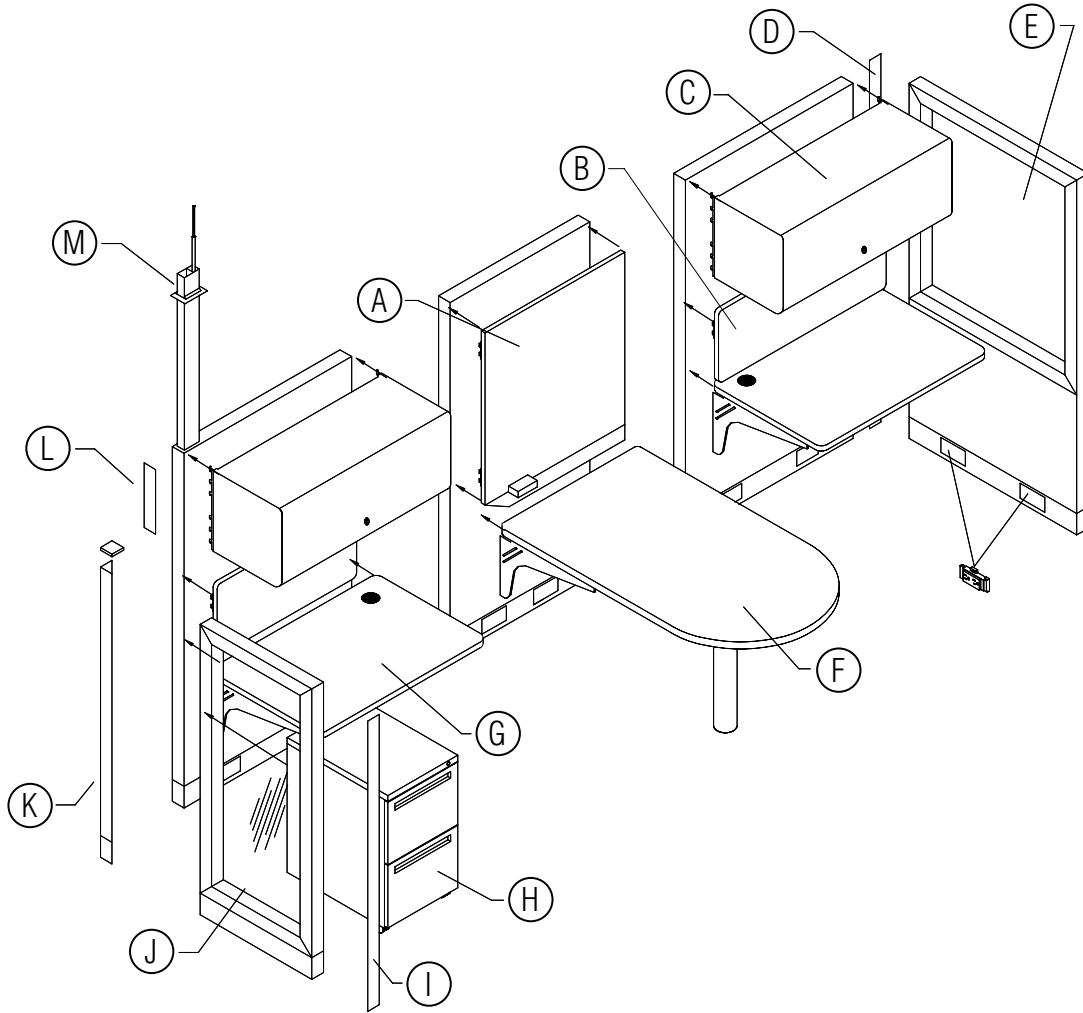


Planning Guide ■
System XXI® Panel System

June 2018

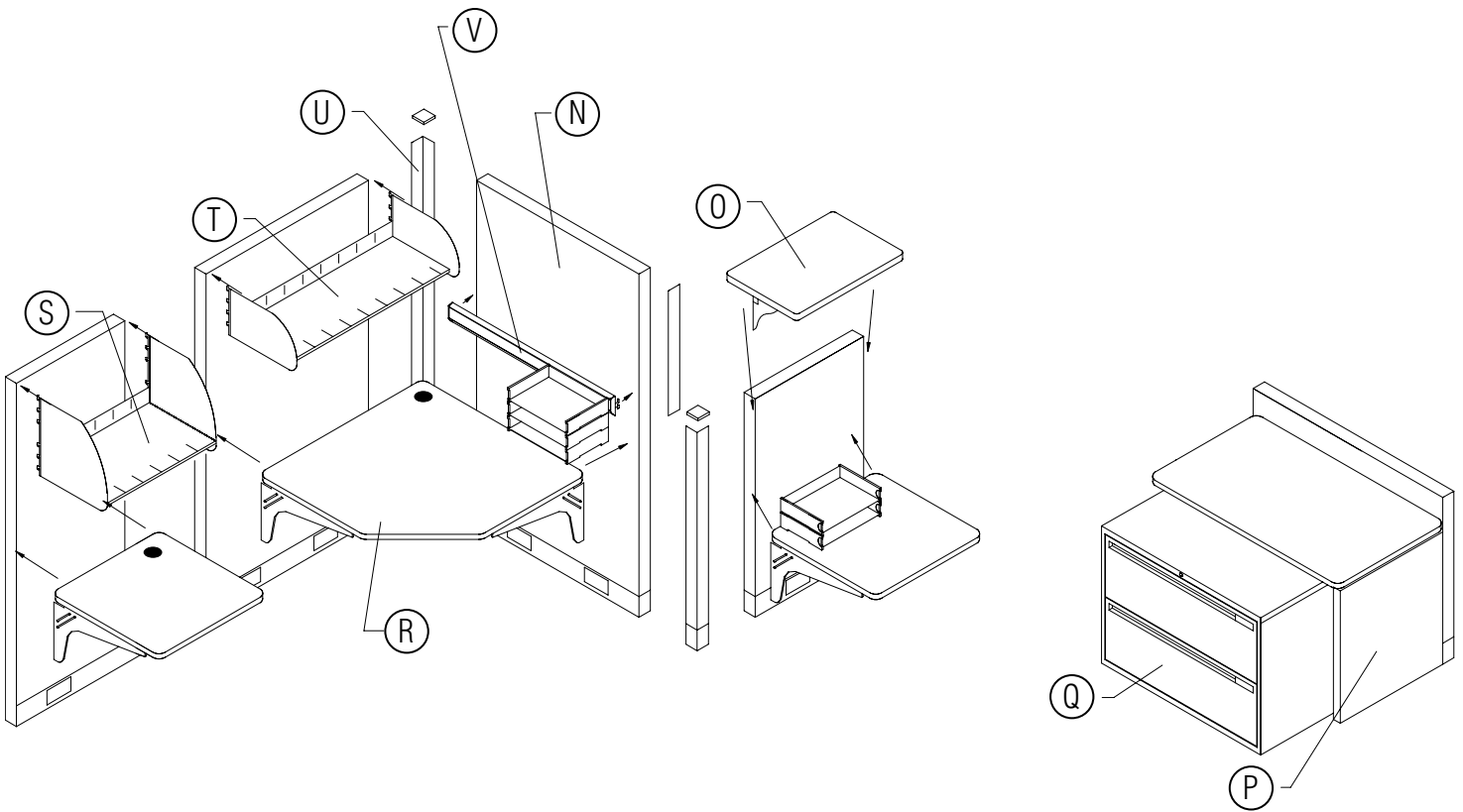


■ **System XXI® Panel System**
 Planning Guide



- | | | | |
|------------------------|-----------------------------------|---------------------------------------|-----------------------------------|
| A. Marker Board | B. Tackboard | C. Overhead Cabinet | D. T-Post |
| E. Half Open Panel | F. D-Shaped Peninsula Worksurface | G. Rectangle Worksurface with Grommet | H. Mobile Pedestal File/File |
| I. End Cap | J. Full Glazed Panel | K. Variable Height Corner Post | L. Variable Height End of Run Cap |
| M. Electrical Top Feed | | | |

System XXI has been a workplace solution for decades with good reason. Constructed of fully welded steel frames and purposefully engineered layers, System XXI has provided quality workspace solutions for countless individuals. It's a straightforward, hassle-free solution—easy to order, install, and reconfigure. In a world of distractions, a quiet place to focus is critical to productivity. System XXI was designed from the inside-out to reduce ambient noise and minimize interruptions. Tall panels with optional doors provide needed privacy for individual work, while multi-layered acoustic fabric panels absorb sound like no other system. Simple, but efficient, System XXI panels arrive fully assembled for quick on-site installation with minimal tools, saving up to thirty percent of installation costs compared to other panel systems. Its thinner profile and minimal joints make the most of small footprints, providing space efficiency as well.

