



A Low Console for Home Theater

Versatile cabinet
fits today's technology

BY STEVE CASEY

Just a few years ago, building an entertainment center for a large-screen TV meant designing a case piece big enough to hide an elephant. Today's slimmer sets can hang on a wall or sit attractively in the open, offering furniture makers new options. Among the most practical is a low console that can house media and electronics. It's a great way to bring that glorious high-definition picture out of the armoire.

I designed this console for a self-contained small home-theater system built around a 52-in. projection-style TV, but it would work

Media-friendly features

A BACK THAT BREATHES

Multiple cutouts provide ample airflow for electronic components. The recessed back also creates space behind the piece for cords to drop freely.



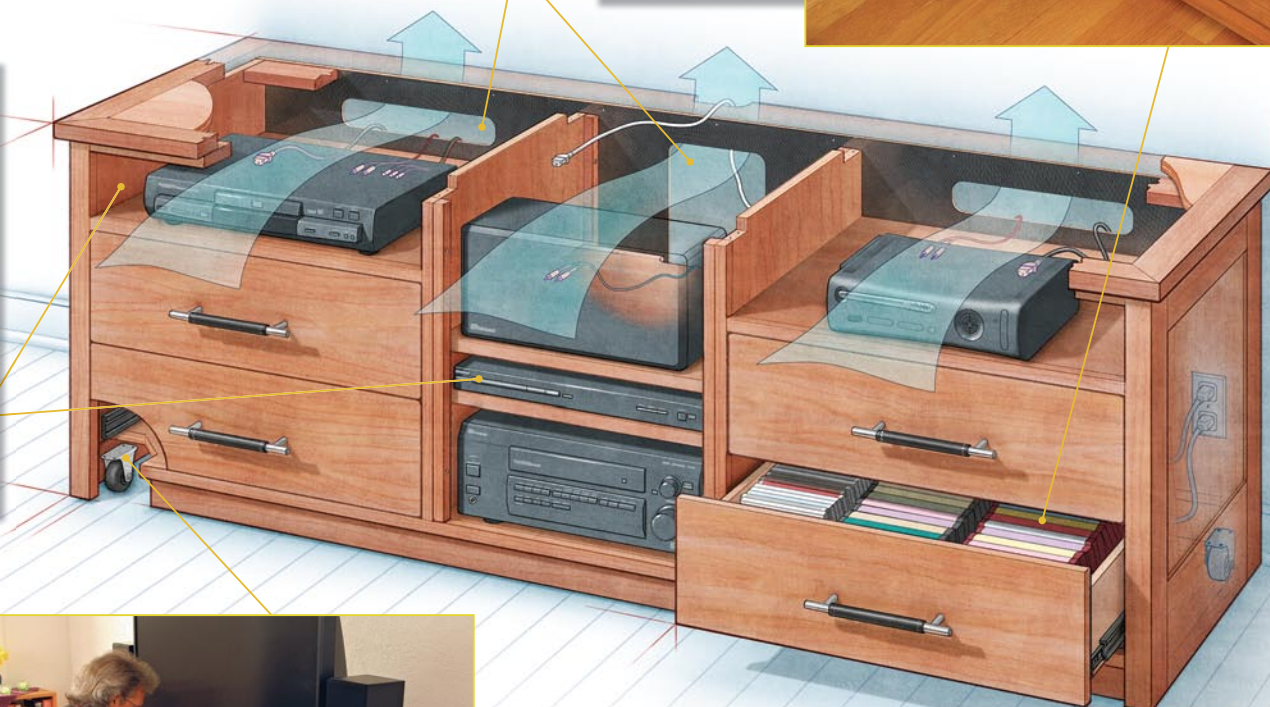
TALL DRAWERS

Side-mounted slides allow deep storage for DVDs, CDs, and VCR tapes. Dividers keep everything organized.



OPEN SHELVING

The components are accessible to hands and remote controls and become part of the design. The center shelving adjusts to fit a wide variety of components.



WHEELS

Six casters make it easy to reach the back for setup, maintenance, or cleaning. The wheels are inset to avoid a distracting gap between the floor and the bottom of the piece.



just as well with a slimmer flat-panel model. Visually, it's tasteful and tame enough to harmonize with quite a few furniture styles, and you can feel free to adapt its style to fit your room. Look below the surface, though, and it becomes clear this piece is media furniture through and through.

