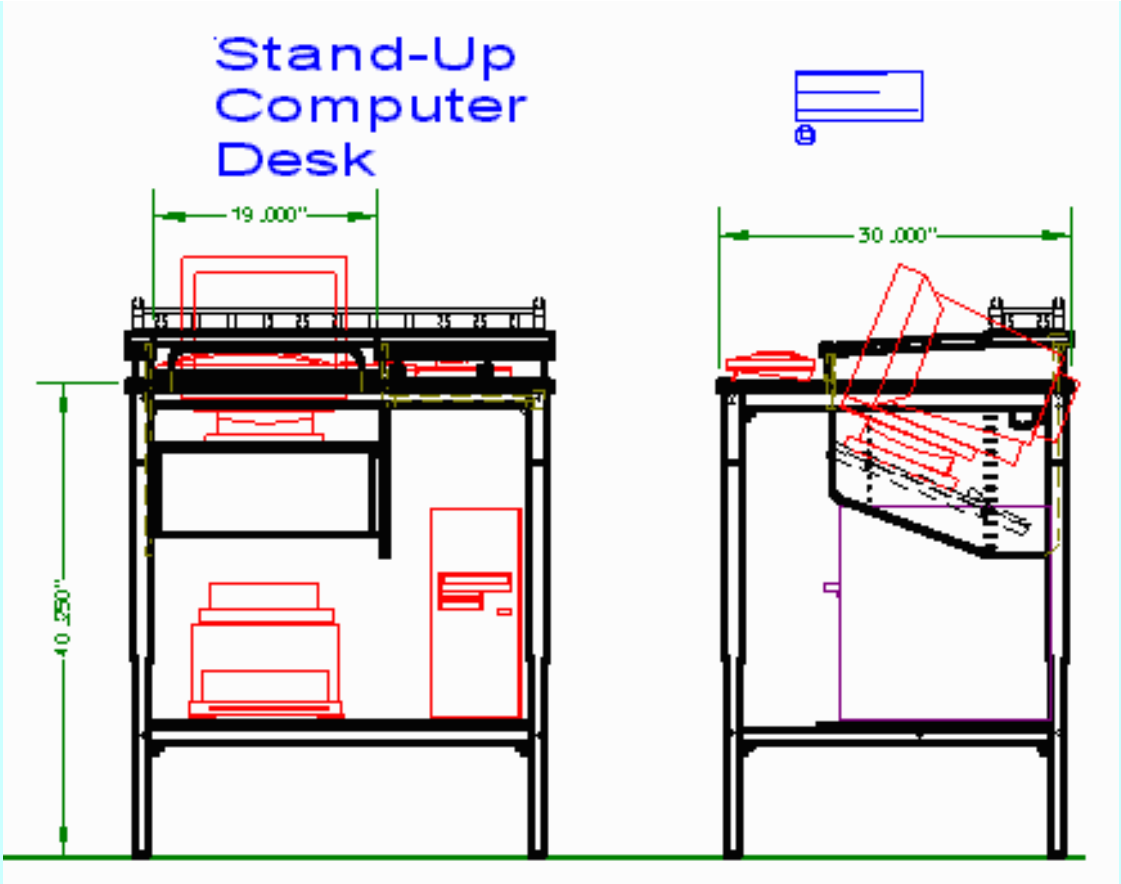

The Stand-Up Computer Desk

There are several good uses for a stand-up computer desk. You may have back problems and wish to move frequently from standing to sitting on a stool and back again. You may want to stand with several people in front the computer. Or, you may want yourself on one side of the desk and your customer on the other with the computer as out of the way as possible.

This simple design is useful for all these and features a look-down monitor, a writing area, a storage area, rail and post trim, and a shelf for the computer and printer. It is design after the tall desks used by bookkeepers in Dicken's England. These desks let the senior bookkeeper work his books while keeping an eye on the under bookkeepers and the entire office. This is Bob Crachet's computer desk.

1. ## Description

The graphic above is shows the desk from two views, front and side. The monitor is in a well. The keyboard and mouse are on a shelf across the front. The computer and printer are on a low shelf. The legs are long, thin, and tapered. There is a hinged writing surface beside the monitor that lifts up to a storage area. The rail and post trim is available from mail order suppliers. Built in American hardwood, the cost of the materials is about $230.

2. Download the Detailed Drawings

3. Desk Construction

You can make this desk by:

1. Downloading the drawings and this text.
2. Studying this information and locating the materials.
3. Purchasing all the materials locally or by mail order.
4. Hand cutting, dadoing, and drilling the small pieces.
5. Pre-Finishing the plywood parts.
6. Assembling the desk.
7. Finishing all pieces

1. Discussion of Sketches

After you download the sketches, these notes will help you understand them more completely.

