



Entertainment Center

If you have always wanted a good-looking entertainment center to house your stereo, television, records, CDs, and books, here's the answer. You can build it for much less than you would pay in a furniture store. This one is built in three individual sections so that it can be moved easily. We sponge-painted ours and are very happy with the finished project.



Materials

The materials specified are enough to make two outer cabinets and one center cabinet.

- 27 linear feet of 1 x 2 pine
- 150 linear feet of 1 x 4 pine
- 36 linear feet of 2 x 4 pine
- 3 linear feet of 1 x 8 pine
- 17 linear feet of 5-1/2" crown molding
- 13 linear feet of 3" crown molding
- 24 linear feet of 3/4" rope molding
- 7-1/2 (4' x 8') sheets of 3/4" plywood
- 4-1/2 sheets of (4 x 8 feet) 1/4" plywood

Hardware

- 325 3/4" wire brads
- 250 1" (2d) finishing nails
- 20 1-1/4" (3d) finishing nails
- 350 1-1/2" screws
- 36 2" screws
- 24 2-1/2" screws
- 24 3" screws
- 16 cabinet door hinges
- 8 door pulls
- 8 magnetic catches

Special Tools and Techniques

- Router
- Pipe clamps or long bar clamps
- Staple gun
- Miters

Cutting List

Code	Description	Qty	Materials	Dimensions
A	Sides	2	3/4" plywood	23-1/4" x 82-1/2"
B	Top/Bottom	2	3/4" plywood	23-1/4" x 37-1/2"
C	Shelf	4	3/4" plywood	23-1/4" x 36"
D	Vertical Trim	2	1 x 4 pine	84" long
E	Horizontal Trim	2	1 x 4 pine	30-1/2" long
F	Wide Horizontal Trim	1	1 x 8 pine	30-1/2" long
G	Molding Trim	1	3/4" rope molding	30-1/2" long
H	Top/Bottom Door Trim	8	1 x 4 pine	15" long
I	Wide Side Door Trim	4	1 x 4 pine	38" long
J	Narrow Side Door Trim	4	1 x 2 pine	38" long
K	Door Panel	4	1/4" plywood	14-3/4" x 34-1/2"

L	Support Blocks	2	1 x 2 pine	4" long
M	Base Sides	2	2 x 4 pine	18-1/2" long
N	Base Front/Back	2	2 x 4 pine	35" long
O	Base Supports	4	2 x 4 pine	12" long
P	Back	1	1/4" plywood	37-1/2" x 84"
Q	Sides	4	3/4" plywood	16" x 78-1/2"
R	Top/Bottom	4	3/4" plywood	16" x 30"
S	Shelf	10	3/4" plywood	16" x 28-1/2"
T	Vertical Trim	4	1 x 4 pine	80" long
U	Horizontal Trim	8	1 x 4 pine	23" long
V	Molding Trim	2	3/4" rope molding	23" long
W	Top/Bottom Door Trim	8	1 x 4 pine	11-1/2" long
X	Wide Side Door Trim	4	1 x 4 pine	32-1/2" long
Y	Narrow Side Door Trim	4	1 x 2 pine	32-1/2" long
Z	Door Panel	4	1/4" plywood	11-1/4" x 29"
AA	Support Blocks	8	1 x 2 pine	4" long
BB	Base Sides	4	2 x 4 pine	11" long
CC	Base Front/Back	4	2 x 4 pine	28" long
DD	Base Supports	8	2 x 4 pine	7-1/2" long
EE	Back	2	1/4" plywood	30" x 80"
FF	Top Molding		5-1/2" crown molding	Cut to fit
GG	Rope Molding		3/4" rope molding	Cut to fit
HH	Bottom Molding		3" crown molding	Cut to fit

Constructing the Center Cabinet

1. Cut two sides (A) from 3/4-inch plywood, each measuring 23-1/4 x 82-1/2 inches.
2. Cut two top/bottoms (B) from 3/4-inch plywood, each measuring 23-1/4 x 37-1/2 inches.
3. Place the two sides (A) on edge on a level surface, 36 inches apart. Fit the top/bottoms (B) over the ends of the sides (A) to form a rectangle, measuring 37-1/2 x 84 inches, as shown in *Figure 1*. Apply glue to the meeting surfaces and screw through the top/bottoms (B)

into the edges of the sides (A). Use 1-1/2-inch screws spaced about every 5 inches.

