CYBER SECRETARY

A handsome cherry cabinet for your home office.

There's no question our electronic tools and toys have changed our lives--if only because there's so much new stuff filling our homes. The fact is, that big TV, the new sound system and the family computer can blend right in--it just takes a fresh look at the kind of furniture we build and use.

For example, back when the well-equipped family library was centered around a couple dozen volumes of an up-to-date encyclopedia, bookcases and shelves kept the desks and tables clear, while adding a touch of sophistication to the home. These days, with encyclopedias the size of paper-thin pancakes, you may think we've progressed. Perhaps so, in terms of information access. On the other hand, our new computers, printers, monitors and mice

demand space of their own. And, unless you're happy giving up your dining room table to a humming and glowing network of wires and boxes, it's time to give the gear a place to call home.

With frame-and-panel construction and classic crown molding, home computing never looked so good. Open each door a full 270 degrees to reveal a pullout work area, shelves and file drawer (above).

To solve the problem, we've designed a dedicated computer cabinet with plenty of space for all the essentials, plus shelves for books, office accessories and things you just like to have around. To handle the paperwork, our case features a file drawer on full extension slides, and we've incorporated a locking pullout work surface that's perfect for a keyboard and mouse pad. The cabinet doors open 270 degrees so you have full access to the interior of the case. We constructed our updated secretary out of a combination of solid cherry and cherry-veneered panels, but you can substitute another wood if it better suits your decor.

Making Doors And Panels

Begin by ripping and crosscutting 1-in.-thick cherry to size for the stiles and rails of the doors and case sides. Lay out the rail and mortise locations on the stiles, clamping stiles of the same length together to ensure accuracy **(Photo 1)**.

After cutting door and side-frame pieces to size, clamp together stiles of the same size and lay out the mortise locations.

Next, use a router edge guide and spiral bit to rout the mortises. To support the router, clamp two or three stiles together face to face. Register the guide on the outside face of each stile for consistent mortise locations. Then, rout the panel grooves in the edges of the stiles and rails **(Photo 2)**, and square the mortises with a sharp 3/8-in. chisel
(Photo 3).

Use a router and edge guide to cut mortises and panel grooves. Clamp together stock to provide a firm base for the router.

After the grooves are cut, use a sharp 3/8-in.-wide chisel to square the ends of each mortise in the side and door stiles.

Equip your table saw with a dado blade to cut the rail tenons, and use a stopblock clamped to the miter gauge to position the rails **(Photo 4)**. For the best glue joint, cut the tenons about 1/32 in. thicker than specified. After holding the rails on edge to cut the tenon shoulders, use a sharp chisel to pare the tenons to exact size.

Use a dado blade in the table saw to cut the tenons slightly oversize. Then, pare them to the exact size with a sharp chisel.

We used 1/2-in. cherry-veneer MDF (medium-density fiberboard) for the panels. Although you can use cherry-veneer plywood instead, the stability and flatness of MDF make it a better choice. Cut the panels to size, and use a router table to shape the rabbet around the inside surface of each one **(Photo 5)**. Sand each panel with 120-, 150-, 180- and 220-grit papers.

Mount a straight bit in the router table and cut the rabbets on the back sides of the side and door panels. Then sand the panels.

To assemble a frame, spread glue in the mortises and on all tenon surfaces. Then, join the rails to one of the stiles and slide the panel into position **(Photo 6)**. Place the opposite stile in place and clamp the frame to pull the joints tight. Compare opposite diagonal measurements to be sure that the assembly is square, and let the glue cure. Proceed with the rest of the frames and doors in the same manner.

Apply glue to mortises and tenons and join rails to one stile. Slide panel in place, add remaining stile and clamp until glue sets.