1. Stand-Up Computer Desk

The front and side views show the desk main features of the desk. It is tall enough to use either standing or on a tall stool, it has the monitor in a look-down well, the

keyboard and mouse are on a fixed shelf at the front, and there is a low shelf for the computer and monitor.

Note that the legs are long and tapered, that the writing shelf is hinged so that it lifts up to reveal a storage compartment, that the top is trimmed out with a gallery rail, and that the leg joints are reinforced with leg chair braces. The flat top shelf is large enough for a coffee cup and the slopped writing area has a small trim piece to stop things from rolling off.

2. **Stand-Up Computer Desk, Top Views, Sketch #2**

   Three top views are shown, Desk Surfaces, Top of Frame, and Lower Shelf. The Desk Surfaces shows the available work area for the keyboard shelf, the writing surface, and the top shelf. The little piece to match the writing area on the left is just for show and does not hinge up (the little bit of hinge at its top is just for show). The Top of the Frame shows the way the frame fits together with the legs, the way the bottom of the storage compartment fits in and the way the sides of the monitor well assemble. The Lower Shelf shows the size of the plywood lower shelf and its wooden supports.

3. **Stand-Up Computer Desk, Frame Pieces, Sketch #3**

   The four pieces that make up top frame are the most critical parts of the assembly. They are made from hardwood boards edge-glued to make up the width. The have several dados, cut outs, and trimmed ends.

4. **Stand-Up Computer Desk, Monitor Well, Sketch #4**

   These are the pieces that make up the well for the monitor. The two 1/2 inch plywood sides are similar except that the left side has a cut-out for the leg and the right side has two cable holes. The sides have are two rows of 1/4 inch holes at one inch spacing for the bolts that hold the monitor shelf. The back holes elongated to 3/4 inch so that the shelf can be installed at an angle.

   The monitor shelf is a simple piece of 1/2 inch plywood with two strips of wood along its underside. Four " T " bolts are installed from the inside so that bolts can come through the well sides and support the shelf.

   It is best to paint all the parts of the monitor well a dark color before installation.

5. **Stand-Up Computer Desk, Lower Frame Pieces , Sketch #5**

   The legs are two thicknesses of 3/4 inch stock glued together. They are tapered either with a jig on a table saw or by hand planing. The lower shelf supports are 1 inch by 3/4

inch stock. Cut them a little long and custom fit them into the space between the legs at whatever height you want.

6. **Stand-Up Computer Desk, Top Boards, Sketch #6**

   The top boards are edge glued from narrower stock. Biscuits work well here but tung and grove or dowels will do. The pieces of trim for the back and sides continue the look of the keyboard surface around the desk.

7. **Stand-Up Computer Desk, Trim , Sketch #7**

   The first sketch features a Gallery Rail around the top. You may substitute a simple 1 inch by 3/4 inch hardwood rail if you prefer. The small stop strips keep things from sliding off the shelves.

8. **Stand-Up Computer Desk, Compartment, Sketch #3**

   The compartment under the hinged writing surface is made from a piece of think plywood and supporting strips of 3/4 by 3/4 wood. The wood strips can be secondary wood (pine). The two small pieces strength the joints with the right side of the monitor well and should be short enough to let the bottom slide under them. It is easiest if you paint these parts before assembly.

9. **Stand-Up Computer Desk, Joints , Sketch #9**

   Three types of joints are shown enlarged. The Back Trim shows a 3/4 inch think board fitting into a 1/2 by 3/4 inch dado channel and held with glue and Finishing nails. The nails are installed by cutting the head off a Finishing nail and using it for a drill bit.

   The Leg Joint shows the leg attached with three large screws. The screw holes are plugged with hardwood plugs and Chair Leg Braces are used underneath. You could use 5/6 inch dowels instead. If you use Biscuits, part of the biscuit will stick out and will have to be trimmed off with a saw.

   The Well Side joint shows a 1/2 inch piece of plywood fitting into a 1/2 dado and secured with a drilled nail and glue. It is farther braced with a simple wooden block.

2. Materials

This Desk is made from American hardwood and 1/2 inch plywood. The parts are assembled with glue, wood screws, bolts, and brads.