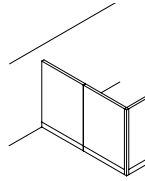
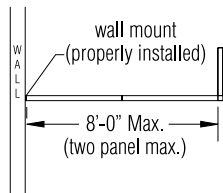


- | | | | |
|--|--|------------------------------|------------------------------|
| N. Fabric Acoustic Panel | O. Straight Countertop | P. Worksurface Support Panel | Q. Freestanding Lateral File |
| R. Diagonal 90° Corner Worksurface with Corner Grommet | S. Regular Shelf | T. Low Shelf | |
| U. Corner Post | V. Paper Management Load Bar with Letter Trays | | |

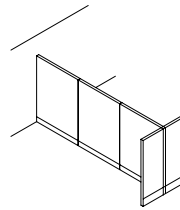
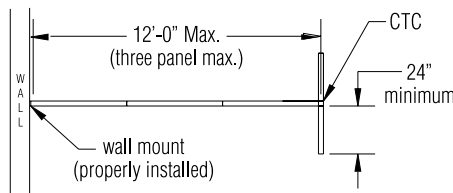
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**UNLOADED &
 LOADED PANELS**

Unloaded Panel Runs Starting with Wall Mounts

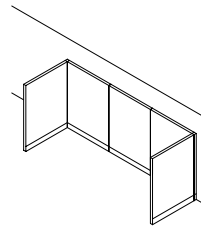
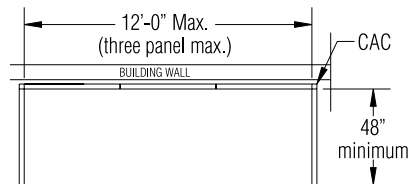


- **Note:** Return panel must be equal to, or within 18" of the height of the main panel run.

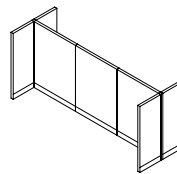
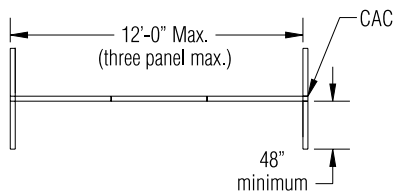


- **Note:** Return panels can be any height when they return in opposite directions as shown at left.

Unloaded Freestanding Runs with Returns at Both Ends

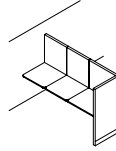
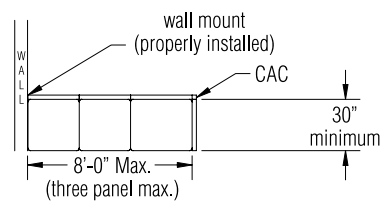


- **Note:** Return panel(s) must be equal to, or within 18" of the height of the main panel run, UNLESS the main panel run is tight against a building wall. If the main run is tight against the building wall, the return panels can be any height.

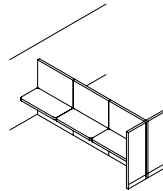
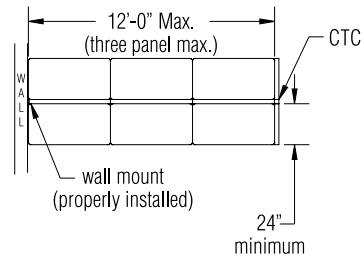


- **Note:** Return panels can be any height when they return in opposite directions as shown at left.

Worksurface Loaded Panels Starting with Wall Mounts

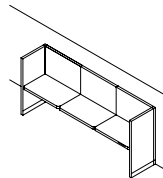
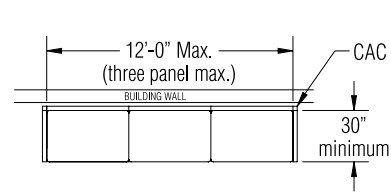


- **Note:** Return panel must be equal to, or within 18" of the height of the main panel run.

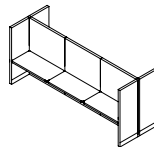
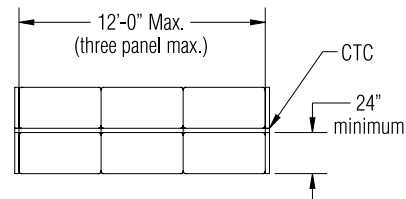


- **Note:** Return panels can be any height when they return in opposite directions as shown at left.

Worksurface Loaded Freestanding Runs with Returns at Both Ends



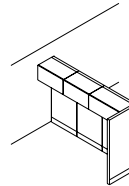
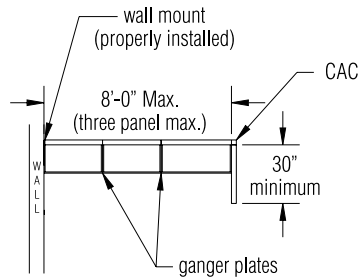
- **Note:** When loading freestanding panels with worksurfaces, return panels must be used on both ends. An option on one end is to use worksurface support panels (WSSP'S) in some situations.



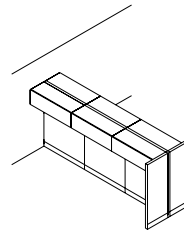
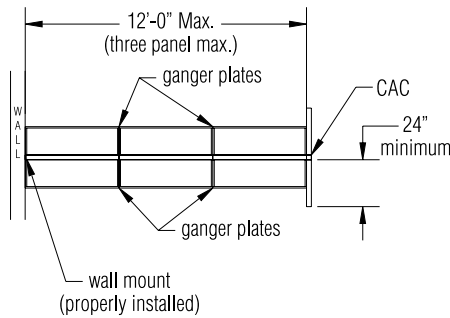
- **Note:** Return panel(s) must be equal to, or within 18" of the height of the main panel run, UNLESS the main panel run is tight against a building wall. If the main panel run is tight against the building wall, the return panels can be any height.

STORAGE UNITS

Storage Unit Loaded Panel Runs Starting with Wall Mounts - One or Two Units Per Panel

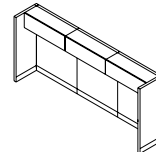
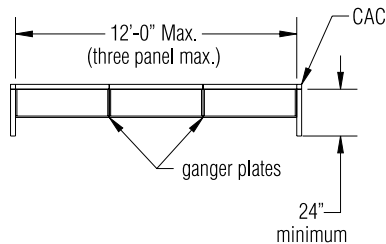


- **Note:** Return panel must be equal to, or within 12" of the height of the main panel run, and must be on the same side as the storage units. All adjacent overhead units must have overhead ganger plates attached between them.

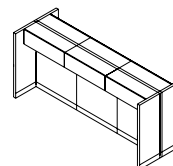
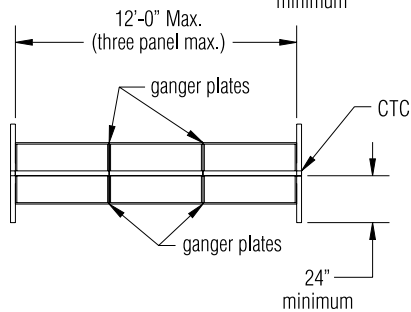


- **Note:** Return panel must be equal to, or within 12" of the height of the main panel run when they return in opposite directions as shown at left. All adjacent overhead units must have overhead ganger plates attached between them.

Unloaded Freestanding Runs with Returns at Both Ends - One or Two Units Per Panel



- **Note:** Return panel must be equal to, or within 12" of the height of the main panel run. Return panels must be specified at each end of the storage unit panel run, and must be on the same side as the storage units. All adjacent overhead units must have overhead ganger plates attached between them.



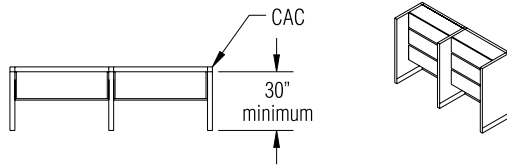
- **Note:** Return panel must be equal to, or within 12" of the height of the main panel run. Return panels must be specified at each end of the storage unit panel run. All adjacent overhead units must have overhead ganger plates attached between them.