Inside The Cabinet

The inner case parts are constructed of veneer-core cherry panels. Rip and crosscut these parts about 1 in. oversize, and cut edge-banding strips from solid cherry to cover the exposed edges. Cut the strips about 1/16 in. wider than the thickness of the panels. Next, spread glue on a panel edge and clamp the strip so that it overhangs both faces of the panel. Scrape off the excess glue after about 20 minutes. When the glue has fully cured, plane the edge-banding strip flush. Then, cut the panels to finished dimension.

Lay out the joining-plate locations for the upper case shelf assembly and cut the slots **(Photo 7)**. Apply glue, join the uprights to the shelves and clamp.

Cut the plate slots in case parts. Clamp a straightedge to each upper case shelf to position slots for center partition.

To construct the lower case insert, first apply veneer tape to the exposed edge of the drawer enclosure top as shown in the plan. Use a household iron to apply the tape and trim the excess with a chisel. Lay out and cut the plate slots, then glue the drawer-box top and side together. Cut plate slots for joining the drawer box to the left side of the inner case and install plates without glue to align the parts. Secure the subassembly with screws **(Photo 8)**. Then, assemble both inner sides with the stretchers using dry joining plates and screws **(Photo 9)**.

Use plates and glue to build the L-shaped section of the drawer box. Use dry plates and screws to attach to inner case side.

Secure the top stretchers to the lower case sides with screws. Joining plates hold parts in alignment while fastening.

Outer Case Work

It's easiest to cut the hinge mortises in the case side frames before assembling the cases. Use a marking gauge and square to mark the outline of each mortise. Then, make a series of parallel chisel cuts along the mortise just shy of the finished depth **(Photo 10)**. Hold the chisel horizontally to pare away the waste **(Photo 11)**, and test fit each hinge to see that it sits flush.

Use your router and edge guide to cut the rabbet along the back edges of the side frames. Note that each lower case side has a stopped rabbet. Stop the cut about 1/8 in. short and square the end with a chisel.

Next, cut the joining-plate slots in the lower case side frames and lower bottom panel. Apply glue to these joints and assemble the sides to the panel. Clamp the parts and set the assembly aside for the glue to cure.

Lower Case Assembly

Place the lower case insert between the sides, using joining plates to hold the drawer-box side in position on the case bottom. Install clamps to keep the insert from shifting. Bore and countersink pilot holes, and fasten the insert subassembly to the sides and bottom with screws **(Photo 12)**. Cut the back panel to size and bore a 2-in.-dia. hole for power cord access. Next, screw the back in place.

Use a chisel to outline each mortise. Then, make a series of cuts across the grain and about 1/8 in. apart within the waste area.

Hold the chisel horizontally to pare away the waste in each hinge mortise. Test the fit of each hinge and adjust as required.

Slide the inner case into position between the lower case outside frames, and clamp. Screw the inner sides to the outer frames.

Rip 3/4-in.-thick stock to width for the base and cut it to length with 45 degree miter joints at the front corners. Cut No. 0 joining-plate slots in the miter joints **(Photo 13)**. Lay out the curved profiles and use a sabre saw to make the cuts.

Cut the base pieces to finished length with mitered ends. Use joining plates in the miters to help hold the joints tight.

Mount a chamfer bit in the router table to shape the top edge of the base pieces. Then, glue together the three base pieces using clamps to pull the miters tight. Fasten the base to the lower case with 6d finishing nails and 1-in. brads. Bore pilot holes for the nails.

Upper Case

Cut a panel to size for the desk surface, and glue 1/4-in. spacers to the underside as shown in the drawing **(Photo 14)**.

Build up the bottom edges of the desktop by gluing 1/4-in.-thick spacers to the panel. Keep the strips flush with the panel edges.

Glue mitered edge-banding strips to the desktop front and side edges **(Photo 15)**. Plane the edging flush, and rout the edge profile. Cut the bottom part of the molding with an ogee bit, and bevel the top of the profile with a 30 degree chamfer bit.