1. **Wood**

Hardwood:

- 14 -- Oak (ash, maple) $5.50 /bft -- $77.00
- 3 -- Secondary wood -- $ 3.00

Plywood:

- 48 by 48 inch -- Hardwood veneer, .5 inch -- $ 24.00
- 48 by 48 inch -- Fir, .5 inch -- $ 14.00

Trim:

- 5 ft -- Gallery Rail -- $ 20.00 **
- 4 -- Gallery Rail Posts -- $ 10.00 **

Wood Subtotal: $148.00

2. **Hardware**

- 4 -- Feet -- $ 2.20 **
- 22 -- Screw, flat head, #10 2 inch -- $ 3.00
- 12 -- Hardwood Screw Plugs, #10 -- $ 1.50 **
- 4 -- Machine Bolts, 1/4 inch, 1.5 inches long -- $ .40
- 4 -- 'T' Nuts, 1/4 -- $ .75
- 4 -- Flat Washers, 1/4 -- $ .20
- 1 box -- Finishing nails, #3, 1-1/8 inch -- $ 1.50
- 1 box -- Finishing nails, #4, 1-1/4 inch -- $ 1.50
- 1 box -- Brads, 5/8 inch -- $ 1.00
- 10 -- Chair Brace, 1 inch -- $ 12.00 **
- 36 inch -- Piano hinge, brass plate, -- $ 8.00 **
- 8 oz. -- Woodworker's Glue -- $ 3.80

Hardware Subtotal: $32.60

3. **Finish:**

- 1 qt. -- Varnish, oil based -- $ 10.00
- 1 qt. -- Paint, oil based -- $ 7.00

Finish Subtotal: $ 17.00

4. **Omissions and Contingencies (~14%)**

(Tax, sand paper, etc.) $30.40.

5. **Estimate Total Cost $230.00**

Items with ** are available by Web order from:

This is only an estimate (made in the November 2000). The price may vary in your area. You can save some money by using painted fir plywood for the lower shelf, but using the simple wood rail instead of the Gallery Rail, and by using scrap wood for the secondary wood.

3. Tools

This desk was designed to be build in a small garage or home woodworking shop. The work does require a radial or table saw and the ability to cut dado channels. You need to edge glue several panels so a set of long clamps are needed. You will also need sand paper, paint brushes. etc. It would be nice to have a block plane and a four-in-hand rasp.

All fasteners must be predrilled into hardwood. To predrill nails, simply cut the head off a finishing nail and use it for a drill bit. Be careful not to touch the wood with the end of the drill chuck. You can put little bits of cardboard over the nail-bit to prevent the drill from marking the wood. wood screws should be predrilled with a Screwmate bit.

4. Building Your Desk

This is your desk and you can build it to suit your likes and needs.

1. Your Custom Height

Work out the best height for the monitor and keyboard for your personal needs.The basic idea is to find the arrangement that is least stressful for you. Try this exercise both standing and sitting on a tall stool. You may set the length of the legs to suit your exact height needs.

Also decide if you want the mouse on the left or right side. You may also want to cut squares of scrap wood a little bigger than you mouse pad to raise the mouse up by about one inch.

2. Building the Frame

The four pieces of the top frame require the most exact construction. The four legs fit at the corners and the monitor well hangs inside the frame.

1. **Cutting the Frame Pieces**

   The four pieces of the top frame are made from either wide hardwood boards or two narrower boards edge glued. The two side pieces are a pair, in that they are a like except that the dados are on opposite sides. All four pieces have 3/4 inch dados running their length on the outside. The front and back have vertical 1/2 inch dados for the monitor well.

   The ends of all the pieces are cut to accept the legs at the bottom and to fit together at the top.

2. **Making the Well**

   The Monitor Well is made from 1/2 inch plywood. The sides have two rows of holes for bolts to support the monitor shelf. The back row of holes are elongated to 3/4 inch so that the monitor shelf can be installed at an angle. The left side of the well has a cut-out for the leg. The right side has two holes for cables.

   The monitor shelf itself is a piece of 1/2 inch plywood with two strips of wood nailed and glued along the sides. The strips are drilled to accept two " T " nuts each from the inside. Bolts with washers can then pass through the side holes and the wood strips and thread into the nuts. The monitor shelf also has a back strip of wood held on only with screws. This strip may be custom fit the the back of your monitor's base and positions to bring the monitor forward or back.

   It is much easier to prefinish the monitor well before assembly. See the instructions for Finishing the edge of plywood and the color discussion below.

3. **Making the Legs**

   The legs are two pieces of 3/4 inch hardwood stock glued together. Note the direction of the center of the tree for each piece on the end grain, and glue them with these directions alined. The taper of the legs may be done either with a home made jig on a table saw or with a hand plane.

4. **Making the Shelf Supports**

   The shelve supports are simply 1-1/4 strips of hardwood. Cut them a little long so that you can fit them to the tapered legs. The middle piece can be made of secondary wood.

