Fitting a big cabinet into a tight corner—This entertainment center fits deftly into a corner, despite its size, due to the added wall returns that butt to the walls at 90°.

Build Depth in a Corner Cabinet

Wall returns and traditional detailing soften impact of grand entertainment center

by Phil Lowe

Because television cabinets house such big components, they are, of necessity, large themselves. And when one of these big, heavy cabinets is stuck in a corner, they jut obtrusively into the room. However, this entertainment center includes design features that lessen its physical impact on the room yet let it remain aesthetically grand.

These design features are wall returns, a trapezoidal back design and architectural elements true to its Chippendale heritage (see the box at right). The trapezoidal back, as shown in the drawing on p. 85, gives the cabinet greater depth without it protruding further into the room. The wall return joins the cabinet side at 45°, about 8 in. behind the face of the cabinet, and butts to the wall at 90°. So a cabinet that is more than 24 in. from front to back appears to be less than a foot deep, as shown in the photo at left. My technique for adding wall returns is relatively simple because I cut all joinery on the tablesaw.

Design parameters

When laying out this piece, I was confronted with three restrictions. First, the piece had to fit into a corner with one wall only 33 in. long, Second, the cabinet had to contain a television and VCR. Third, the cabinet had to have retractable doors for unobstructed television viewing.

Cabinet's depth is revealed. *With the doors open, the true size and purpose of the cabinet is apparent, but still the wall returns on its sides keep it from being overbearing.*

This third parameter probably had more to do with the final size of the piece than any other factor. Widening the cabinet to accommodate a larger television decreased the depth at the sides of the cabinet, leaving less room for the wider doors. Thus the final dimensions were a compromise between the cabinet-stretching techniques that follow and the pocket-door hardware (see *FWW*#104, pp. 70-74).

I gained several inches of interior space by adding a trapezoidal back (see the drawing on p. 85). This back design has intermediary panels intersecting both the primary sides and the cabinet back at 45°. Running parallel to the walls, these intermediary panels move the back panel closer to the apex of the corner into what would normally be wasted space behind a rectangular cabinet pushed into a corner.

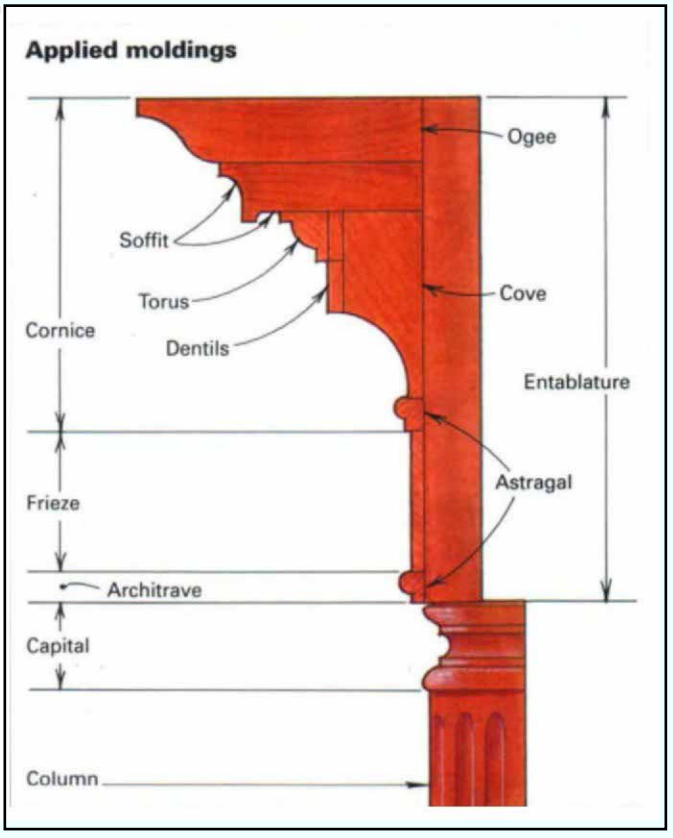
The most significant feature, however, was the wall returns. The wall returns give this freestanding unit a built-in look rather than appearing to be just stuck in the corner. The wall returns also enabled me to extend the center section forward to accommodate the depth of the television and the door hardware.