Mark the position of the wire grommet in the desktop, bore holes and use a sabre saw to make the cutout. Then, rout the stopped rabbet along the back edge of the desktop and square the ends with a sharp chisel.

Glue solid edging to the desktop panel. Let the edging overhang the panel faces, and plane it flush after the glue sets.

Lay out and cut the joining-plate slots for the upper case assembly and bore pilot holes for screwing the desktop to the sides. Apply glue to the plates and slots to join the case top and sides and assemble these parts with clamps. Place dry plates in the desktop slots, and join the desktop to the sides with screws **(Photo 16)**.

Use a beading bit to rout strips of 1/2-in.-thick cherry for the upper case molding. Miter the strips to length, and install them with 3d finishing nails. Cut the case upper top to size and apply veneer

After using glue and plates to join the top to the side frames, position the desktop at the bottom of the sides and screw it in place.

tape to the exposed edges. Fasten the upper top panel to the side-frame stiles and beaded molding with 6d finishing nails.

We shaped the cove molding on a table saw with a standard 10-in.-dia. blade. While not unusual, this technique requires special care and the operation must be carried out cautiously. If you are not comfortable with the procedure, purchase appropriate molding from your lumber dealer.

Use a wooden fence angled across the saw table to guide the stock for a cove cut. Increase blade height in 1/16-in. increments.

To make the cove molding, first rip 1-in. stock to a width of 4 in., and cut each piece several inches longer than finished dimension. Next, set your miter gauge to 38 degrees and use it to position a long wooden fence across the saw table at that angle. With the blade height at 3/8 in., move the fence so that it's 13/16 in. from the front edge of the blade and clamp it to the table. Mount a featherboard to the table to hold the work against the fence. Set the saw blade to a height of 1/16 in. and use pushsticks to move the stock across the spinning blade **(Photo 17)**. Raise the blade 1/16 in. for the next pass, and continue until the cove depth is reached. Then, remove the wooden fence and set the blade to 45 degrees to rip the face and back angles of the molding. Finish by smoothing with a gooseneck scraper and 220-grit sandpaper **(Photo 18)**. Use a miter saw to cut the cove molding to length, and nail it to the top of the upper case as shown.

Use a gooseneck scraper to remove saw marks from the face of the cove molding. Then, sand with 220-grit sandpaper.

Final Steps

Mount the hinges in the case sides and cut the hinged stiles to size. Clamp a hinged stile against one of the case sides with a 1/16-in. shim under its bottom end. Use a knife to transfer the hinge locations to the edge of the stile. Then, lay out the hinge mortises along both edges of the hinged stile. Repeat the process for each stile, cut the mortises and mount the stiles to the sides.

Install the back panel of the top case with 3/4-in. No. 6 screws. After fastening hinges to the open side of the hinged stiles, transfer the mortise

Assemble the drawer box using glue and 6d finishing nails. Note 1/8 x 3/4-in. slots in the drawer sides for hanging-file guides.

locations to the cabinet doors. Mount the doors to the case and trim them as necessary to achieve a uniform margin of 1/16 in. Install the doorknobs and magnetic catches.

Cut the drawer stock to finished sizes. Use a dado blade in the table saw to cut the rabbet and dado in each side. Cut the grooves for the drawer bottom. Make slots in the top edge of the sides for the hanging-file rails. Use glue and 6d finishing nails to assemble the drawer box **(Photo 19)**. Slide the bottom into place and screw it to the drawer back.

Cut the drawer face from 3/4-in. cherry plywood and apply veneer tape to the four edges. Mark the location of the flush pull on the drawer face, and cut a recess to house the pull. Mount the pull to the face with screws **(Photo 20)**, and screw the drawer face to the front of the drawer. Cut pieces of 1/8 x 3/4-in. aluminum bar for the hanging-file rails, and use a dab of epoxy to secure them to the drawer.

Cut a mortise in the drawer face for the ring pull. A 1-in.-dia. recess in the center of the mortise fits the body of the pull.