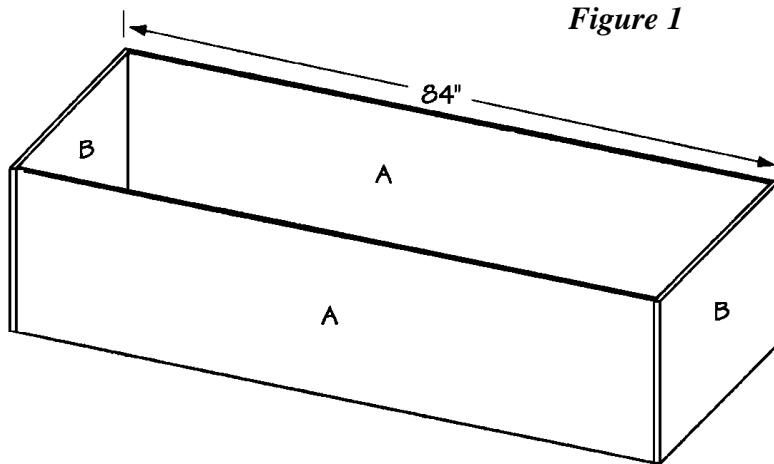


Figure 1

4. Cut four shelves (C) from 3/4-inch plywood, each measuring 23-1/4 x 36 inches.
5. Place the first shelf (C) 2 inches below the top (B). Screw through the sides (A) into the edges of the shelf (C), as shown in *Figure 2*. Use

1-1/2-inch screws spaced about every 5 inches.

6. Repeat the procedure in Step 5 to attach the second shelf (C) 29-1/8 inches below the first one.
7. Attach the third shelf (C) 5 inches below the second one.
8. Attach the fourth shelf (C) 2 inches above the bottom (B).

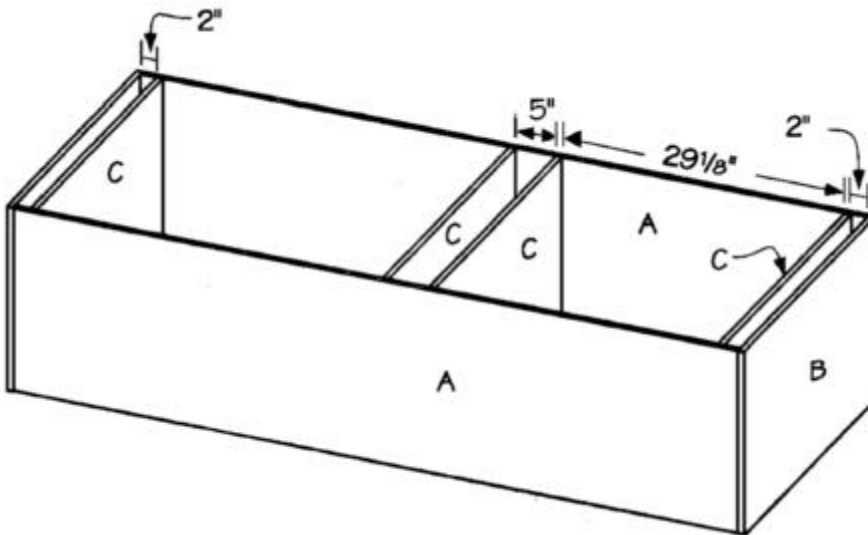
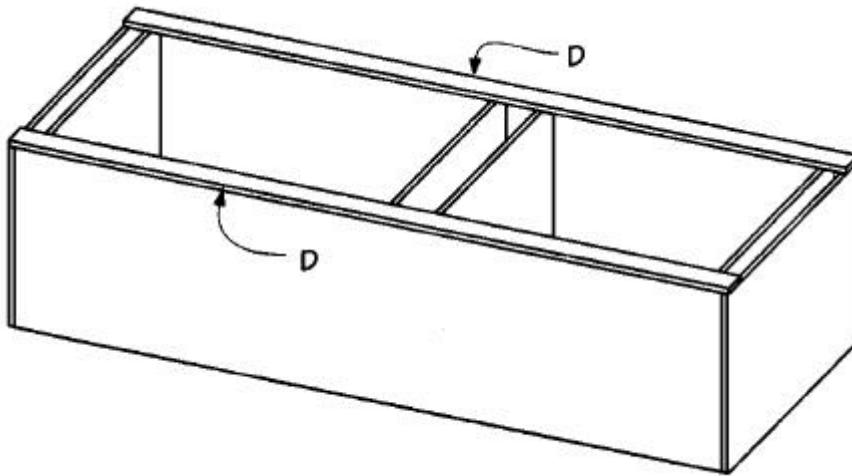


Figure 2

Adding the Trim to the Center Cabinet

1. Cut two vertical trims (D) from 1 x 4 pine each measuring 84 inches long.

2. Apply glue to the meeting surfaces and screw one vertical trim (D) to the edge of one side (A), as shown in *Figure 3*. Use 1-1/2-inch screws spaced about every 5 inches.



3. Repeat Step 3 to attach the remaining vertical trim (D) to the opposite side (A).
4. Cut two horizontal trims (E) from 1 x 4 pine each measuring 30-1/2 inches long.

5. Apply glue to the plywood edges and attach one horizontal trim (E) over the edges of the top (B) and the first shelf (C), as shown in *Figure 4*. Screw through the horizontal trim (E) into the edges of the top (B) and shelf (C) using 1-1/2-inch screws about every six inches.
6. Repeat Step 5 to attach the second horizontal trim (E) to the third shelf (C) and the bottom (B).