Storage Unit Loaded Panel Runs with Three or More Storage Units Per Panel

The following number of storage units will fit on the specified height panels.

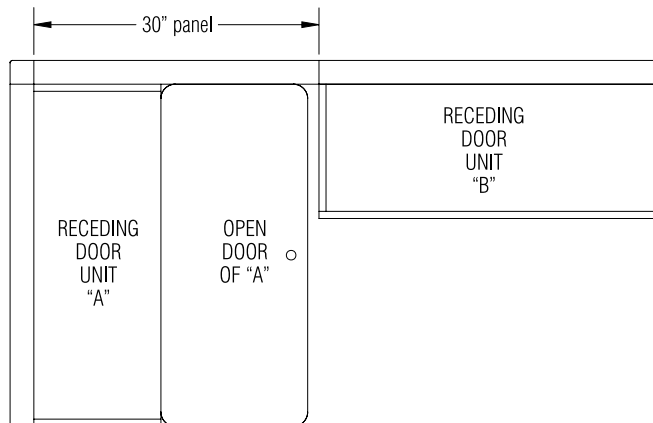
Panel Height	Low Shelves Stacked Tight 10" Req'd	Low Shelves with Folders 14" Req'd	Regular Shelves or Receding Door Cabinets 17" Req'd
48"	4	3	2
54"	4	3	3
62"	5	4	3
66"	5	4	3
72"	6	4	4
80"	6	5	4

When three or more storage units are mounted on one side of a panel, storage units must be panel wrapped with return panels at least 30" wide and equal to or within 12" of the height of the panel the storage units are mounted on.



Note: Return panel(s) must be equal to, or within 12" of the height of the main panel run.

An overhead with receding door located in a corner must be adjacent to a perpendicular panel of no less than 30 inches wide if the open door is to clear a second overhead positioned at 90° from the first (see below).

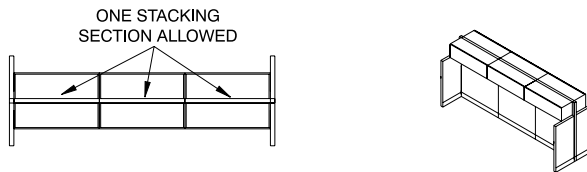


STACKING SECTION GUIDELINES

The following specifications apply to stackable sections. Stackable sections must always remain below the ceiling. To stack on top of a fully assembled panel at least 10" of clearance should be left between the top of the panel and the ceiling. If less clearance is available, the panel frame must be disassembled before adding or removing stacking sections.

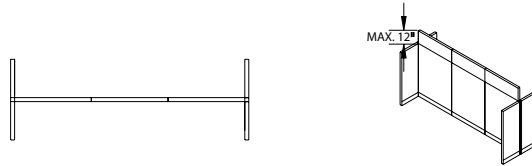
Balanced Load Bearing Applications

Stacking sections are designed to be load bearing, however, only one stacking section is allowed at the height of the load bearing components. Unloaded return panels must be within 12" in height of the main run for stability reasons.



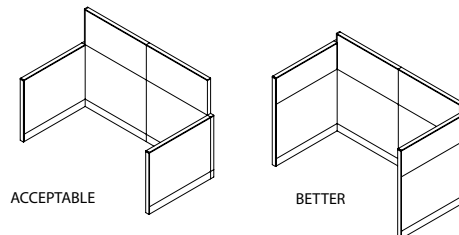
Balanced Non-Load Bearing Applications

When panels will not be load bearing, you still must keep return panels within 12" in height from the main run for stability reasons.



Unbalanced Non-Load Bearing Applications

Although it is acceptable for a non-loaded stackable section to stand by itself on a full panel, it is always advisable to provide a return panel the same height or within 12" of the overall height of full/stack panel.

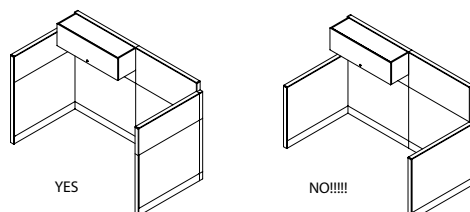


Unbalanced Load Bearing Applications

Stackable panel sections may be used to support hang-on storage components if the following guidelines are followed:

A hang-on loaded stackable section must have a return panel (full or stackable) that is the same height or no more than 12" shorter within one panel of the loaded stackable section.

When a stackable panel section is used as a return for a loaded stackable section, an additional 1/2" self-tapping screw should be driven through the leg of the attachment bracket and into the full panel trimrail. Drill a 1/8" pilot hole into the trimrail of the full panel first, using the bracket leg as a guide.

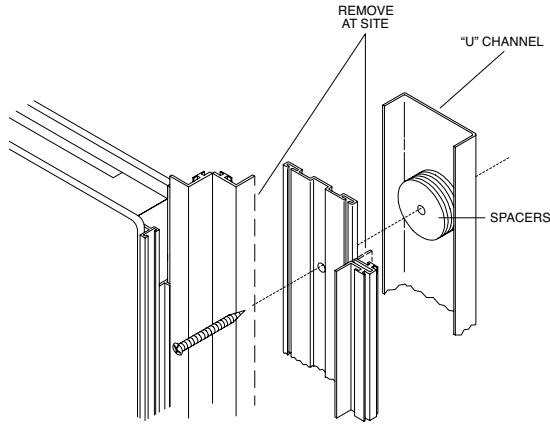


WALL MOUNTING

Adjustable Wall Mount Kits

The adjustable wall mount can make up for a wall being up to .875" out of plumb.

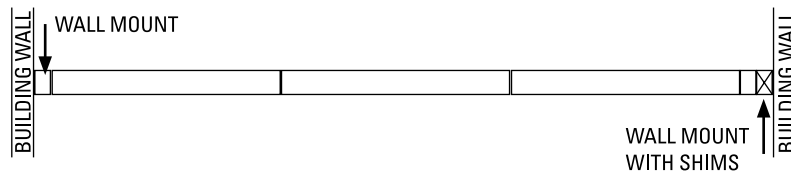
An adjustable wall mount adds .312" - .875" to the length of a panel run (see below).



If two wall mounts are being used on one panel run between two building walls (see below) and the panel run length comes up less than 6" short of the total distance, the following solution has been used.

The customer shims out the wall using layers of wood and the wall mount is then attached to the shim.

Note: Shim to be provided by installer.



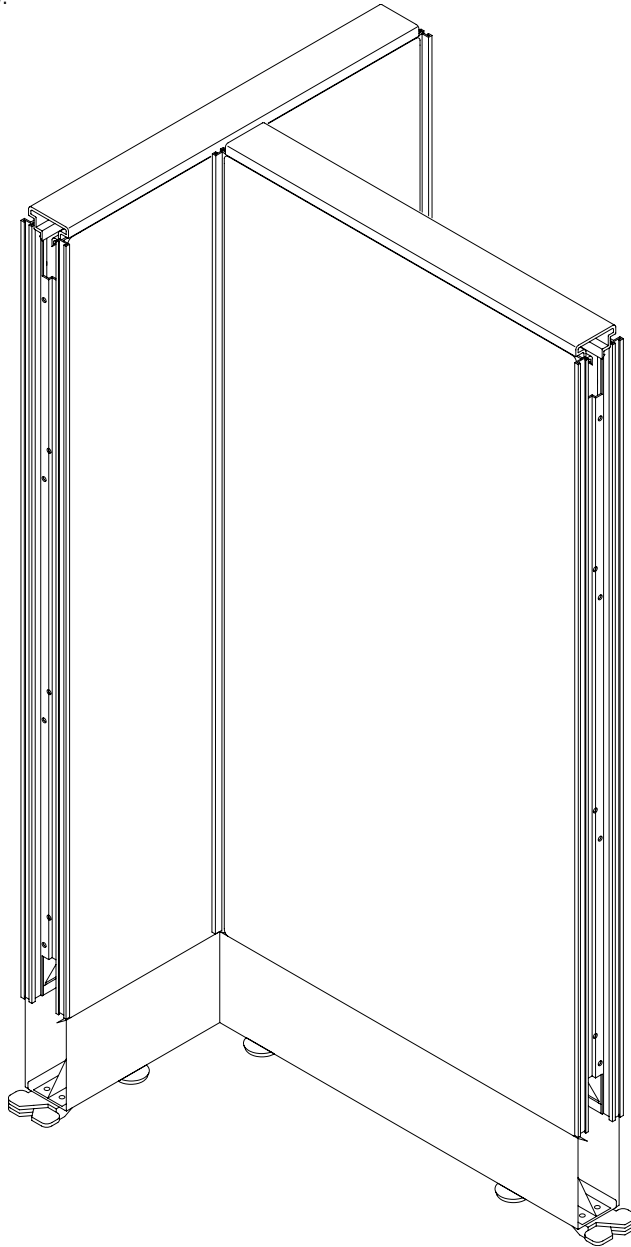
PANEL CENTER MOUNT

Panel Center Mount

A panel center mount will allow a panel of any height to be mounted to another panel the same height, at a 90° angle along the face of the first panel.

