

# Hidden Home Theater

## By Dawn Gordon Luks

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It's an ongoing battle: Electronics vs Décor. Unfortunately, in many cases, décor wins. As a custom installer, I see husbands and wives fight over this topic all the time. In the end, interior designers almost always agree with the feminine side of things and electronics are banished from most areas of the home. But before you have to settle for a soundbar and a miniature TV, you might want to do a little research. There are solutions to this dilemma and it really is possible to get the best of both worlds.



Before I continue, I don't want you to think that I am putting all husbands and wives or boyfriends and girlfriends into gender-specific categories. It's just my experience that males want all the bells and whistles and females are more interested in aesthetics.

### Centralized Location

"I don't want to see it," or "Can't you hide it?" is one of the most ubiquitous expressions in custom AV. So let's take a look at what you need to do in order to make this happen.

First things first. Get most of the electronics - minus your display - out of the way. This is more than just a rhyme. In order to really do this right, you need to have a centralized or remote equipment location. If you are remodeling or building a new home, this is easy. On the other hand, if you are not remodeling or building new, try to find space in a centrally located closet for a small rack and get professional help to install the wires.

You should run several types of wire - speaker wire; (2+) runs of Cat 6 or 7; coaxial RG6; and perhaps fiber - from a centralized rack to the areas of your home where you wish to have TVs and/or audio. Important tip: to insure against future wiring technologies, always run 2-inch, plastic, flexible conduit for your wires. This approach is a foolproof way to guard against wire obsolescence. Another tip: don't forget to install a pull-string inside the conduit if wires are not already inside.

So you have your wires, now what do you do with them? Speaker wires are fairly straightforward and are connected to a centralized, multi-room, amplifier and/or an audio/video receiver. I like to use 2 pairs of 14 gauge wire or 14/4 to each room. This single jacketed cable saves money because once in the room, you can separate the pairs and run them to each speaker. Running two sets of 14/2 wire is more costly.

Video is more complex. Most installers these days use home-run Cat 6 or 7 to transport video from cable boxes, disc players, media players etc. HDBaseT video extenders from companies such as Transformative Engineering and Zektor will allow you to send 4K video over Category 5, 6, 7, from your rack to individual TVs up to 300 feet away. These devices can even send control signals such as IP, IR and serial along with the audio and video. Another, more modular solution for multiple AV runs can be found from a company called Just Add Power. Using your existing home IP network, JAP's boxes allow you to send HD and 4K audio-video plus control signals to connected TVs. The only downside is that you will need a high-end network switch. Lastly, if you want to utilize existing coaxial cable, take a look at a high-definition video modulator. This type of system inserts a video source into a TV channel that your television can tune to. For example, if channel 276 isn't being used by your cable TV system, the modulator will insert, say, video from a network drive or Blu-Ray player



into that channel slot. Pro Video Instruments modulators are highly recommended, since this brand is one of the only modulator companies that supports HDMI inputs. Another unique coaxial solution is the M3B from Ethereal Home Theater. This product has great long-range capability of up to 700 meters.

An additional option for centralized video is the whole-home DVR. This system consists of a main unit that houses multiple tuners, the hard drive and server electronics, as well as a client box that accesses the main DVR. Systems such as Dish, TiVo and Comcast's X1 allow their client boxes to not only access stored content but also the DVR's live tuners. Comcast's X1 currently uses coax to send video throughout your home via MoCA technology. TiVo can utilize your existing IP Home Network or send AV through existing coaxial cable via MoCA. In addition, TiVo offers multiple streaming services such as Netflix, Hulu, Amazon, Plex, VuDu and more. As of this article, Comcast offers only Netflix.

Like the HDMI extenders mentioned above, the client boxes are so small and light that they can be mounted to the back of your TV with heavy-duty Velcro.

### **Hidden (or almost Hidden) Speakers**

The next item on your hidden agenda is your speakers. So how do you hide them without compromising sound quality? Well, this depends on how picky you are. The best option is to not hide them completely, but rather to blend them into your environment, and there's no company that does this better than Triad Speakers in my experience. Triad is located in Portland, Oregon and hand-builds almost all its speakers to order. The company offers both custom veneers and paint color matching so their speakers tend to hide in plain sight. I've installed a lot of Triad InWall and InCeiling speakers and although not completely invisible, they often pass the Wife Acceptance Factor (WAF) with flying colors – especially their InCeiling models. Another thing to keep in mind, is that all Triad speakers within a series (Bronze, Silver, Gold etc) are designed to sound the same -- cabinet characteristics, driver placement, and crossovers are all adjusted to make each speaker sonically identical. So, for example, Bronze LCR InRoom, InWall, OnWall, and even InCeiling speakers should match one another acoustically.