At 24 in. tall, the console is still low enough to place the center of most TVs at eye level for a seated viewer. And it's strong enough to support any set, so you won't need a tricky wall-mount.

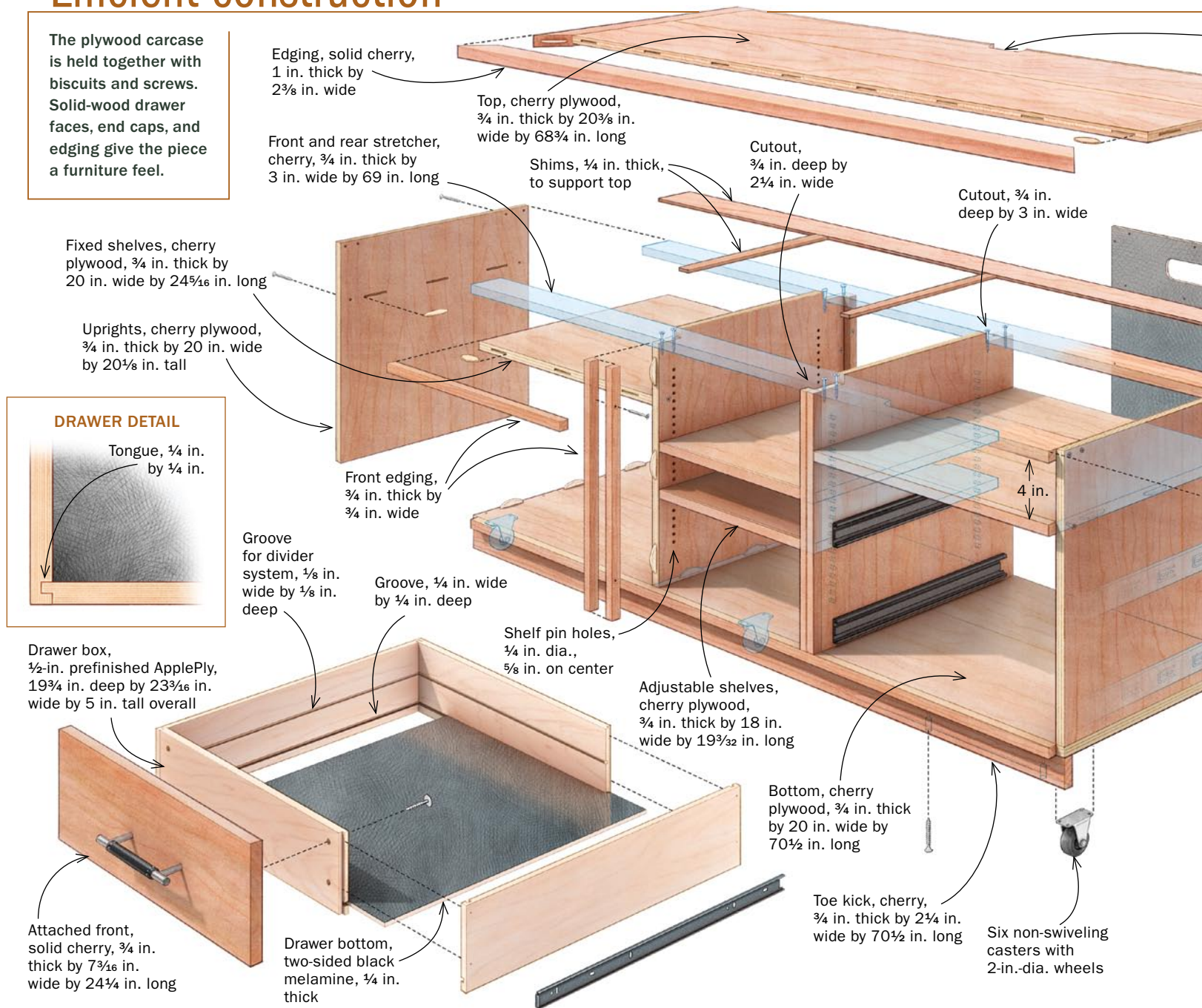
At 22 in. deep, the cabinet will comfortably hold most electronic

components. I designed the drawers specifically to house DVDs, VCR tapes, and CDs without making the case too tall. The back and shelves are engineered to promote ventilation for the equipment and to simplify cable management. And I put the whole piece on casters so it would be easy to pull away from the wall for system setup, maintenance, or cleaning. Small casters will work on a hardwood floor, but carpet calls for larger ones.