NOTE: While the panel center mount is a useful part, it should be used carefully due to the following restrictions:

- a) The center mounted panel cannot be mounted over the hinge of two panels.
- b) If the center mounted panel run is to be powered it must have its own power feed. It cannot be connected to the main panels electrically.

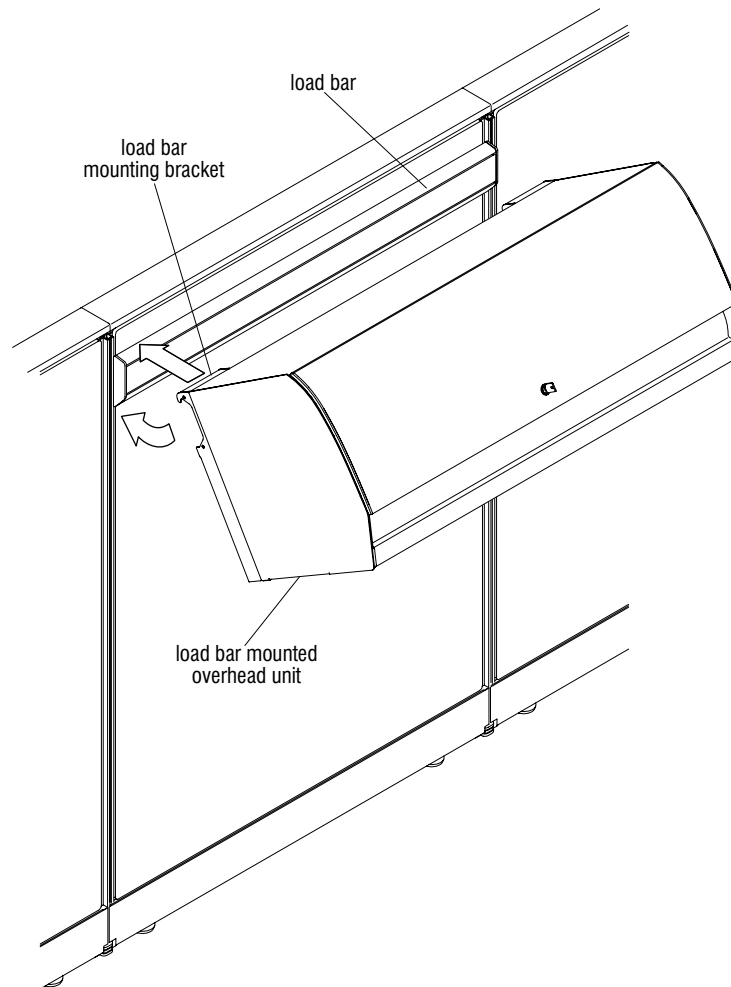


**LOAD BAR
MOUNTED
OVERHEAD UNITS**

Load Bar Mounted Overheads

Overhead mounting is restricted to a single panel mounting location. Overheads cannot span across the hinge joint of two panels.

Load bars are specified separately and must match the width of the panel being installed on.



WALL TRACK

Wall Track

Wall track allows you to mount hang-on components directly onto a wall without the use of panels. The wall track comes in 30", 66", and 84" lengths but can be cut to shorter lengths for hanging worksurfaces only.

Wall track should always run all the way to the floor.

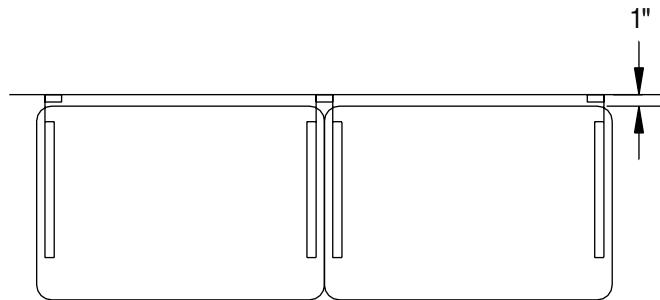
Wall track **MUST** be anchored into one of the following wall types:

- a. A concrete wall using a good quality concrete anchor installed to the manufacturer's recommendation.
- b. A dry wall surface that is over a minimum 3/8" thick plywood. Secure the wall track using a good quality hollow wall anchor (toggle bolt) installed according to the manufacturer's recommendations.
- c. A dry wall surface where all of the wall track is mounted directly into the wood or steel wall studs. Secure the wall track to the wood stud using at least a #10 x 2-1/2" wood screw, or a good quality hollow wall anchor (toggle bolt) installed in the steel stud to the manufacturer's recommendations.

Note: All holes in the wall track should be used regardless of the length.

If possible, it is recommended to also specify worksurface supporting pedestals or worksurface supporting panels to provide added support to wall track mounted worksurface.

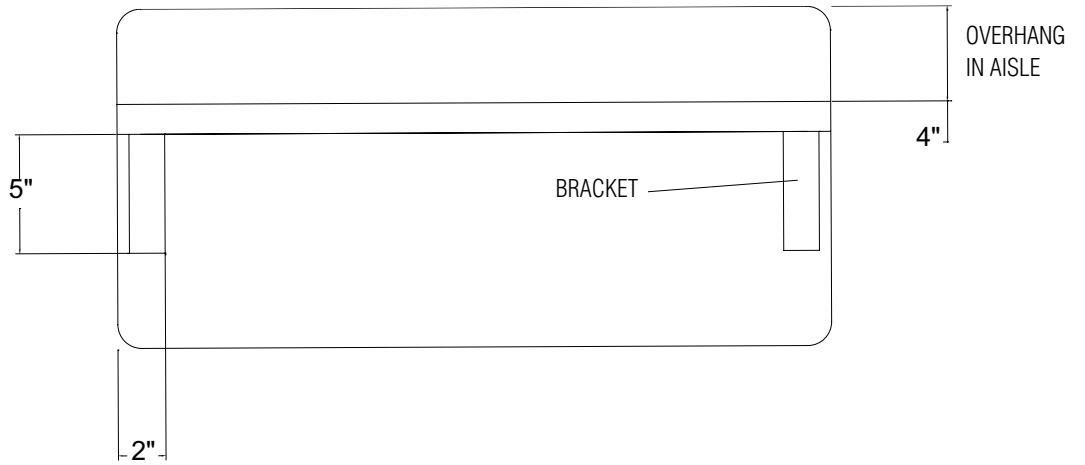
Wall track is double slotted: one piece of wall track can actually support two adjacent hang-on components (see below).



Worksurfaces that are hung on wall track will have a space about 1" wide between the back of the worksurface and the wall.

**COUNTERTOPS
(TRANSACTION
WORKSURFACES)**

Countertops can be mounted on any height panel, but are normally spaceplanned on a 42" panel or a 32" panel for handicap access. A 32" high panel does not allow for a worksurface to be mounted below the countertop in the workstation.