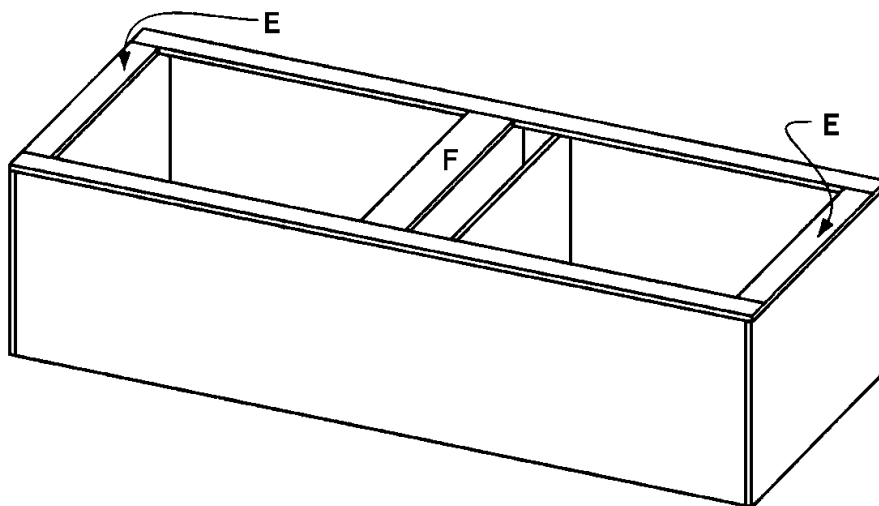


Figure 4

7. Cut one wide horizontal trim (F) from 1 x 8 pine, measuring 30-1/2 inches long.
8. Attach the wide horizontal trim (F) flush with the upper surface of the third shelf (C). Apply glue to the plywood edge, and screw through the wide horizontal trim (F) into the

edge of the third shelf (C). Use 1-1/2-inch screws placed about six inches apart.

9. Cut one molding trim (G) from 3/4-inch rope molding, measuring 30-1/2 inches long.
10. Apply glue to the molding trim (G) and nail it over the exposed edge of the second shelf (C), using 1-inch (2d) nails spaced about every 5 inches.

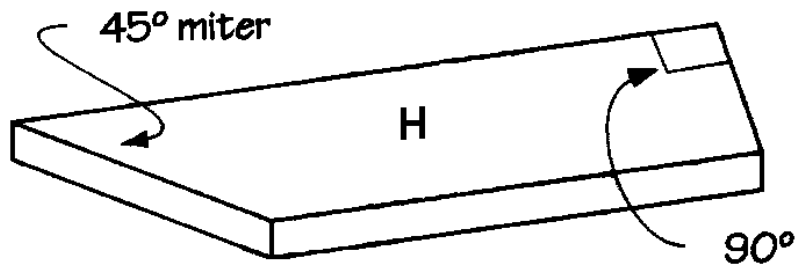


Figure 5

Making the Doors for the Center Cabinet

1. Cut 8 top/bottom door trims (H) from 1 x 4 pine, each measuring 15 inches long.
2. Miter each of the 8 top/bottom door trims (H) at opposing 45-degree angles, as shown in *Figure 5*.
3. Cut four wide side door trims (I) from 1 x 4 pine, each measuring 38 inches long.
4. Miter each of the 4 wide side door trims (I) at opposing 45-degree angles, as shown in *Figure 6*.

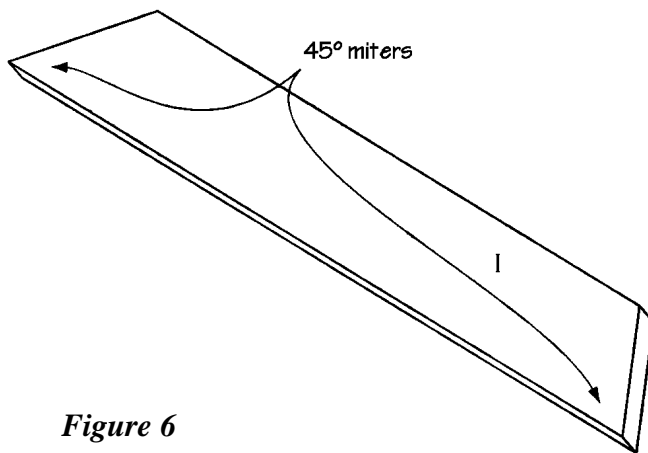


Figure 6

5. Cut four narrow side door trims (J) from 1 x 2 pine, each measuring 38 inches long.
6. Cut four door panels (K) from 1/4-inch plywood, measuring 14-3/4 x 34-1/2 inches.
7. Place two top/bottom door trims (H) face down, 31 inches apart, and parallel to each other. The miters should oppose each other, as shown in *Figure 7*.

8. Fit one side door trim (I) between the two top/bottom door trims (H), as shown in *Figure 7*.
9. Place one narrow door trim (J) against the flat ends of the two top/bottom door trims (H), as shown in *Figure 7*.

