month and their most expensive plan is \$14.99/month. With the

appropriate equipment you can stream multiple songs throughout your home to accommodate all your family's music preferences.

Q. What does home automation mean and how does it benefit me?

A. Home automation gives you the ability to remotely or automatically control devices within the home or outside the home. You can control your media, music, lights, shades, security, surveillance, doors, sprinklers, and even a pet feeding device to name a few. You can essentially control anything that is powered from the home electricity or low voltage wiring. You can create automated events for dinners, parties, leaving the home, entering the home, going to bed, or waking up. You can also control your home devices while you are away from home. If you forget to turn off your lights/TV/music, turn down the thermostats, or turn on the alarm, home automation would give you the ability to log onto the internet from anywhere in the world and make adjustments to any of your automated devices. Home automation can be surprisingly affordable and many solutions don't require new wiring.

Q. How can I utilize my Apple iPhone with my home technology?

A. There are many applications available for the iPhone and the iTouch. Many automation companies support a downloadable application that allows you to control the audio, video, theater, lighting control, shade control, security, and surveillance throughout the house. This application is similar to an on-screen interface or touch screen that may be currently used in the home. You can also control the entire home through one of these devices anywhere in the world. This does of course assume you have or will have a home automation system that works with Wi-fi.

Q. What does structured wiring mean?

A. Structured wiring can be explained as a planned wiring method by which all services (phone, data, television, music, and security) originate from a central hub. Structured wiring consists of high-performance cables and other wiring sent to specific rooms in the house connected to a central hub. This hub is commonly referred to as a structured enclosure, in which modules are well organized within the enclosure and wires are labeled appropriately. Electronic devices can be plugged into these modules and networked both within the home and through the Internet. Structured wiring provides a solution for your present and future technology needs.

Q. How do I distribute a DVD or a recorded show throughout my home?

A. This is where structured wiring is valuable. Electronic devices like a DVD player or DVR (digital video recorder) can be connected to the central hub and then distributed out to any room location that is wired back to the central hub. The only drawback is either device will only generate one video source; therefore, if multiple rooms access the same device they will be limited to watching the same movie or recorded show. There are several products currently available and new service providers introducing products that allow multiple sources of video to be accessed from one device. There are many options when it comes to distributing television, DVDs, music, phone, data, and security throughout the home. The best thing to do is call a custom dealer to evaluate exactly what you are trying to achieve so they can make the best recommendation.

Q. I'm debating on having a theater installed in our home; why is everyone telling me this is a must have?

A. Never before has the concept of a home theater been so real and achievable. Imagine watching your favorite movie in HD with surround sound in the comfort of your own home. You can also do anything else you normally would through a regular TV; like watch TV, play Wii, Playstation or Xbox. The products that make up a home theater are experiencing price wars which have dramatically reduced the overall

cost of custom home theater packages, greatly benefitting the consumer. There are a variety of different theater packages for almost every budget so every entertainment enthusiast can experience the thrill of a cutting-edge theater system. Also, top-of-the-line theater packages are designed for consumers seeking the ultimate dedicated home theater room experience.

Q. Why is design considered such a critical element for planning a home theater?

A. A theater should be designed the same way you would design a house. Functional and creative looking home theaters require careful planning, layout and design. Design services may include; conceptual drawings, extensive floor plan evaluation, wire routing and cable schedules, interconnectivity diagrams and schematics, 3D modeling of layout, acoustics modeling and projects specifications. By using design services, you will minimize the number of unexpected surprises during your project and it will be exactly the way you planned it to be.

Q. What does home automation mean?

A. Automation is actually a fancy word for smart home. Separately, a home theater, music system, security system, lighting control, climate control, and shade control, provide convenience, comfort, and luxury to any home, but it's when all of these systems operate together that the benefits of living in a smart home make an enormous impact. United under a common control system, an LCD keypad, color touch screen, on-screen TV interface or iPhone can alter the atmosphere of the entire house with one press of a button. Imagine as you leave your house for the day that the "Away" button has been programmed to turn off all your lights, adjust the temperature, turn off your TVs and music throughout, close your blinds and arm your security system. Conversely, imagine when you arrive that your "Home" button disarms the security system, turns on certain lights, adjusts the temperature and cues the music system.

Q. Is security monitoring worth the money?

A. This is a great question, but a tough one to answer. It's hard to place a value on your family's personal safety. Monitoring will automatically call a central station in the event the alarm sounds. The advantage to this is help will be on the way if it's needed. The disadvantage is you are typically only allowed a few free dispatches per month and anything over that limit, you'll be charged. Bottom line is if you don't accidentally set your alarm off a lot, you will not incur extra charges and you'll be able to easily budget what your monthly charges would be. Regardless, like I said before, it's hard to put a price on your family's safety.