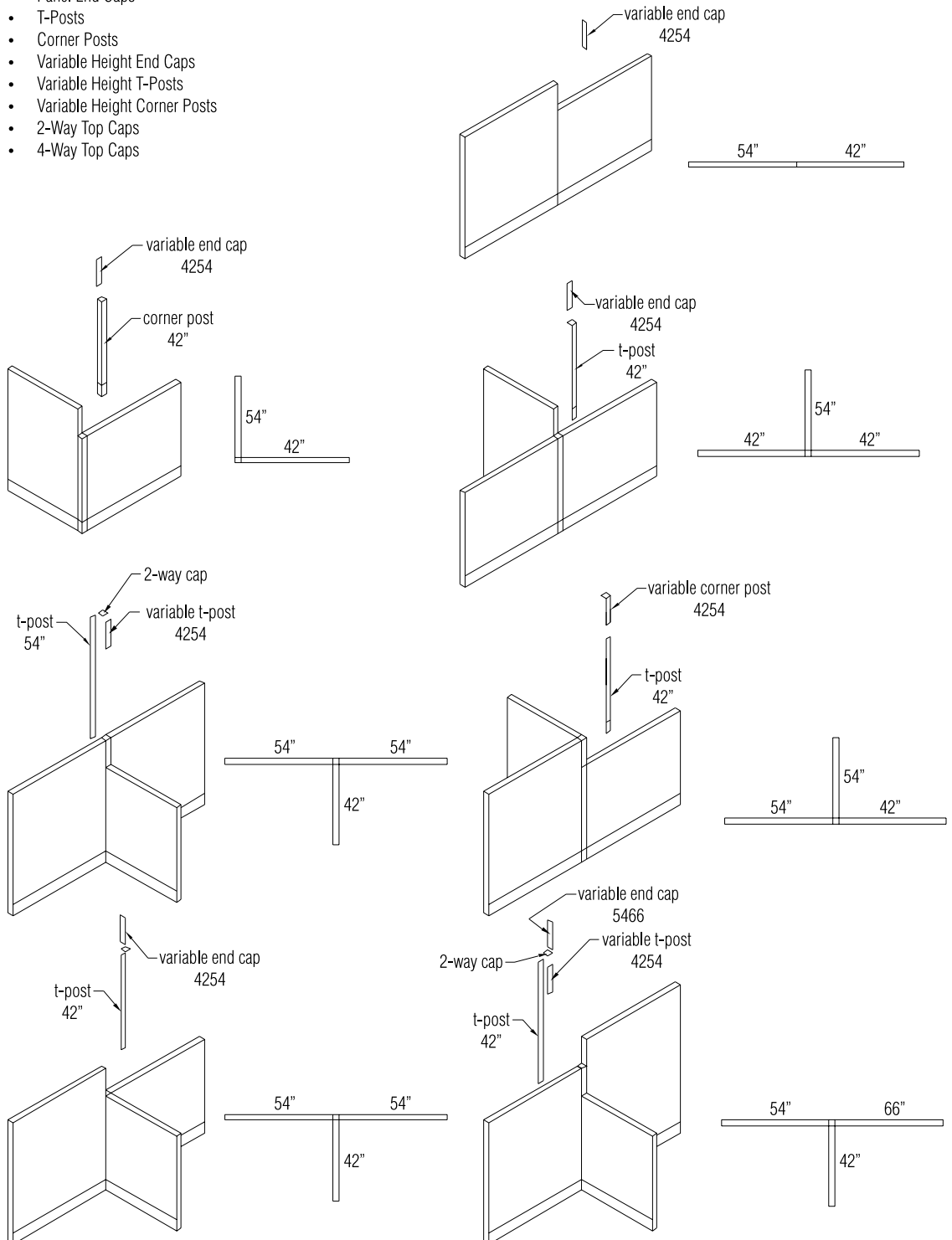


**VARIABLE HEIGHT
 POSTS**

The following drawings are examples of different variable height combinations and the components needed to complete them.

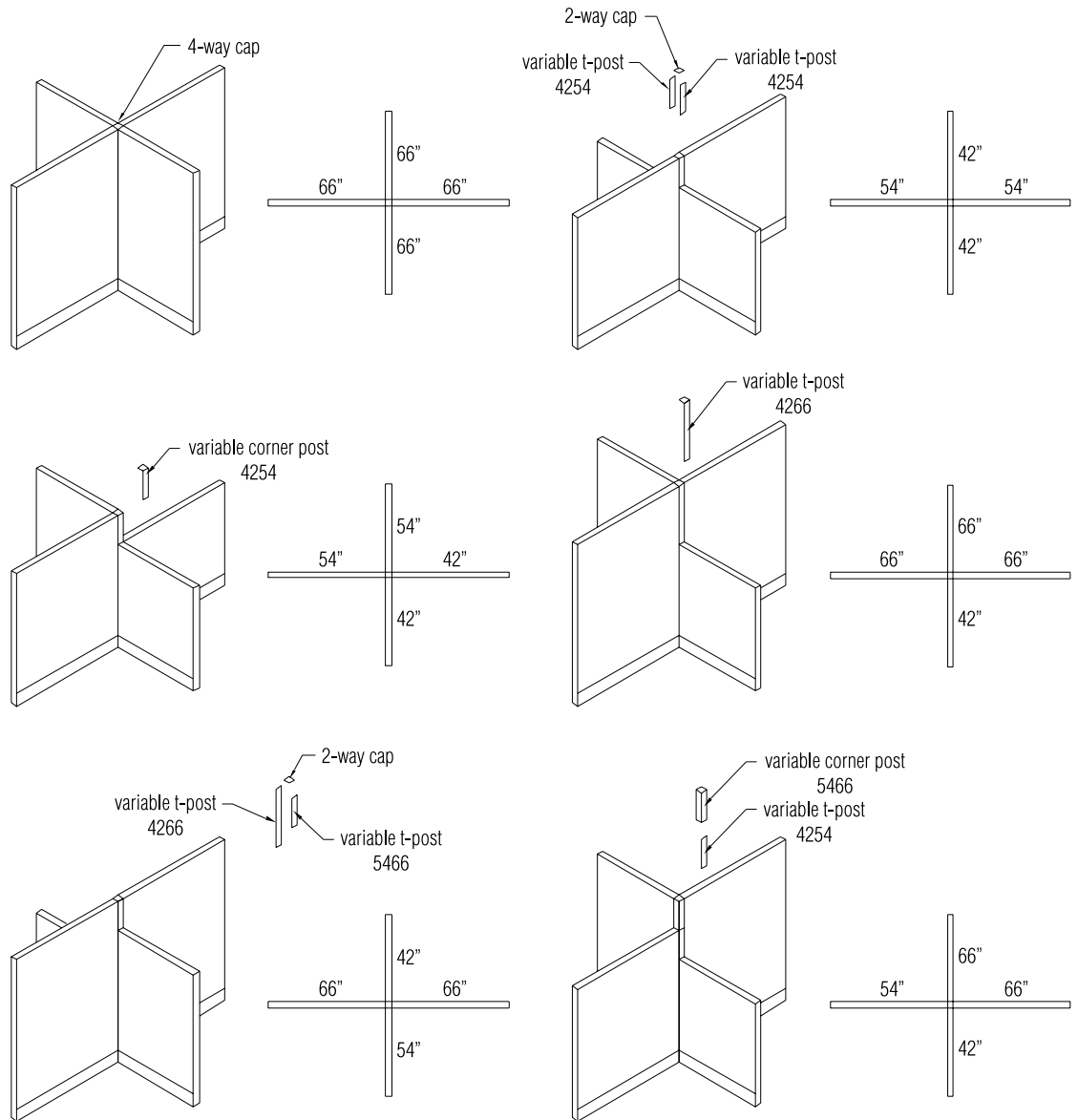
Parts Being Used:

- Panel End Caps
- T-Posts
- Corner Posts
- Variable Height End Caps
- Variable Height T-Posts
- Variable Height Corner Posts
- 2-Way Top Caps
- 4-Way Top Caps



Parts Being Used:

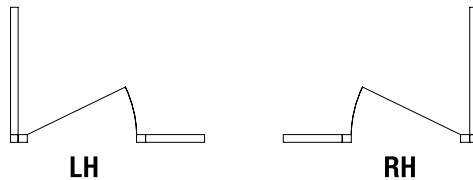
- Panel End Caps
- T-Posts
- Corner Posts
- Variable Height End Caps
- Variable Height T-Posts
- Variable Height Corner Posts
- 2-Way Top Caps
- 4-Way Top Caps



PANEL DOORS

Panel Doors are available in 36" and 42" widths. The actual door openings are 30" and 36" respectively. Unless a customer specifies the smaller door, the larger size (42") should be used to allow for handicap accessibility.

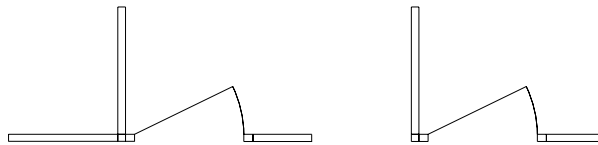
Panel Doors come in right hand (R), and left hand (L) versions (see below).