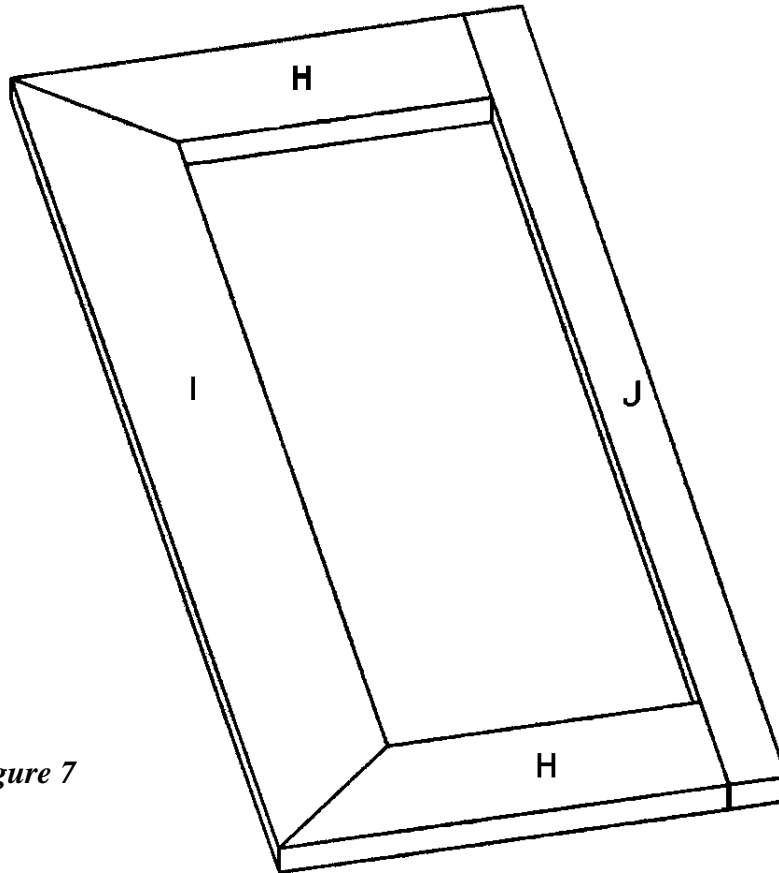


Figure 7

10. Apply glue to the meeting surfaces and clamp the four pieces together for several hours.
11. Repeat Steps 25 through 28 three more times using the remaining six top/bottom door trims (H), three wide side door trims (I), and three narrow side door trims (J).
12. The next step is optional. We routed both the inside and

outside edges of the front of the assembled door trims (H, I, and J) using a round-over bit. Before routing, we temporarily added extra support to the 4 glued joints by stapling across each joint using a staple gun. After the routing was complete, we removed the staples.

13. Place a routed trim assembly (routed side down) on a flat surface. Place a door panel (K) over the assembly, flush with the outer edge of the narrow side door trim (J), as shown in *Figure 8*. The other three trim pieces (H and I) should be exposed by 1-3/4 inches. Apply glue to the meeting surfaces, and nail through the door panel (K) into each of the four trim pieces (H, I, and J), using small 3/4 " brads, placed about every 4 inches.
14. Repeat Step 13 three more times to complete the remaining 3 cabinet doors.

Finishing the Center Cabinet

1. Cut 2 support blocks (L) from 1 x 2 pine, each measuring 4 inches long.
2. Place the completed cabinet on its front. Apply glue to the meeting surfaces and nail each of the support blocks (K) over the two joints between the vertical trims (D) and the wide horizontal trim (F) flush with the lower edge of the wide horizontal trim (F). Nail through each support block (L), using two 1-1/4-inch (3d) finishing nails, one on each side of the joint.
3. Cut two base sides (M) from 2 x 4 pine, each measuring 18-1/2 inches long.
4. Cut two base front/back (N) from 2 x 4 pine, each measuring 35 inches long.
5. Place the two base sides (M) parallel to each other and 32 inches apart. Fit the two base front/back (N) over the base sides (M), to form a rectangle measuring 35 x 21-1/2 inches, as shown in *Figure 9*. Screw through the base front/back (N) into the base sides (M) using two 2-1/2-inch screws on each joint.