3. **Assembling the Frame**

   Trial fit the various pieces together before gluing. You might want to make a temporary floor out of scrap wood and nail the four legs in their correct place. Predrill the nail holes and drive the nails up from underneath the temporary floor. You will want to clamp strips of wood to the legs to keep them up straight. Corner clamps, pipe clamps, and a strap clamp are very helpful.

   Predrill all nail holes. Simply cut the head off a Finishing nail and use it for a drill bit. Be careful not to touch the wood with the end of the drill chuck. You can put little bits of cardboard over the nail-bit to prevent the drill from marking the wood.

   If you are using the three large screws with hardwood pegs to hold on the legs as shown in Sketch #9, you can completely assemble the top frame before installing the legs. If you are using dowels or biscuits, you will have to do both jobs at once.

   Install the chair leg braces. These enormously strengthen the joints. Remove them again for finishing.

   The front piece will need to be beveled to match the sides with a hand plane. Also install the small strips of board that support the bottom of the compartment.

4. **Building the Top**

   The top pieces, shown in Sketch #6, are made from hardwood boards edge glued. Biscuits work best for this but you can use short dowels, or tung-and-grove, or nothing and depend on the modern glue alone.

   Do not use plank sawn boards more the 5 inches wide. Look at the end grain of each board and mark the direction of the center of the tree. Alternate these directions as you lay up the boards.

   The center pieces is easiest made as one piece 18 by 13.75 inches. You can then cut the small strip off one end.

   The trim strip continue the look of the table top around the sides and back of the desk. The narrow stop pieces stop thing from rolling off the desk and are held on with drilled brads and glue.

5. **Installing the Top**

   If your are using the Gallery Rail, locate the four posts on the top shelf and install them with wood screws from the bottom. You can then install the top shelf to the frame with

predrilled nails (or screws) and glue.

Bevel the top edge of the middle pieces and install the piano hinge. The small scrap of hinge on the left side is just for show. The left strip of top should be nailed and glued in place.

6. **Bottom Shelf**

The bottom shelf is made from 1/2 inch plywood. You may make either from hardwood plywood and varnish it or from fir plywood and enamel it. It you choose to use enamel, it is easiest to prefinish the shelf before installation.

Cut the pieces for the lower shelf supports a little long and custom fit them to your tapered legs.

7. **Fit Check**

Install the chair leg braces. These enormously strengthen the joints. Remove them again for finishing.

Fit the Gallery rail between the posts carefully. You want the space on the ends to be even and the length to be a tight fit. Install the rail with drilled brads and glue.

Check that your computer equipment will fit in the desk. Try several heights for the monitor. Plan how you will run the cables.

5. Finishing

You may finish your desk any way you like. You can simply paint the desk if you have made it from inexpensive materials or you can do a little better job on the Finishing if you have used hardwood. We recommend:

- Fill all the plywood edges before assembly.
- Paint the Monitor Well and underside of desk
- Paint the Lower Shelf if it is not hardwood
- Sand and round corners.
- Prim with thinned shellac
- Sand with fine paper
- Paint with oil based finish
- Sand with fine paper
- Paint with a second coat of finish

1. **Plywood Edges**

   Plywood edges take some effort to seal. The end result should be uniform in texture and not have holes one place and excess filler another.

   First fill all visible holes with glue and wood splinters. Toothpicks work well. Let dry and sand with course paper over a wooden block. Fill with wood putty (I like the powder you mix with water). Let this dry thoroughly and sand again. Seal with a thinned coat of shellac. Sand again and refill. Sand again, seal again, and sand with fine sand paper. In the process you can round the edges of the plywood a little bit. The edges are now ready to be painted.

   Priming the wood with thinned shellac help seal the wood, and helps the paint both to stick and to cover more area.

2. **Color Choices**

   The plywood for the monitor well and the bottom shelf (if fir plywood was used) should be painted a dark color that does not attract the eye. Flat black is usually used by you may prefer dark green, blue, or even brick red.

   The interior of the storage area is a different mater altogether. The idea is to paint it a bright color that is a surprise when the storage area is opened but is otherwise unseen. I recommend bright red.

6. Completion

All that is left is to the final assemble of the desk and installation of the computer cables.

1. **Cabling**

   The tie wrap mounts described there will help to keep cables neat and out of the way. The remote power switch is much easier to use than several hard-to-find switches.

2. **Final Assembly**

   Reinstall the piano hinge and nail in feet. Trial fit your monitor and adjust the monitor shelf to the slop and height you need. Fit the back strip to the base of your monitor and

screw it down. If you have the monitor at an extreme angle you may want to drill a couple screw holes in the front of the base and attach it to the shelf. These bases usually come off and one easily.

Conclusion

Thanks again for using a Woodware Computer Furniture Plans. We very much want to know how you are getting along with your project and would be happy to answer any questions by email.