An easy way to remember the difference is: which hand would you have on the door knob as you walk into the room and open the door away from you.

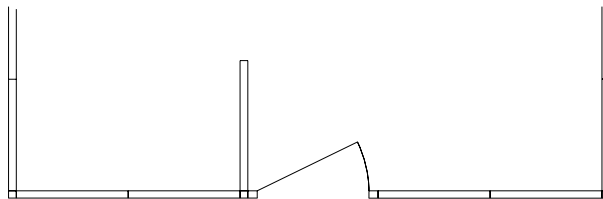
A 36" door occupies the same amount of room as a standard 36" panel. The same is true of 42" doors.

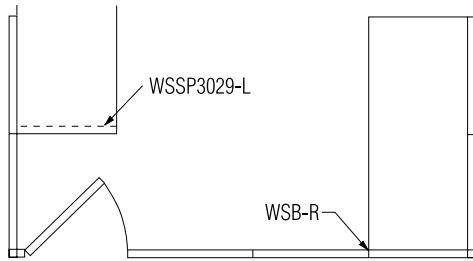
Always try to place the hinge side of the panel door so it is part of a "T" or "Corner" configuration (see below).



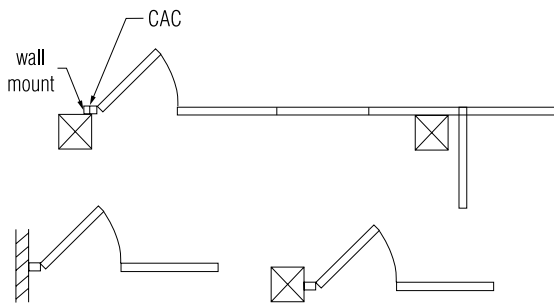
The panel that the door opens against, must be an 80" tall panel, and either be at least as wide as the panel door width, or be part of a panel run that is larger than the panel door width. The panel that adjoins the door on the latch side should be 80" tall to allow the use of the stiffener kit that comes with the door.

If a panel door is requested in the middle of a straight panel run, an 80" tall panel equal to or greater than the width of the panel door, should be placed on the hinge side so the door opens against it (see below).

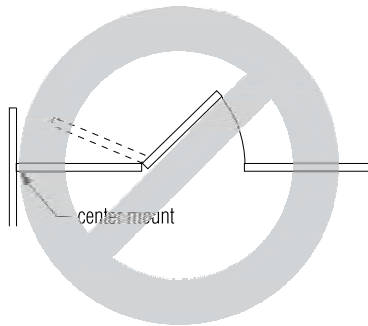




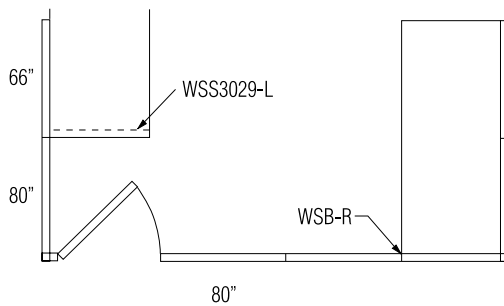
- Use worksurface support brackets or worksurface support panels whenever a worksurface adjoins or hangs on a run of panels containing a door.



- Door Panels can be used with Wall Mounts at right angles to a wall or square columns. They may also be parallel to a column or end of a wall.



- A Panel Door cannot be used with a Center Panel Mount unless an Acoustical Panel is used between the door and the panel being mounted to.



- Never reduce panel heights at a 90° intersection of a door panel (example: a corner office with windows). Always round a corner with an 80" panel equal or greater in width than the door. At that point a lower panel could be used.

**810 UNIVERSAL
ELECTRICAL**

Power Pass Through

When power needs to be passed through a non-powered panel, a power pass through the same as the panel width must be used. Power pass throughs are available in 12", 18", 24", 30", 36", 42", 48", 54" and 60" lengths.

8 Wire Building

Topfeeds and base feeds can be ordered to restrict circuitry to produce an 8-wire system (4-2-2). Panel circuitry must utilize the Universal 810 622 components for 8-Wire capability through restricting #5 and #6 circuits.

Panel Jumpers

Specify 18" panel jumper for panel-to-panel in-line and 90° connections. Specify 20" panel jumper when spanning a CTC intersection.

ELECTRICAL CONNECTION INFORMATION

810 UNIVERSAL 442 SYSTEM

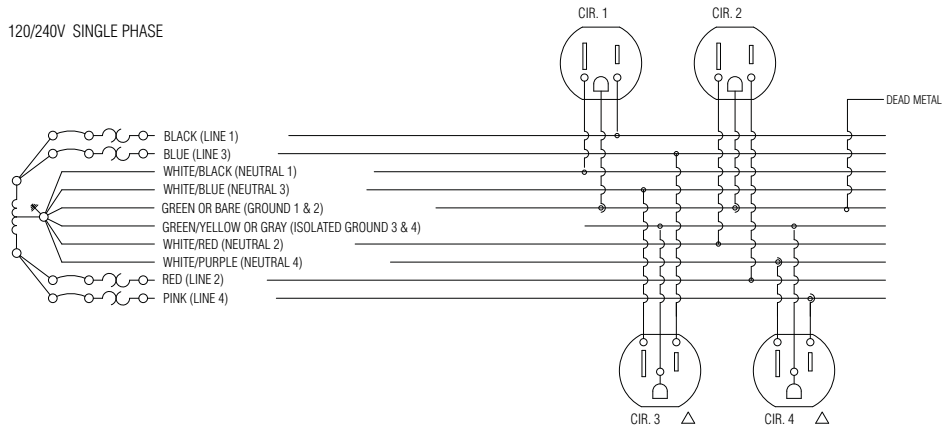
Power Infeed to Building Connection

Have a certified electrician hard-wire the panel power infeed to the building power source according to the National Electrical Code and any other applicable local codes. See the chart for proper wiring connection to available power.

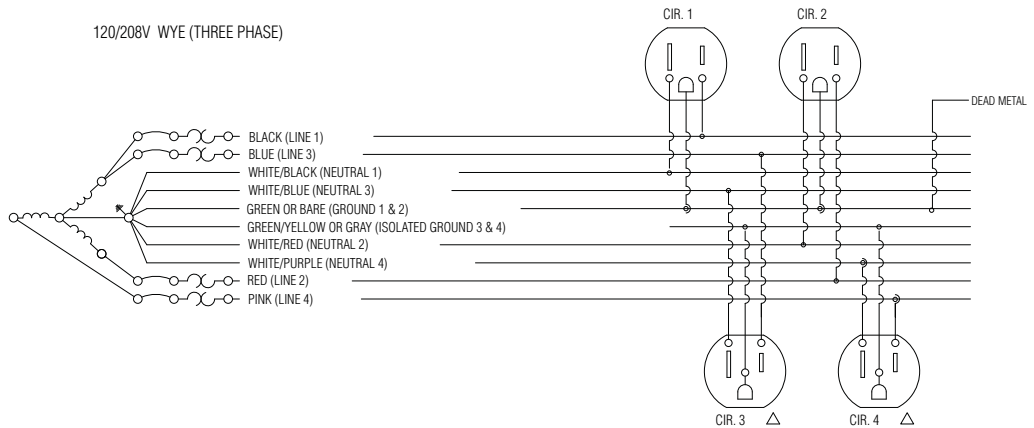
4-4-2		
Receptacles available	Wires to be used	Gauge of wire
Circuit 1	Black	12
	White/Black Letters	12
	Green or Bare	12
Circuit 2	Red	12
	White/Black Letters	12
	Green or Bare	12
Circuit 3	Blue	12
	White/Black Letters	12
	Green/Yellow Stripe or Gray	12
		12
Circuit 4	Pink	12
	White/Purple Letters	12
	Green/Yellow Stripe or Gray	12
		12

4-4-2 Connection Diagrams

120/240V SINGLE PHASE



120/208V WYE (THREE PHASE)