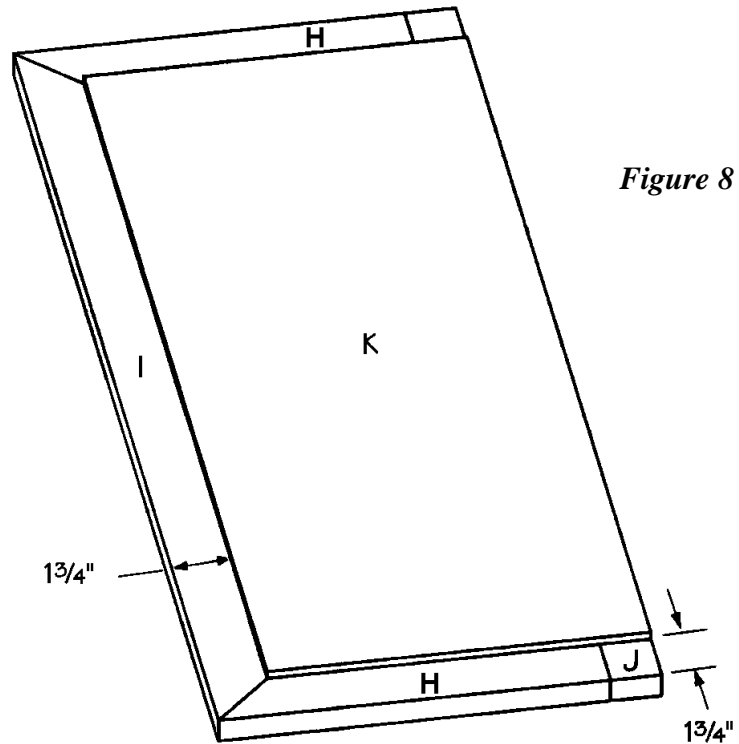


Figure 8

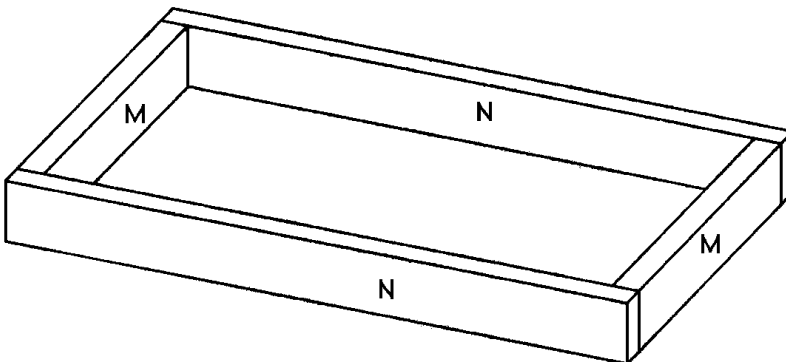


Figure 9

6. Cut four base supports (O) from 2 x 4 pine, each measuring 12 inches long.
7. Miter the ends of each base support (O) across the width at opposing 45-degree angles, as shown in *Figure 10*.

8. Place the base assembly on a perfectly level surface. Apply glue to the mitered ends and screw a base support (O) into each of the four corners of the base assembly, as shown in *Figure 11*. The base supports (O) will be flush with what will be the top of the base assembly.

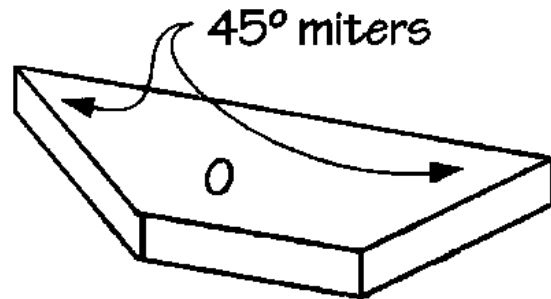


Figure 10

Use two 3-inch-long screws on each of the base supports (O).

9. Center the base assembly on the bottom of the cabinet, with the base supports (O) meeting the cabinet bottom (B). The base assembly should be 1-1/4 inch from each of the edges of the cabinet bottom (B) and the front of the bottom horizontal trim (E). Apply glue to the top of the base assembly, and screw through the base supports (O) into the cabinet bottom (B) using three 2-inch screws on each base support (N).

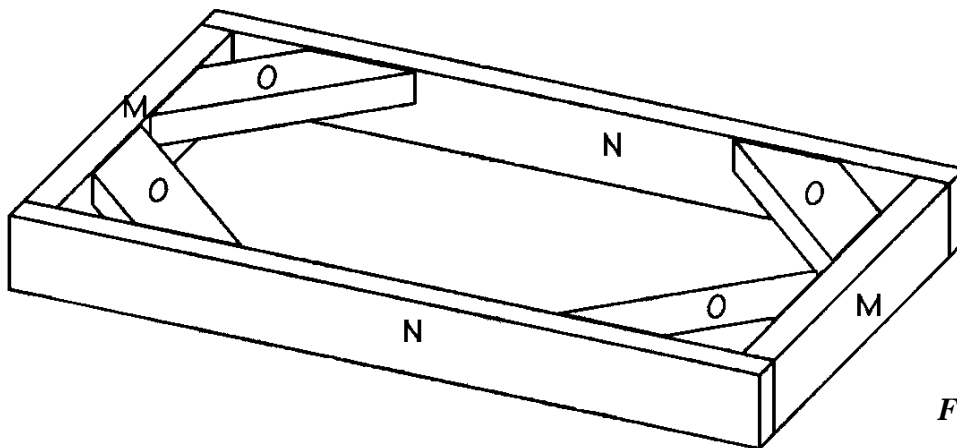


Figure 11

10. Cut one back (P) from 1/4-inch plywood, measuring 84 x 37-1/2 inches.
11. Place the back (P) over the back of the cabinet, overlapping the sides (A) and top/bottoms (B). Apply glue to the meeting surfaces and nail through the back (P) into the edges of the sides (A) and top/bottoms (B) using 1-inch (2d) finishing nails spaced every 4 inches.