Mount the drawer slides on the case and drawer. For initial installation, use only the slotted holes to allow for adjustment. Once the drawer operates smoothly, install the rest of the screws.

Cut a panel for the pullout work surface and apply edge banding. Mount the slide to the inner case sides and mount the clips to the work surface ends **(Photo 21)**. Install the work surface in the case, checking for smooth operation.

To install the pullout work surface, install support clips on the panel edges and attach the panel to the side-mounted slides.

Cut the wire-grommet hole in the lower case rear stretcher, and position the upper case on the lower case. Bore and countersink pilot holes through the lower case stretchers into the bottom of the desktop, and drive screws to fasten together the sections.

Disassemble the case and remove the hardware for finishing. Set all nailheads, and fill the holes. Sand all surfaces with 120-, 150-, 180- and 220-

grit paper, dusting between grits. Use a tack cloth to wipe all surfaces before applying any finish.

We finished our cabinet with three coats of Waterlox Original Sealer/Finish. Use a brush or rag to spread a liberal coat, let it sit for 10 to 15 minutes and wipe off the excess. Let the finish dry overnight, and repeat the process for each coat. When the final coat is dry, burnish the surface with 4/0 steel wool and polish it with a soft cloth.

MATERIALS LIST--COMPUTER ARMOIRE		
Key	No.	Size and description (use)
A1	4	1 x 3 x 48" cherry (upper case stile)
A2	4	1 x 3 x 31" cherry (lower case stile)
A3	4	1 x 3 x 44 7/8" cherry (upper door stile)
A4	4	1 x 3 x 23 7/8" cherry (lower door stile)
B1	6	1 x 3 x 19 1/4" cherry (case rail)
B2	4	1 x 5 1/4 x 19 1/4" cherry(case rail)
B3	8	1 x 2 15/16 x 17 3/32" cherry (door rail)
B4	2	1 x 3 x 17 3/32" cherry (door rail)
C1	2	1/2 x 12 x 18 1/4" plywood (side panel)
C2	2	1/2 x 18 1/4 x 26" plywood (side panel)
C3	2	1/2 x 18 1/4 x 19" plywood (side panel)
C4	2	1/2 x 12 x 16 3/32" plywood (door panel)
C5	2	1/2 x 16 3/32 x 26" plywood (door panel)
C6	2	1/2 x 16 3/32 x 19" plywood (door panel)
D	1	3/4 x 23 x 46" plywood (upper top)
E1	2	3/4 x 21 1/2 x 46" plywood (shelf)
E2	2	3/8 x 3/4 x 46" cherry (edge band)
F1	3	3/4 x 11 x 21 1/2" plywood (upright)
F2	3	3/8 x 3/4 x 11" cherry (edge band)
G1	2	3/4 x 21 1/2 x 24" plywood (inner side)
G2	2	3/8 x 3/4 x 24" cherry (edge band)
H1*	1	3/4 x 18 3/4 x 21 1/2" plywood (drawer box top)
H2*	1	3/8 x 3/4 x 18 3/4" cherry (edge band)
I1	1	3/4 x 12 x 21 1/2" plywood (drawer box side)
I2	1	3/8 x 3/4 x 12" cherry (edge band)
J1	2	3/4 x 4 1/2 x 44 1/2" plywood (stretcher)
J2	1	3/4 x 4 1/8 x 44 1/2" plywood (stretcher)
J3	1	3/8 x 3/4 x 44 1/2" cherry (edge band)
K1	1	3/4 x 16 1/2 x 41 3/8" plywood (work