None of those features call attention to themselves. What you see and live with is a nice piece of furniture. The project is a good

Efficient construction

The plywood carcass is held together with biscuits and screws. Solid-wood drawer faces, end caps, and edging give the piece a furniture feel.



example of building a sturdy carcass in an efficient way, using sheet goods and techniques I developed and use for building large-scale entertainment center furniture and cabinetry.

Sheet goods make a stable case

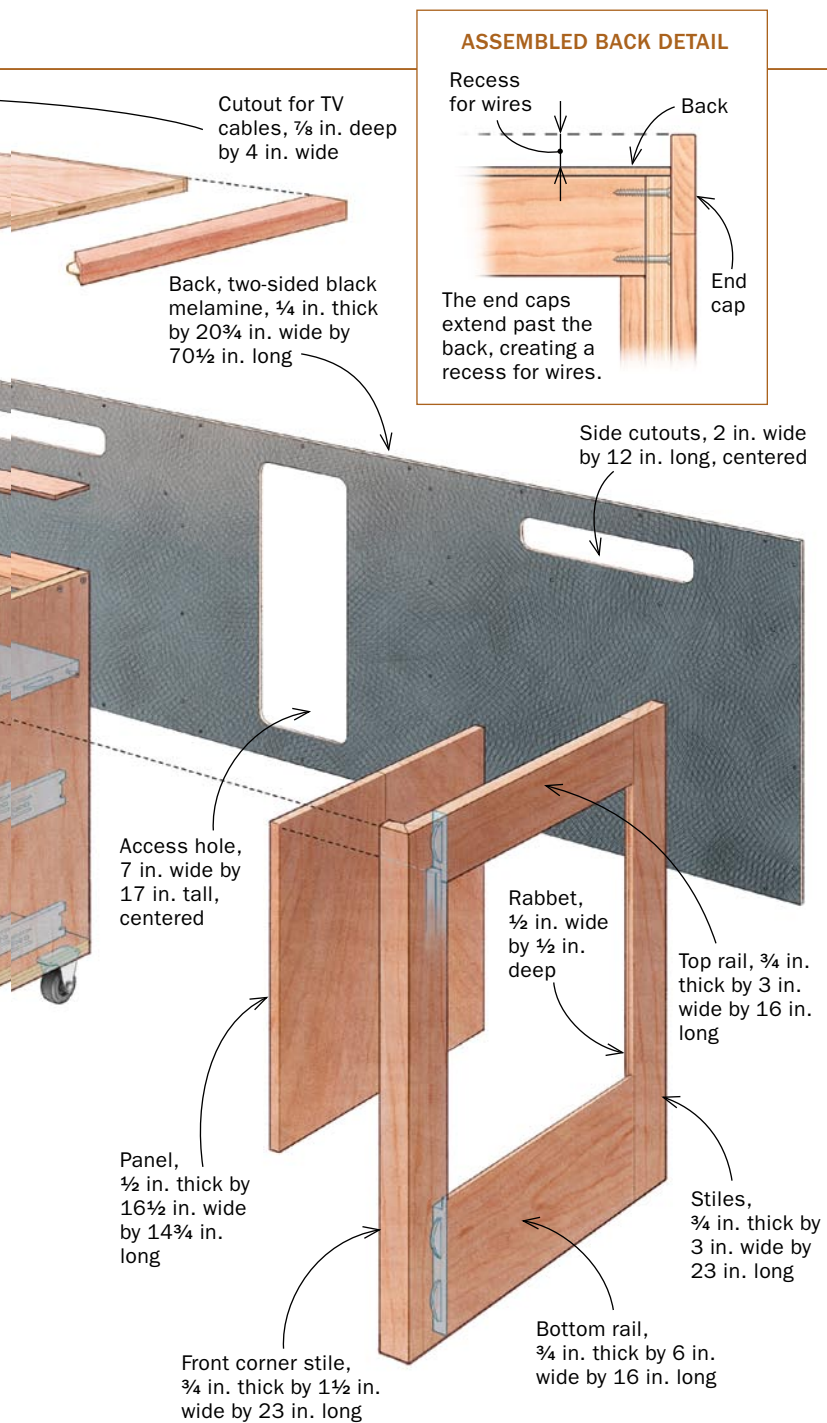
One of the greatest challenges in building furniture to house electronic equipment is that the gear generates heat that causes wood movement. So, I always use stable composite material (in this case, two sheets of cherry plywood) for media furniture carcasses.