12. Turn the completed cabinet on its back and place the four cabinet doors over the front openings in the cabinet. Allow about 1/8-inch space between each pair of doors. Check to make certain that the doors are straight and that the door panels (K) fit evenly inside each of the openings in the cabinet assembly. Then attach the doors to the cabinet using two hinges on each door. Also install door catches on each of the cabinet doors to make certain that they will stay closed when you shut them.
13. The top and bottom crown moldings will be added later after all three cabinets are finished.

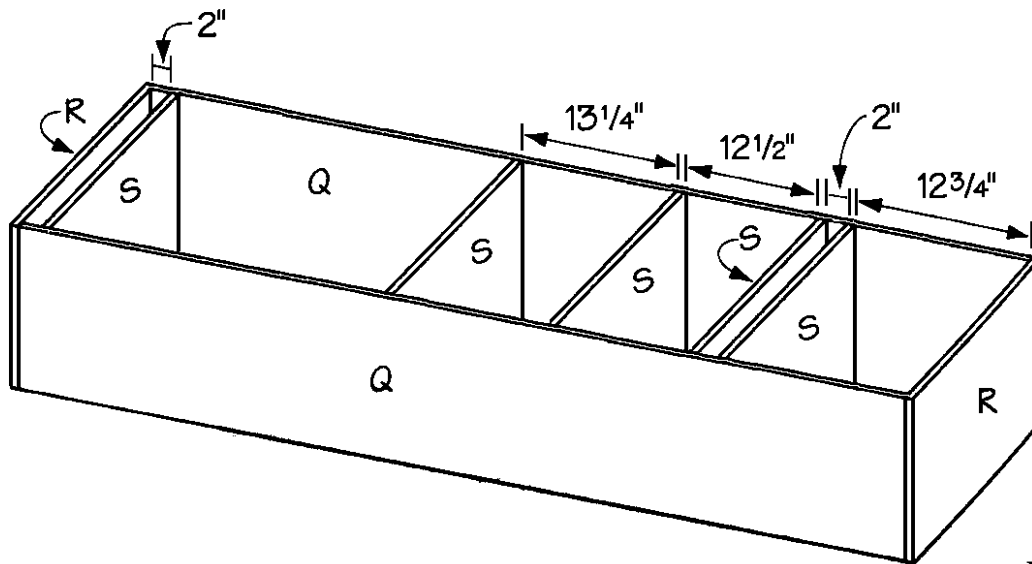


Figure 12

Constructing the Outer Cabinets

The instructions here are for one outer cabinet. Obviously, two cabinets must be built to complete the entertainment center. You may wish to cut the pieces for the second outer cabinet at the same time as you cut those for the first. This saves time and insures that both cabinets will be the same. The Cutting List shows the quantities needed for both cabinets.

1. Cut two sides (Q) from 3/4-inch plywood, each measuring 16-1/4 x 78-1/2 inches.
2. Cut two top/bottoms (R) from 3/4-inch plywood, each measuring 16 x 30 inches.
3. Place the two sides (Q) on edge on a level surface, 28-1/2 inches apart. Fit the top/bottoms (R) over the ends of the sides (Q) to form a rectangle measuring 30 x 80 inches, as shown in *Figure 12*. Apply glue to the meeting surfaces and screw through the top/bottoms (R) into the edges of the sides (Q). Use 1-1/2-inch screws spaced about every 5 inches.
4. Cut five shelves (S) from 3/4-inch plywood, each measuring 16 x 28-1/2 inches.

5. Place the first shelf (S) 12-3/4 inches below the top (R). Screw through the sides (Q) into the edges of the shelf (S), as shown in *Figure 12*. Use 1-1/2-inch screws spaced about every 5 inches.
6. Repeat the procedure in Step 5 to attach the second shelf (S) 2 inches below the first one.
7. Attach the third shelf (S) 12-1/2 inches below the second one.
8. Attach the fourth shelf (S) 13-1/4 inches below the third one.
9. Attach the fifth shelf (S) 2 inches above the bottom (R).