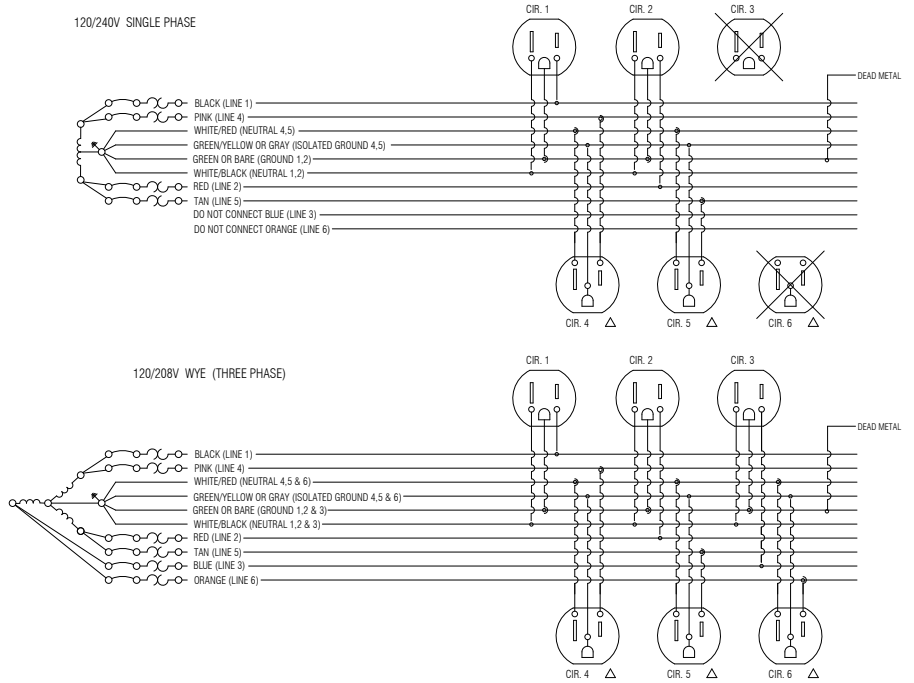


**ELECTRICAL
CONNECTION
INFORMATION**

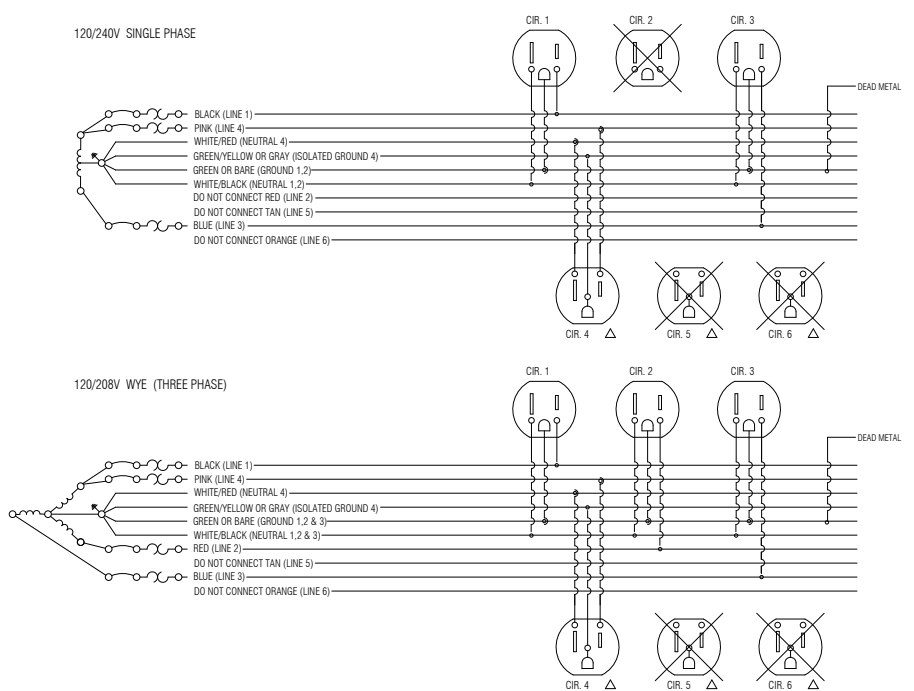
**810 UNIVERSAL
622 SYSTEM**

6-2-2		
Receptacles available	Wires to be used	Gauge of wire
Circuit 1	Black	12
	White/Black Letters	10
	Green or Bare	12
Circuit 2	Red	12
	White/Black Letters	10
	Green or Bare	12
Circuit 3	Blue	12
	White/Black Letters	10
	Green or Bare	12
Circuit 4I	Pink	12
	White/Red Letters	10
	Green/Yellow Stripe or Gray	12
Circuit 5I	Tan	12
	White/Red Letters	10
	Green/Yellow Stripe or Gray	12
Circuit 6I	Orange	12
	White/Red Letters	10
	Green/Yellow Stripe or Gray	12

6-2-2 Connection Diagrams



6-2-2 Connection Diagrams To An 8-Wire Building



ACCESSORIES

All System 3000 components meet or exceed the BIFMA (Business and Institutional Furniture Manufacturers Association) standards for hang-on components.

BIFMA has two load tests for hang-on components :

1. **Functional Load** - At this load, the test furniture must still be useable with no deformation or breakage.
2. **Proof Load** - At this load, the test furniture must still be safely usable, but deformation is allowed.

The following are the BIFMA test loads for two categories of hang-on components, worksurfaces and overhead storage units.

Worksurfaces

Functional Load: 4.5 lbs/linear inch for 60 minutes
Proof Load: 7.0 lbs/linear inch for 15 minutes
300 lbs minimum

Worksurface Length	Functional Load	Proof Load
24"	108 lbs	300 lbs
30"	135 lbs	300 lbs
36"	162 lbs	300 lbs
42"	189 lbs	300 lbs
48"	216 lbs	336 lbs
54"	243 lbs	378 lbs
60"	270 lbs	420 lbs
66"	297 lbs	462 lbs
72"	324 lbs	504 lbs
84"	378 lbs	588 lbs
90"	405 lbs	630 lbs
96"	432 lbs	672 lbs

Paper Management System

The chart below shows the various length mounting rails and the number of each type of paper management storage units that the mounting rails will hold side by side. Use the sizes below the chart to determine the mounting rail capacity when mixing different types of storage units on a mounting rail.

Mounting Rail Width	Letter Tray Unit 13- ¹ / ₈ " Width	Legal Tray Unit 16- ¹ / ₈ " Width	Vertical Storage 5" Width	Diagonal Storage 9" Width
18"	1	1	3	1
24"	1	1	4	2
30"	2	1	5	3
36"	2	2	7	3
42"	3	2	8	4
48"	3	2	9	5
54"	4	3	10	5

Individual Unit Sizes

Letter Trays 13-¹/₈" wide (maximum –3 stacked units high)
Legal Trays 16-¹/₈" wide (maximum –3 stacked units high)
Vertical Storage 5" wide
Diagonal Storage 9" wide (plus 2" overhang for dividers)

When letter/legal trays are stacked together and hung off either a mounting rail, or overhead hanging rails, the maximum number of units that should be stacked is 3. If the units are stacked freestanding on a worksurface, the maximum number of units is 6. The maximum number of stacked storage units that will fit inside an overhead is 4.

Panel Wrapping Lateral Files

When panel wrapping one lateral file, the panel behind the file can be the same size as the width of the file (30", 36", or 42"). The return panels on each side of the lateral file will stay in place when carpet grippers are used.

When panel wrapping more than one lateral file that have been placed side by side, use panels behind the files that are at least 6" wider than the file.

EXAMPLE: Two 30" lateral files = 60" wide

Use a panel combination that equals at least 66" behind the files.

The reason for the 6" difference is that no matter how tight the files are ganged together, the small air space between the files adds up, and the return panels on each side will not stay in position.