The first step is to lay out and cut the carcass parts. When cutting sheet goods, never assume that the original edges are straight or square. If you want a 20-in.-wide finished piece, cut it at least 1/8 in. larger, then turn it around and cut off the factory edge.

If things are not square, it is usually best to square the ends of smaller ripped parts rather than the whole sheet. After all the parts are cut, I drill holes for adjustable shelves in the equipment rack space. Then I join the carcass together.

The carcass is joined entirely with biscuits and screws—no dados, no rabbets, no glue. I don't want to chip out the veneer on a \$100 sheet of plywood while cutting dado and rabbet joinery, or fret over squeeze-out marring my finish in the corners. A glueless carcass also lets me disassemble the piece as needed during construction to check fit and measurements, making it much easier to fix mistakes.

There's no harm, of course, in using glue if you want to. But, after years of gluing everything to last an eternity, I've discovered



The fixed shelves are first. Construction begins with two H-shaped subassemblies (above). These assemblies are then connected by a plywood bottom (left). The space between them creates the central shelving area.

that biscuits and screws are more than strong enough to hold a piece like this together ... forever.

I predrill for the screws using a tapered bit with an integral countersink. I use #7, $1\frac{5}{8}$ -in. bugle-head construction screws with sharp, coarse threads and put them in carefully so they don't strip. It's easy to get splitting near the outside joint edges, so I put a clamp on the thread side of the joint so the wedge action of the screw doesn't split the panel.

Attach the solid trim

Solid-wood edging and other details elevate the console's appearance from cabinetry to furniture. The most prominent of these features are the frame-and-panel caps on the ends. The front stiles



Solid-wood stretchers connect the piece at the top. These also create a place to attach the back and top of the cabinet. The front stretcher protrudes $\frac{3}{4}$ in. from the case, to meet the other edging, so Casey uses a piece of $\frac{3}{4}$ -in. scrap to set the reveal.

Make the side panels

The panel sits in a rabbet. Rout the rabbet with a bearing-guided bit and square up the corners with a chisel.



A no-clamp glue-up

Blue tape tames this miter. Bevel the front stile after glue-up (upper right). Cutting it beforehand would deprive you of a square clamping surface. The mating piece is cut from the same stock. Strips of painter's tape align the edges and create a hinge for the glue-up (lower right). Casey wraps the assembly with several bands of painter's tape to secure the pieces (below). No biscuits or clamps are needed.



are cut from the same stock as the side panels and are mitered to wrap the grain continuously from the sides to the face. The frames are assembled with biscuits, and the inside of each frame is rabbeted to accept a floating panel of 1/2-in. solid cherry or cherry plywood. This creates a 1/4-in. reveal for the panel while maintaining consistent thickness for the exterior trim. The assembly is attached with screws driven into the frame from inside the case.

A solid-cherry stretcher across the top of the case combines with solid edging to dress out the rest of the case front. Before attaching the edging, I hand-sand a small 1/16-in. roundover radius on the inside corners of each adjoining piece of plywood and solid stock, including the pieces on the top. This creates a very fine parting line where the plywood and edging meet, accentuating what many folks would try to hide and, in the process, making an eye-pleasing detail. After the edging is attached, I rout a 3/16-in. roundover onto all the outside and inside corners.