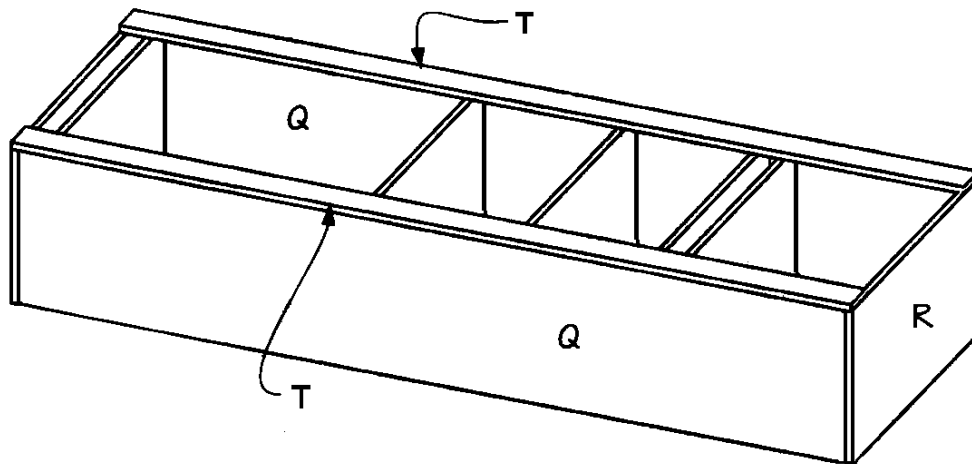


Figure 13

Adding the Trim to the Outer Cabinets

1. Cut two vertical trims (T) from 1 x 4 pine, each measuring 80 inches long.
2. Apply glue to the meeting surfaces and screw one vertical trim (T) to the edge of one side (Q), as shown in *Figure 13*. Use 1-1/2-inch screws spaced about every 5 inches.
3. Repeat Step 2 to attach the remaining vertical trim (T) to the opposite side (Q).
4. Cut four horizontal trims (U) from 1 x 4 pine, each measuring 23 inches.
5. Apply glue to the plywood edge and attach one horizontal trim (U) over the edge of the top (R), as shown in *Figure 14*. Screw through the horizontal trim (U) into the edge of the top (R) using 1-1/2-inch screws about every 6 inches.
6. Repeat Step 5 to attach the second horizontal trim (U) over the edges of the second and third shelves (S).

7. Attach the third horizontal trim (U) flush with the top surface of the fourth shelf (S).
8. Attach the fourth horizontal trim (U) over the edges of the fifth shelf (S) and the bottom (R).
9. Cut one molding trim (V) from 3/4-inch-wide rope molding, measuring 23 inches long.
10. Apply glue to the meeting surfaces and nail the molding trim (V) over the exposed edge of the third shelf (S). Nail it in place using 1-inch (2d) finishing nails spaced about every 5 inches.

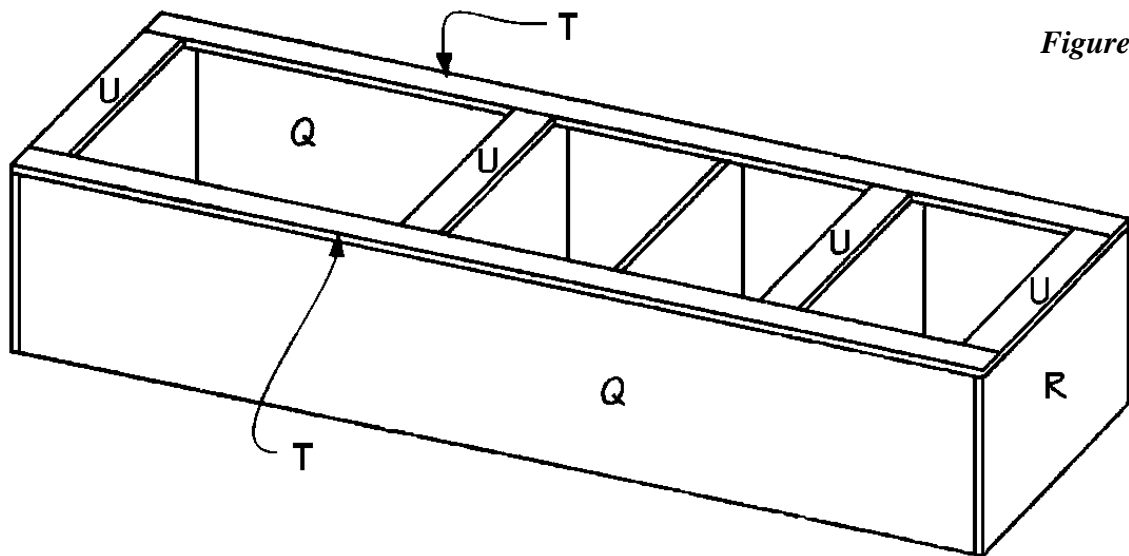


Figure 14

Making the Cabinet Doors

1. Cut four top/bottom door trims (W) from 1 x 4 pine, each measuring 11-1/2 inches long.
2. Miter each of the 4 top/bottom door trims (V) at opposing 45-degree angles, as shown in *Figure 5*.
3. Cut four side door trims (X) from 1 x 4 pine, each measuring 3-1/2 inches long.
4. Miter each of the 4 side door trims (X) at opposing 45-degree angles, as shown in *Figure 6*.
5. Cut 4 narrow side door trims (Y) from 1 x 2 pine each measuring 32-1/2 inches long.
6. Cut 4 door panels (Z) from 1/4-inch plywood, measuring 11-1/4 x 29 inches.
7. Place two top/bottom door trims (W), face down, 25-1/2 inches apart, and parallel to each

other. The miters should oppose each other, as shown in *Figure 7*.