Construction tips

Whenever I build a large piece like this, I always make it in sections. Individual sections make the piece easier to handle, easier to finish in the shop and easier to move.

I buy my stock ahead of time and saw, joint and plane the stock, leaving it slightly oversized. This is particularly important for re-

Building moldings one stick at a time



Eighteenth-century designers frequently borrowed architectural details to add grandeur to their pieces. Built in the style of Thomas Chippendale, this modern entertainment center also includes numerous architectural elements, such as the quarter columns and the entablature that adorn the top of the upper case, as shown in the photo above.

While the moldings look complex, they were all built up one piece at a time to simplify construction. Stacking simple shapes, such as ogee, torus, dentil, cove and astragal (see the drawing above) on top of one another, creates the complex entablature shown in the bottom photo on p. 84. To give you a better idea of the process, I'll take you through the techniques I follow to create this molding.

Shaping molding: I shape or rout smaller profiles, such as the astragals or torus, on the edges of large pieces of stock that can be safely handled, and then I rip the molding from the edge on my tablesaw with a sharp blade. Edge-molding works great for many profiles, but fretwork or dentils require some different techniques.

I cut the fretwork on a scrollsaw with the mahogany stock sandwiched between two pieces of pine to prevent tearout. I stack up two pieces of mahogany to reduce the amount of sawing needed, leaving plenty of extra length for pattern matching. Then I nail the sandwich together at the ends where the waste would be. After laying out the fretwork pattern on the top piece of pine with a marking gauge, combination square, layout knife and spacer block the same width as the frets, I drive some more nails into waste sections in the middle of the molding.

Cutting out the pattern entails feeding the scrollsaw blade through drilled access holes for each void. I cut out the voids that have the nails last. When sawing the fretwork, I find it easier to cut the center first and then work toward the ends. While the

Photos except where noted: Susan Kahn

fretwork is still sandwiched, I clean up the sawmarks with a file.

The dentils are also made in a sandwich of mahogany nailed between pine. I cut the dentils on my tablesaw with a dado blade and a dentil jig that is similar to a finger-joint jig (see Jack Danilchak's article on p. 40 in this issue).

Each succeeding cut just requires moving the most recent dado onto the registration block and making the next cut. I start cutting in the middle of the dentil stock before putting the registration block in the jig. After inserting the block, I work to one end, and then I flip the dentil stock around and work from the center to the opposite end.

Assembling the entablature: To start assembling the molding, I scribe a line parallel to the door opening where the bottom astragal will begin. And then I carry it square across the sides and the wall returns.

All of the moldings are held in position, marked for length and then cut, mitering the ends either *45°* or **22½°**, depending on the joint. I then handplane the mitered ends as necessary to get a perfect fit. Each molding, starting with the bottom astragal, is applied all the way around the carcase before starting on the next molding. All moldings are just glued on unless subsequent moldings will hide any nails. This way, I don't have to worry about nail holes or filler spoiling the look of the completed molding.

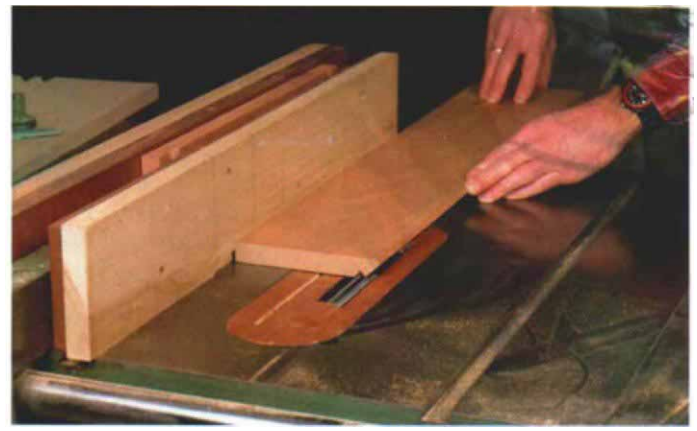
I take a great deal of care when gluing on and clamping the bottom astragal. I make sure that it lines up with the scribe lines because all subsequent moldings will be registered off this piece.