Another option is to cover your speakers with artwork. Unlike conventional in-wall and in-ceiling speakers, Artcoustic loudspeakers hang on the wall like picture frames yet deliver the performance you'd expect from "box" speakers. The removable front screens are available in dozens of elegant fabrics, and can be printed with artwork or photography.

If you really want to hide your speakers, I mean really hide them, then you need invisible speakers. While invisible speakers aren't a sonic equal to traditional speakers, they have their place. We use them for distributed audio and for less important locations such as those found in bedrooms, dens or offices. Invisible speakers work differently than normal speakers and their operation is closer to that of the soundboard of a musical instrument. The concept is that instead of a transducer the speaker uses an exciter. The exciter transmits vibrations to a panel which generates the sound. This flat panel speaker is then installed inside a wall and covered with dry-wall mud, then paint or even wallpaper. Recommended invisible speaker companies include: Stealth Acoustics, Sonance and Amina.

## The Hidden Display

Now it's time to hide your display. It's not for the faint of heart, or shall I say pocketbook, but there are a number of great solutions to choose from – several of which might best be tackled by your local custom AV installer.



While the most common way to hide a display usually involves a motor, there are a couple of less expensive options that don't require one. For example, you can buy a framed mirror that you place in front of a wall-mounted, flat panel, TV. When the TV is off, the mirror looks just like a regular mirror, but when it's on, the mirror disappears to reveal the TV picture. Mirror technology is not perfect, since it will create screen reflections and often reduces the brightness of the TV image. For these reasons, I recommend using this type of product in dimly-lit rooms or in rooms with good light control. Recommended companies include Seura and

Electric Mirror. Another manual option is from a company called TV CoverUps. The product is essentially a framed mirror or artwork that folds down in front of your TV. Manual products start at around \$2000.



Although TV CoverUps offers a motorized version, my personal favorite motorized artwork company is Media Décor. Using ultra quiet, Lutron motors, Media Décor's frames incorporate artwork that elegantly rolls down in front of your TV like a window shade. Do they cost more? Yes, but they are worth every penny.



So we've covered various ways to conceal wall-mounted TVs. But there are other ways to go about this if you don't have the necessary wall space. One of my favorite concealment methods is the pop-up TV. Again, using motors, a TV is vertically lifted into place out of a console or piece of furniture. Creating this product is a two-step process. You need a cabinet maker to design and build the custom cabinetry and a custom installer to install the lift.

Recommended lift manufacturers include Auton and Future Automation. If you want a one-stop shop for this type of product then take a look at Cabinet Tronix. The company manufactures both ready-made and custom TV lifts already built into cabinetry of your choosing.

We often use pop-up lifts at the foot of a bed in bedrooms when a hidden TV installation is called for. But there is another really cool bedroom solution and it's called an under bed lift. Future Automation has one and you should watch the video to appreciate its design. A mechanism under the bed gently rolls the TV out towards the foot of the bed, then folds it upward; from here the TV is lifted up and into position. There's even a model that swivels at the push of a button. Under bed lifts are very pricey, but they're a nice option you have the bank account and the need.



Another type of flat panel motorization is the ceiling drop-down. These units are hinged and can accommodate TVs up to 65 inches. The trick here is to make sure you have the necessary ceiling depth and width to accept the system. Again, Future Automation is an installer favorite.

Finally, the ultimate hidden home theater doesn't hide a TV but rather a projector and a screen. There are numerous ways to accomplish this feat, including a drop-down electric screen that hides in the ceiling coupled with a projector that descends from the ceiling or sits in a soffit with a motorized door panel. Companies such as Stewart Filmscreen and Screen Innovations make high-

quality, electric, projection screens. They even have models that can be viewed in normal room light or during the day. For projector motorization you'll want to look at Future Automation or Auton.

There are many different ways to create a hidden home theater. All it takes is a little planning and a bit of creativity. So the next time your significant other tells you the big screen TV is out, just say you have it covered.

*Dawn Gordon Luks is a custom AV installer and owner of Egret Electronics. She is also a veteran consumer electronics journalist -- having published over 2000 articles, product reviews, buyers' guides and columns.*