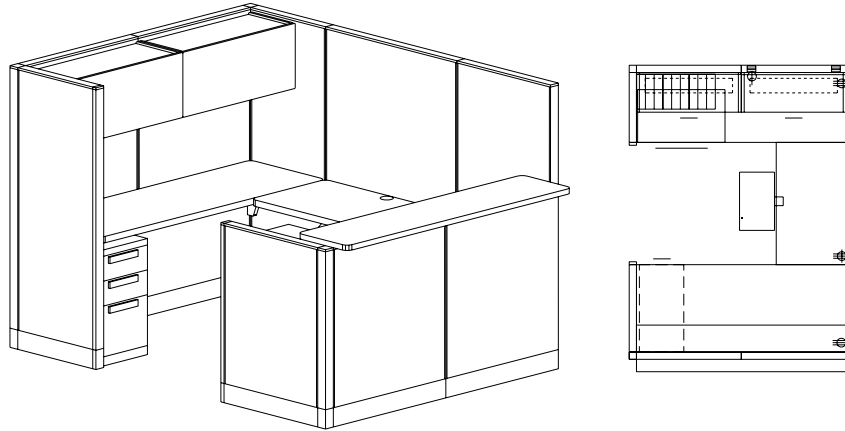
BUDGET TYPICALS

Receptionist Station

Workspace: 48 sq. ft.
 Approx. Budget List Price: \$15,200

Workstation Features

- Fabric acoustical panels, 66" high with electrical capabilities.
- ADA laminate countertop on 42" high panels.
- Laminate surfaces with flat vinyl T-edge.
- Fabric overhead units with task lights.
- Fully adjustable keyboard arm with non-skid pad.
- Two drawer lateral and box/box/file pedestal.
- Paper management accessories.

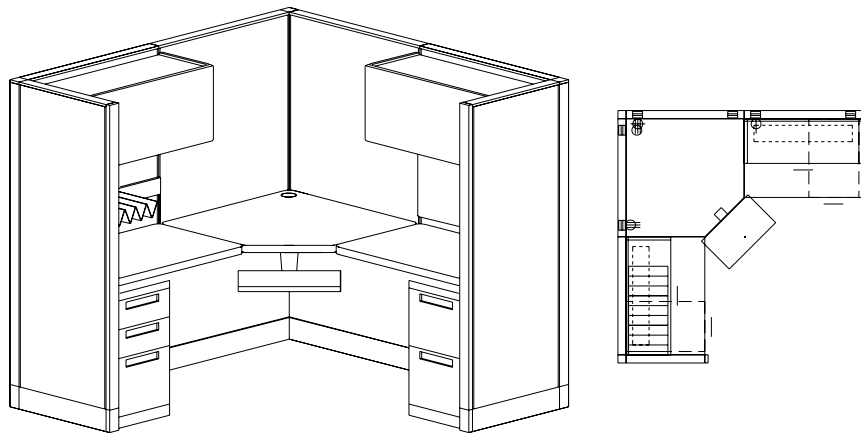


Assistant Station

Workspace: 36 sq. ft.
 Approx. Budget List Price: \$12,100

Workstation Features

- Fabric acoustical panels, 66" high with electrical capabilities.
- Laminate surfaces with flat vinyl T-edge.
- Fabric overhead units with task lights.
- File/file and box/box/file pedestals.
- Fully adjustable keyboard arm with non-skid pad.
- Paper management accessories and tackboard.

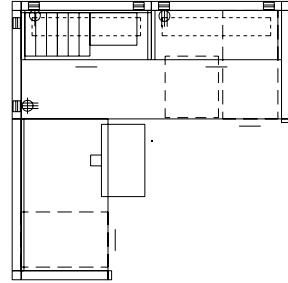
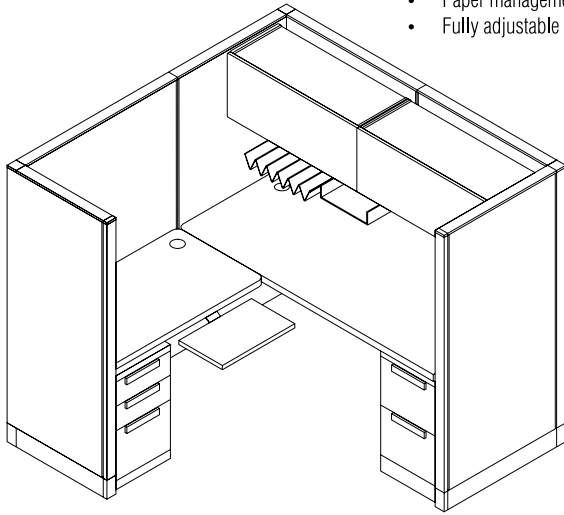


Clerk Station

Workspace: 36 sq. ft.
Approx. Budget List Price: \$12,300

Workstation Features

- Fabric acoustical panels, 66" high with electrical capabilities.
- Laminate surfaces with flat vinyl T-edge.
- Fabric overhead units with task lights.
- File/file and box/box/file pedestals.
- Paper management accessories and tackboard.
- Fully adjustable keyboard arm with non-skid pad.

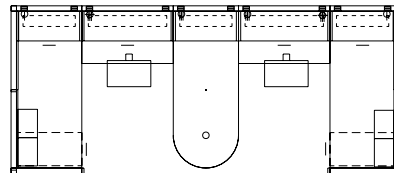
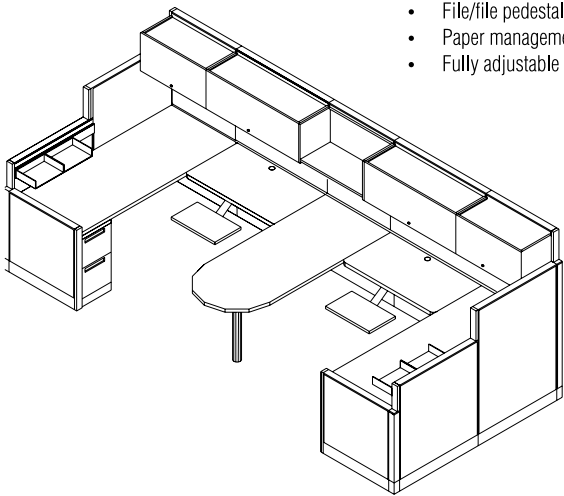


Shared Station

Workspace: 87 sq. ft.
Approx. Budget List Price: \$19,700

Workstation Features

- Fabric acoustical panels, 32" high, 42" high, 54" high and 66" high with electrical capabilities.
- Laminate surfaces with flat vinyl T-edge including peninsula top.
- Fabric overhead units and open shelf with task lights.
- File/file pedestals.
- Paper management accessories and tackboard.
- Fully adjustable keyboard arm with non-skid pad.

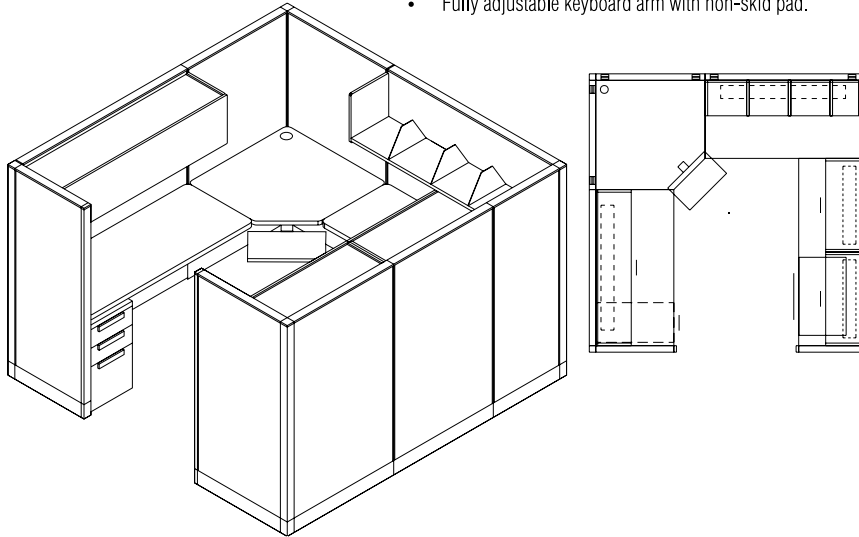


Engineer's Station

Workspace: 64 sq. ft.
Approx. Budget List Price: \$18,800

Workstation Features

- Fabric acoustical panels, 66" high with electrical capabilities.
- Laminate surfaces with flat vinyl T-edge.
- Fabric overhead units and open shelf with task lights.
- File/file and box/box/file pedestals.
- Tackboard and shelf dividers.
- Fully adjustable keyboard arm with non-skid pad.



Manager's Station

Workspace: 92 sq. ft.
Approx. Budget List Price: \$21,400

Workstation Features

- Fabric acoustical panels, 66" high with electrical capabilities
- Clear or bronze glazed panels, 66" high.
- Laminate surfaces with flat vinyl T-edge including peninsula top.
- Fabric overhead units with task lights.
- File/file and box/box/file pedestals.
- Paper management accessories and tackboard.
- Fully adjustable keyboard arm with non-skid pad.

