



PERFORMANCE MEDIA INDUSTRIES, LTD.

The Experience Only Custom Can Deliver
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by A. Grimani

If you're like a lot of people, you've probably spent some time thinking about what separates a custom home theater business from a giant electronics retailer. It's a fair question, after all. You don't need to be clairvoyant to see the line between big-box retailers and custom installers appear to grow fainter by the day. Electronics warehouses sell much higher quality equipment than in times past, and they even offer "installation" - sometimes free of charge!

Actually, the line is not as frail as you might think. In fact, it's more like a gap or a chasm if you look at it from a slightly different perspective. Forget about the sales game; mega-corporations will always win that. True custom home theater is not about buying and installing boxes. In fact, it's not about the boxes at all! It's about *experiences*. What kind of experiences? How about the experience of standing on an ancient battlefield, swords flashing and ringing all about you, watching in awe as mighty Barad-dur, the tower of the Dark Lord Sauron, crumbles at your feet? What about the experience of watching individual beads of sweat trickle down the strong safety's face as he lurks ever closer to the line of scrimmage, daring you to take a five step drop? And the experience of leaping to your feet in wild applause from the front row as over a million fans welcome the Rolling Stones to the stage in a pageant of light, sound, and smoke?

The Game Plan

You may wonder what on earth you can do to achieve this kind of experience. The answer is simple - so simple, in fact, that many people have passed over it unwittingly. An experience comes from a room and equipment that are so seamlessly integrated and work in such harmony that they become...invisible. That is the key. You must consider both the room and the equipment to be pieces of a much larger puzzle: the home entertainment experience.

Here is what I mean by "consider both the room and the equipment." Take, for example, a flat white projection screen. It may be of exceptional quality. In a dedicated home theater, it would produce a dazzling picture with incredible reality. Put that same screen in a media room with glossy white walls and lots of ambient light, and you'll be

lucky to see an image at all! By the same token, a high gain screen may dazzle viewers in a bright room, but lack sufficient horizontal or vertical viewing angles to cover everyone in a dedicated home theater. The same principle holds true for speakers. A wide dispersion speaker may cover all the rows beautifully in a home theater, where the wall surfaces are treated to control reflections. But that same speaker would instantly drown in a sea of reflections if it were put in a cavernous media room with lots of wood paneling and glass doors. In that room, you should use a speaker that focuses the sound at the listeners to minimize reflections. See how the room and equipment must work together?

Grand theory and rhetoric are well and good, but the real world is all about application. When the time comes to pull out the DeWalt and start drilling holes and driving screws, you have to know what you're doing. Creating a home entertainment experience is not as hard as you might think; you just need a firm handle on the process.

Discovery

If you need a room that will transport you where you want to go, you first have to find out where that is! This part of the process is called Discovery. Here, you must determine exactly what you *want*. How else will you know whether or not you have it when all is said and done? If you want a media room, don't insist on a studio mix room. If you want a game room, don't force it to be a home theater.

Design

After Discovery comes Design. You work with the architect and even (God forbid) the interior designer to create a feel for the room. You decide, in general, which way to orient the room, where to put equipment, where to put the screen, where to put the seats, how to make everything look the way you want it to look, and how you are going to control all the operations of the room.

Engineering

Engineering follows, and here you *must* put pen to paper no matter how painful it may be. Simply designing a room isn't enough, even though most people stop there. Engineering is more than placing things around the room - you think you want four rows with a front projection system where the projector is in a room behind the theater? Wonderful idea, except the ceiling is only nine feet. If you actually sit down and draw a plan with numbers and sightlines, you'd see that people's heads are going to block either the image or the sightlines. Lose a row or make the ceiling higher and everything works. Other things you need to analyze during Engineering include subtended viewing angles, projector light output, projector throw angle, screen gain, speaker subtended listening angles, speaker output, seat locations, reflection locations, reflection decay time, room resonances, interior/exterior sound isolation, background noise, and control interfaces between the devices. Don't just assume that these things are going to

be magically OK, or that you'll work them out later. Nope, it doesn't work. You'll wind up with major compromises that were totally avoidable – compromises that ruin the experience.

Installation

Installation is pretty straightforward, but a few words of experience are always in order. First, obey codes. If you don't know whether what you're doing is legal or not, ask around. Don't just assume it will never be a problem. Second, do *neat* work in addition to *good* work. Use dedicated equipment racks in a separate room with full 360 degree access. Manage wires from one end to the other (even in places no one but you will ever see), and clearly label both ends with each wire's origin and destination. What would you rather have, an installation that looks like the domicile of a small furry rodent, or one where you have to look twice to see any wires?

Calibration

The next step, possibly the most important of all, is Calibration. How long do you think it should take to calibrate the audio and video systems in a home theater? Come on, be honest. An hour? Several hours? A whole afternoon even? Try three days – and that's assuming *nothing goes wrong*. How is that possible, you ask? Audio calibration alone involves eighty different tests and configurations that have to be performed, and there's video calibration on top of that. Do you ever wonder why your system lacks that extra punch that makes the whole entertainment experience palpable? The reason may be that you're not tuning your system to perform at its optimal level.

Demonstration

When you're satisfied that everything is calibrated as well as it can be, play some material that you know will show off the system's capabilities. Don't just use loud bombastic concerts and action movies. Subtlety is just as important as brute force. You want to hear dialog perfectly whether the actors are whispering to each other in hiding or yelling at the tops of their lungs as they dangle out of a jetliner at 10,000 feet.

Come Together Right Now

Put all these steps together and you'll be well on your way to the home entertainment experience. Things may not go smoothly at first, but don't be discouraged. It takes time to work out all the little details of a complex process – just take Calibration as an example! The thing to keep in mind is that you now see the whole picture. You know the room is just as important as the gear. You know that the right gear for one room is the wrong gear for another. You know to design a video system to match a room's optical environment. You know how to predict acoustic problems and devise solutions. You look at home entertainment an entirely different way, and your way ensures that you get the maximum return on your investment. You may have thought home entertainment was about equipment, but it's really about the experience of a lifetime!

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