		surface)
K2	2	3/4 x 1 x 42 7/8" cherry (edge band)
K3	2	3/4 x 1 x 16 1/2" cherry (edge band)
L1	1	3/4 x 22 5/8 x 46" plywood (lower bottom)
L2	1	3/8 x 2 x 46" cherry (edge band)
M	1	1/4 x 24 3/4 x 47 1/2" plywood (lower back)
N1	1	3/4 x 7 x 49 1/2" cherry (base)
N2	2	3/4 x 7 x 24" cherry (base)
O1	1	3/4 x 23 1/4 x 48" plywood (desktop)
O2	1	1/4 x 4 x 48" plywood (spacer)
O3	1	1/4 x 4 x 40" plywood (spacer)
O4	2	1/4 x 4 x 19 1/4" plywood (spacer)
O5	1	1/4 x 4 x 15 1/4" plywood (spacer)
O6	1	3/4 x 1 x 49 1/2" cherry (edge molding)
O7	2	3/4 x 1 x 24" cherry (edge molding)
P1	1	1/2 x 3 x 49" cherry (molding)
P2	2	1/2 x 3 x 23 3/4" cherry (molding)
Q*	1	3/4 x 26 x 53 1/2" plywood (case top)
R1	1	2 x 2 x 53" cherry (cove molding)
R2	2	2 x 2 x 25 3/4" cherry (cove molding)
S1	2	1 x 1 3/4 x 44 7/8" cherry (hinged stile)
S2	2	1 x 1 3/4 x 23 7/8" cherry (hinged stile)
T	1	1/4 x 47 1/2 x 48 3/4" plywood (upper back)
U1	2	1/2 x 10 1/4 x 18" plywood (drawer side)
U2	1	1/2 x 10 1/4 x 16 7/16" plywood (drawer front)
U3	1	1/2 x 9 3/4 x 16 7/16" plywood (drawer back)
U4	1	1/4 x 16 7/16 x 16 3/4" plywood (bottom)
U5*	1	3/4 x 11 7/8 x 17 7/8" plywood (drawer face)
V	2	1/8 x 3/4 x 16 15/16" aluminum (file hanger)
W	as reqd.	veneer tape
X1	"	No. 20 plate
X2	"	No. 0 plate
Y1	"	3/4" No. 6 rh woodscrew
Y2	"	1" No. 8 rh woodscrew
Y3	"	1 1/2" No. 8 fh woodscrew
Y4	"	2" No. 8 fh woodscrew
Z1	"	1" brad
Z2	"	3d finishing nails

Z3	"	4d finishing nails
Z4	"	6d finishing nails
AA**	1	pair 18" shelf slides (Accuride 340-18)
BB**	1	pair 18" drawer slides (Accuride 3037-18)
CC†	1	ring pull
DD††	20	1 1/2 x 2 1/2" hinge
EE††	4	1 3/8"-dia. cherry knob
FF‡	1	grommet
GG		magnetic catch

Misc.: Ogee bit (**Bosch** No. 85271M); 30 degree chamfer bit (No. 160-325), available from Wesley Tools Ltd., 346 Maple Ave., Westbury, NY 11590; glue; 120-, 150-, 180- and 220-grit sandpaper; tack cloth; 4/0 steel wool; Waterlox Original Sealer/Finish (Waterlox Coatings Corp., 9808 Meech Ave., Cleveland, OH 44105).

* Dimension includes veneer tape.

** Available from Dave Sanders and Co., 100 Cleveland Ave., Freeport, NY 11520.

† Ring pull (No. 0392-030) manufactured by Baldwin, 841 E. Wyomissing Blvd., Box 15048, Reading, PA 19612.

†† Knob (No. 75KW71) and hinge (No. 107H40) available from Whitechapel Ltd., P.O. Box 136, Wilson, WY 83014; 800-468-5534.

‡ Grommet (No. 91380) available from Rockler Woodworking and Hardware, 4365 Willow Dr., Medina, MN 55348; 800-279-4441.

Note: All plywood cherry veneer. MDF-core stock preferred for door and side panels.