When gluing on the fretwork, which is next, I choose a portion of the pattern to line up with the cabinet's centerline. That ensures the pattern can be carried around the corner of the carcase. without a break when it's mitered.

Built-up architectural-style moldings add grandeur. *Versatility in molding design is achieved by cutting each shape individually and then combining the shapes on the carcase.*

Trying to brush glue onto a piece of fretwork invites a heavy application and lots of drips and runs. To overcome this problem, I first spread the glue on a piece of scrap stock and then lay the fretwork on the glued scrap. The fretwork picks up just the right amount of glue to minimize squeeze-out and the nasty task of trying to wipe glue out of all those little openings.

Next I mitered and glued on the top astragal molding and then the cove molding. But the cove can be nailed along the top edge, which is covered by the next molding to go on, the dentil molding. Before cutting the dentil molding to length, be sure the pattern will line up at the corners. The dentil molding also can be nailed along its top edge. The soffit is cut, glued and nailed to the top of the cove and dentil before gluing the torus molding to the underside of the soffit and the dentil's face. The final molding is the ogee, which is glued and nailed to the top of the soffit. *—P.L.*



Making wall returns—*A tablesawn rabbet completes the tongue that joins the wall return to the carcase side. The first two cuts to shape this tongue were also cut on the tablesaw.*

sawn stock that has a tendency to bow, cup or twist. After a few days of acclimation in my shop, I joint and plane the stock again. Generally, I'll glue up any panels at this point, so I'm not held up during the construction process.

Adding wall returns

First I prepare the carcase sides flat and square. For this cabinet, I added quarter-column spacers and partitions to the front inside edges of the sides. After crosscutting the sides to length, I ripped them to width with a 45° angle along the back edge.

I fitted the top and bottom frames, drawer dividers and drawer runners to the sides. But before gluing up the case, I used a dado blade in my tablesaw to rip a ¾-in.-wide groove on the outside face of the side to position the wall return. Because I was working with a short side wall the cabinet butted up to, I was somewhat restricted in the placement of the wall return, but I found about 8 in. of exposed cabinet side provided a well-balanced appearance.

To shape the tongue on the front edge of the wall return that mates with the dado in the side, I make three cuts on the tablesaw (see the wall-return detail on the facing page). I start with some stock slightly wider than needed. The first cut rips the front edge at a 45° angle. The second cut removes the tip from the 45° angle just cut, and the third cut, made with a dado blade, as shown in the photo above, cuts a rabbet along the opposite edge of the wall return and finishes the tongue that mates to the side dado.

The tongue should be slightly shorter than the depth of its mating groove, *so* the wall return will seat fully in the groove. This will leave a clean, smooth line where the outside faces of the wall return and the cabinet side meet. If the tongue is slightly long, it can be handplaned until it fits properly. Also, the tongue should be the same width as its groove for a snug fit. A rabbet plane can shave away excess stock, or if the tongue is a little loose, a strip of veneer glued along the inside edge of the tongue will tighten up things.