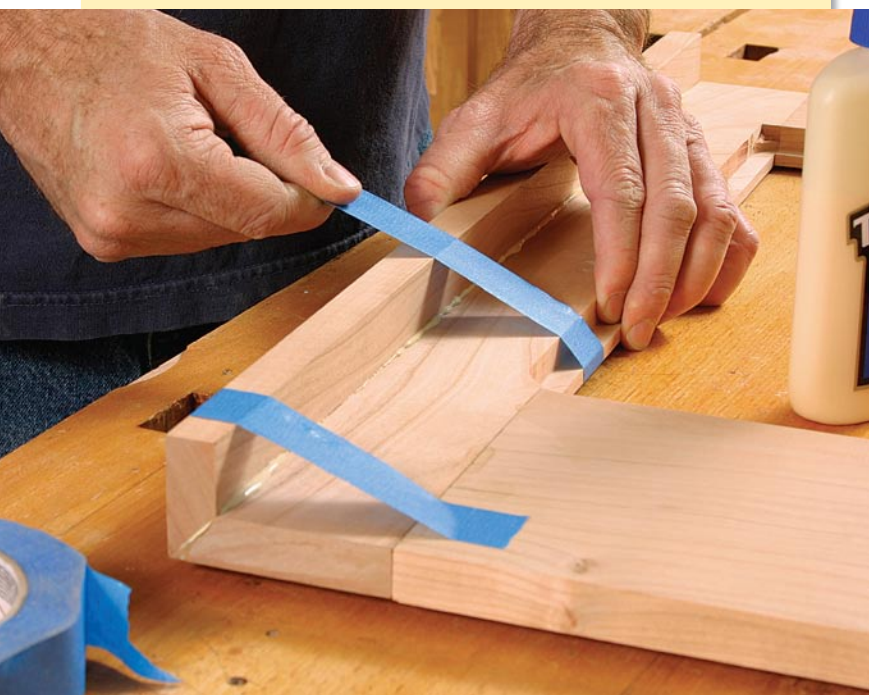
The drawers have simple joinery and false fronts

I build the drawers from 1/2-in.-thick prefinished ApplePly or Euro-ply. The bottoms are two-sided, 1/4-in. black melamine, in keeping with the high-tech contents. The joints are rabbeted, glued, and pinned with brads to hold them together while the glue dries.

I hang the drawers on black, side-mounted, full-extension slides. Undermount slides might yield a cleaner look, but they steal depth from the drawer at the bottom. In a console with limited overall height, this can make the difference between a drawer that can be used for media storage and one that isn't deep enough. I size the drawer boxes to accommodate a 3/4-in.-thick separate front, with the faces recessed very slightly behind the front radius detail. Separate drawer fronts allow for perfect alignment after the piece is finally placed and loaded with equipment.

Edge the top and attach it

The top is plywood with a 1-in. by 2 1/2-in. solid border, which is biscuitted and mitered. This three-sided border creates a nice effect, making the piece appear to belong up against a wall. The raw edge on the back of the top is dressed with 1/4-in. solid stock.



The mitered return hides the plywood. The face grain wraps around to the front of the case and gives the look of thick, solid stock. The assembly is attached to the case with screws driven from inside. The panel is prefinished to prevent wood movement from exposing any unfinished areas at the edges.

Fit the drawers



No measuring, no marking. The lower slides sit right on the case bottom. To ensure proper spacing between the slides, Casey rips a piece of ½-in. MDF to match the drawer-face height.

To make room for the cables that connect the TV to the other equipment, make a small cutout in the back of the top. This also lets some heat escape when the case is tight against the wall. The top is held in place with screws driven from the underside through the solid cross-members of the case. Because the solid border is thicker than the top, you'll need to shim and fill the space between the plywood and the cabinet.

The back is two-sided, ¼-in. black melamine. Although thin, this material creates a rigid back that lends the piece much of its structural strength, so be sure to size the back to fit snugly between the rear stiles of the end caps. I fasten the back with screws countersunk and driven every 8 in. into the rear edges of the plywood carcass.

Get the popcorn ready

Before finishing, break down all removable components, then sand everything that wasn't sanded prior to assembly. I used clear oil to bring up the color before spraying on a standard lacquer finish: one coat of sanding sealer and two coats of 40-sheen lacquer, sanding with 320-grit paper between coats. For an alternative hand-applied topcoat, try dewaxed shellac or a traditional oil finish.

Install the equipment, roll the finished unit into place, and you're all done. Time to pop in a DVD or watch some drivel on TV! □

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Use the spacer to locate the upper slides. With the spacer positioned on top of the lower slide, its top edge supports the upper slide at the correct height for installation.



Attach the matching hardware. Casey uses a combination square referenced off the bottom of the drawer side to pencil a layout line for the runner. Mounting screws are centered on this line and driven through factory-drilled holes in the hardware.



False fronts and media storage. Casey drills oversize holes and uses a 1-in. washerhead screw with a ½-in.-dia head (some manufacturers call them "drawer-front adjusting screws"). This creates wiggle room for slight adjustments in the position of the drawer front to get it square and even in the opening. The central horizontal groove houses the divider hardware.