COMPUTER ARMOIRE
26" DEEP X 53-1/2" WIDE X
80-3/4" HIGH

① 1/8"-DEEP X 5/8"-WIDE HINGE MORTISE

1-1/4"
6"
4-1/4"
1/2"
2-1/2"
12"
2-15/16"
2-1/2"
15-3/4"
15-3/4"
2"
26"
26"
2-1/2"
15-3/4"
2-1/2"
3"
2"
1-15/16"
2-15/16"

A1   1/2"   A3   1/2"   S1

1/2"   1/2"   2-15/16"
3"   1-15/16"   2-1/2"
2-1/2"
13"   19"   13"
2-1/2"   19"   2-1/2"
4-1/4"   1-15/16"   2-15/16"
10"   5-1/4"

A2   A4   1/2"   S2

1"   B1-B4
1/2"
1/2"

1-1/16"   5/16"
STILES   RAILS
5/16"   3/8"

1/2"   5/16"   9/16"   OUTSIDE
STILES, RAILS   5/16"   3/8"   1/8"   C1-C6

TOP RAILS   MIDDLE RAILS   BOTTOM RAILS
5/16"
1/2"
3/8"
PANEL GROOVES (TYPICAL)

FRAME AND PANEL DETAILS

U5
1-1/4"   1/8 X 3/4" SLOT
12-1/4"   1"
U2   V   U1   U3
CC   1/4"-DEEP X   1/4"-DEEP X
Z3   1/2" RABBET   1/2" GROOVE
U1   U1
1/4 X 1/4"   U1
GROOVE
Y2   U1, U2   Z3
1/4"   U4   1/4"   Y1
DRAWER DETAILS

COVE PATTERN
R1, R2
1/4"   3/8"
45°
2"   5/8"
2"

R2   P2
P2
45° MITERS
R1   P1

30°   3/16"
1/4"
7/16"   O6, O7
ROUT WITH OGEE BIT
DESKTOP EDGE DETAIL

S1
B3   C4
B4
EE
DD
C5
A3
B3

S1

W
Q
Z4
X1   T   Y1
D   SPACE 6" (TYPICAL)
Z4   E1, E2   12"
F1, F2   Y3
F1, F2
E1, E2   F1, F2
GG   X1
3"
2-1/2"-DIA. X 6" CUTOUT
O7   FF
O4   O3
O2   O5
45° MITER
Y4   O6   O1
Y4
Y1   X1
O7   Y1   M
O7

J3
G1, G2   K3
H1, H2   GG   J1   J1
4-1/2"   J2
W   V   U1
W   Y3
U3   K1   K2
CC   BB   I1, I2   Y4
U4   C3   DD
8-7/8"   AA   A2
U1   L1, L2   G1, G2
U2   X1
N1

B3
EE
C6
A4
B3
DD
M
1/16" CLEARANCE ON SIDES OF ALL DOORS AND DRAWER FACE
S2

2"-DIA. HOLE
3"   L1
Y1
BACK DETAIL

1/4"-DEEP X 3/4" RABBET
A1
1/4"-DEEP X 3/4" STOPPED RABBET
1/4"-DEEP X 3/4" STOPPED RABBET

Q   P2   Z2
1-1/4"
D   1/4"
R2
B2
ROUT WITH 1/2" BEADING BIT
SECTION AT TOP
2-3/4"

B2   C1
B1   C2
DD
A1
B1

C2
B1
5/8"
O1   X1
J1   O7
B1
COUNTERSINK SCREW-HEADS (TYPICAL)
C3
1/16" REVEAL (TYPICAL)
G1
B2
1/4"   1"
Y3
Y4
L1
1/4"-DEEP X 3/4" STOPPED RABBET
6-1/4"
Z3
N2

B1
Y4
C3
A2
DD
A2
B2
Z1   X2   N2
N1
1/4"   30°
N1, 2
6-1/4"
SECTION AT BASE

N1   N2
EACH SQ. = 2"   45° MITER
BASE MOLDING PATTERNS