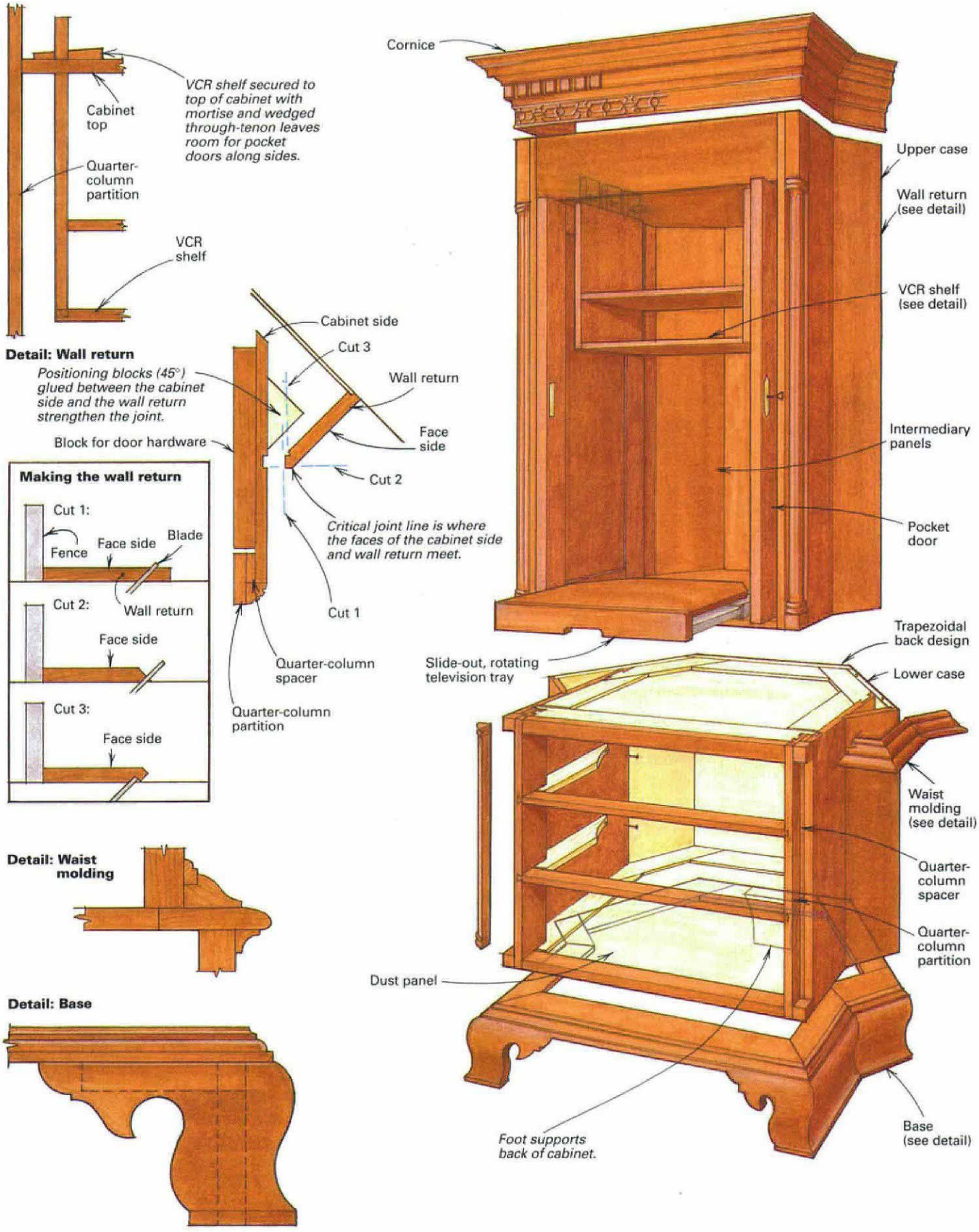
When the tongue fits properly in its groove, I rip the wall return to width and rabbet the inside back edge to accept the back panel. After gluing the returns in place, I glue 45° positioning blocks (see the wall-return detail on the facing page) between the returns and the cabinet sides to fasten everything firmly in place.

When undertaking a piece of this magnitude, it's easy to be overwhelmed by it all. But, if you view the task at hand as individual jobs, it is easier to trudge through. Then the accumulation of all these techniques can result in a grand piece of work.

Phil Lowe specializes in designing, fabricating and restoring fine furniture in Beverly, Mass.

Entertainment center construction

Extended sides and wall returns minimize the visual impact but maximize the depth of this piece. The upper and lower case have similar construction.



Drawings: Kathleen Rushton