8. Fit one wide side door trim (X) between the 2 top/bottom door trims (W), as shown in *Figure 7*.
9. Apply glue to the meeting surfaces and clamp the four pieces together for several hours.
10. Repeat Steps 7 through 9, using the remaining two top/bottom door trims (W), wide side door trim (X), and narrow side door trim (Y).
11. Center a door panel (X) over the assembly, as shown in *Figure 7*. There should be a 3/4-inch border of trim on all sides of the door panel (X). Apply glue to the meeting surfaces and nail through the door panel (X) into each of the four trim pieces (V and W) using 3/4-inch brads placed about every four inches.
12. The next step is optional. We routed both the inside and outside edges of the front of the assembled door trims (W, X, and Y) using a round-over bit. Before routing, we temporarily added extra support to the four glued joints by stapling across each joint using a staple gun. After the routing was complete, we removed the staples.
13. Place a routed trim assembly (routed side down) on a flat surface. Place a door panel (Z) over the assembly, flush with the outer edge of the narrow side door trim (y), as shown in *Figure 8*. The other three trim pieces (W and X) should be exposed by 1-3/4 inches. Apply glue to the meeting surfaces, and nail through the door panel (Z) into each of the four trim pieces (W, X, and Y), using small 3/4 brads, placed every 4 inches.
14. Repeat Step 13 to complete the other cabinet door.

Finishing the Outer Cabinet

1. Cut four support blocks (AA) from 1 x 2 pine, each measuring 4 inches long.
2. Place the completed cabinet on its front. Apply glue to the meeting surfaces and nail each of the support blocks (AA) over the four exposed between the vertical trims (T) and the horizontal trims (U). Nail through each support block (Y), using two 1-1/4-inch (3d) finishing nails, one on each side of the joint.
3. Cut two base sides (BB) from 2 x 4 pine, each measuring 11 inches long.
4. Cut two base front/back (CC) from 2 x 4 pine, each measuring 28 inches long.
5. Place the two base sides (BB) parallel to each other and 25 inches apart. Fit the two base front/back (CC) over the base sides (BB), to form a rectangle measuring 28 x 14 inches, as shown in *Figure 9*. Screw through the base front/back (CC) into the base sides (BB) using two 2-1/2- inch screws on each joint.

6. Cut four base supports (DD) from 2 x 4 pine, each measuring 7-1/2 inches long.
7. Miter the ends of each base support (DD) across the width at opposing 45-degree angles, as shown in *Figure 10*.
8. Place the base assembly on a perfectly level surface. Apply glue to the meeting surfaces and screw a base support (DD) into each of the four corners of the base assembly, flush with what will be the top of the base assembly, as shown in *Figure 11*. Use two 3-inch screws on each of the base supports (DD).
9. Center the base assembly on the bottom of the cabinet with the base supports (DD) meeting the cabinet bottom (R). The base assembly should be 1 inch from each of the edges of the cabinet bottom (R). Apply glue to the meeting surfaces and screw through the base supports (DD) into the cabinet bottom (R) using three 2-inch screws on each base support (DD).
10. Cut one back (EE) from 1/4-inch plywood, measuring 80 x 30 inches.



11. Place the back (EE) over the back of the cabinet, overlapping the sides (Q) and top/bottoms (R). Apply glue to the meeting surfaces and nail through the back (EE) into the edges of the sides (Q) and top/bottoms (R) using 1-inch (2d) finishing nails spaced every 4 inches.
12. Turn the completed cabinet on its back and place the two cabinet doors over the lower opening in the cabinet. Allow about 1/8-inch space between the doors. Check to make certain that the doors are straight and that the door panels (Z) fit evenly inside the opening in the cabinet assembly. Then attach the doors to the cabinet using two hinges on each door. Also install door catches on each of the cabinet doors to make certain that they will stay closed when you shut them.

13. The top and bottom crown molding will be added later after all three cabinets are finished.
14. Take a deep breath, admire your handiwork—and make another outer cabinet!

Finishing the Entertainment Center

1. Fill the screw holes, crevices and cracks with wood filler.
2. Sand all surfaces of all three of the completed cabinets.
3. Place the three cabinets together on a level surface. To hold the three cabinets together temporarily, insert two or three 1-1/4-inch screws through the inside of the center cabinet into the sides of each of the outer cabinets. Do not glue the cabinets together or you will be unable to move them through doors.
4. Refer to the project photograph for placement of the moldings. Carefully measure and cut 5-1/2-inch-wide crown molding (FF) to fit around the top of the joined cabinets. The bottom of the top molding (FF) laps onto the top of the cabinets by only 3/4 inch. If you are not skilled in cutting crown molding, refer to the “Tips and Techniques” section for assistance. Use glue and 1-inch (2d) finishing nails to attach the molding to the individual cabinets. *Do not use glue on the molding joints between the cabinets.*
5. Carefully measure and cut rope molding (EE) and attach it to the installed crown molding, as shown in the photograph.
6. Again, refer to the project photograph. Carefully measure and cut 3-inch-wide crown molding (HH) to fit around the bottom of each of the cabinets. Use glue and 1-inch (2d) finishing nails to attach the molding to the individual cabinets. *Do not use glue on the molding joints between the cabinets.*
7. Stain or paint the entertainment center the color of your choice. We first painted ours with a bright white paint and then sponge-painted it with an almond paint. We then sealed it with a clear polyurethane.

