

SYSTEM XXI[®]

STACK
&
TILE

planning guide



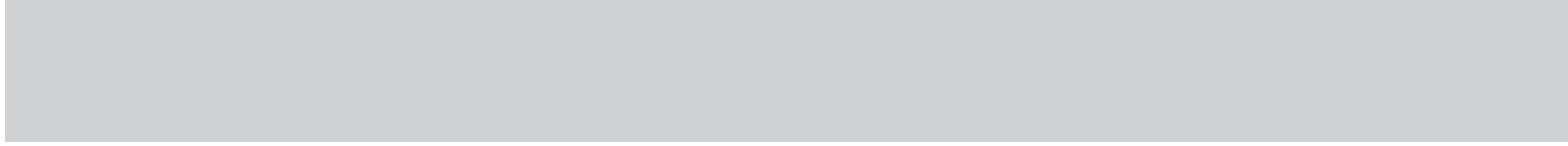


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System XXI® Stack & Tile

Introduction

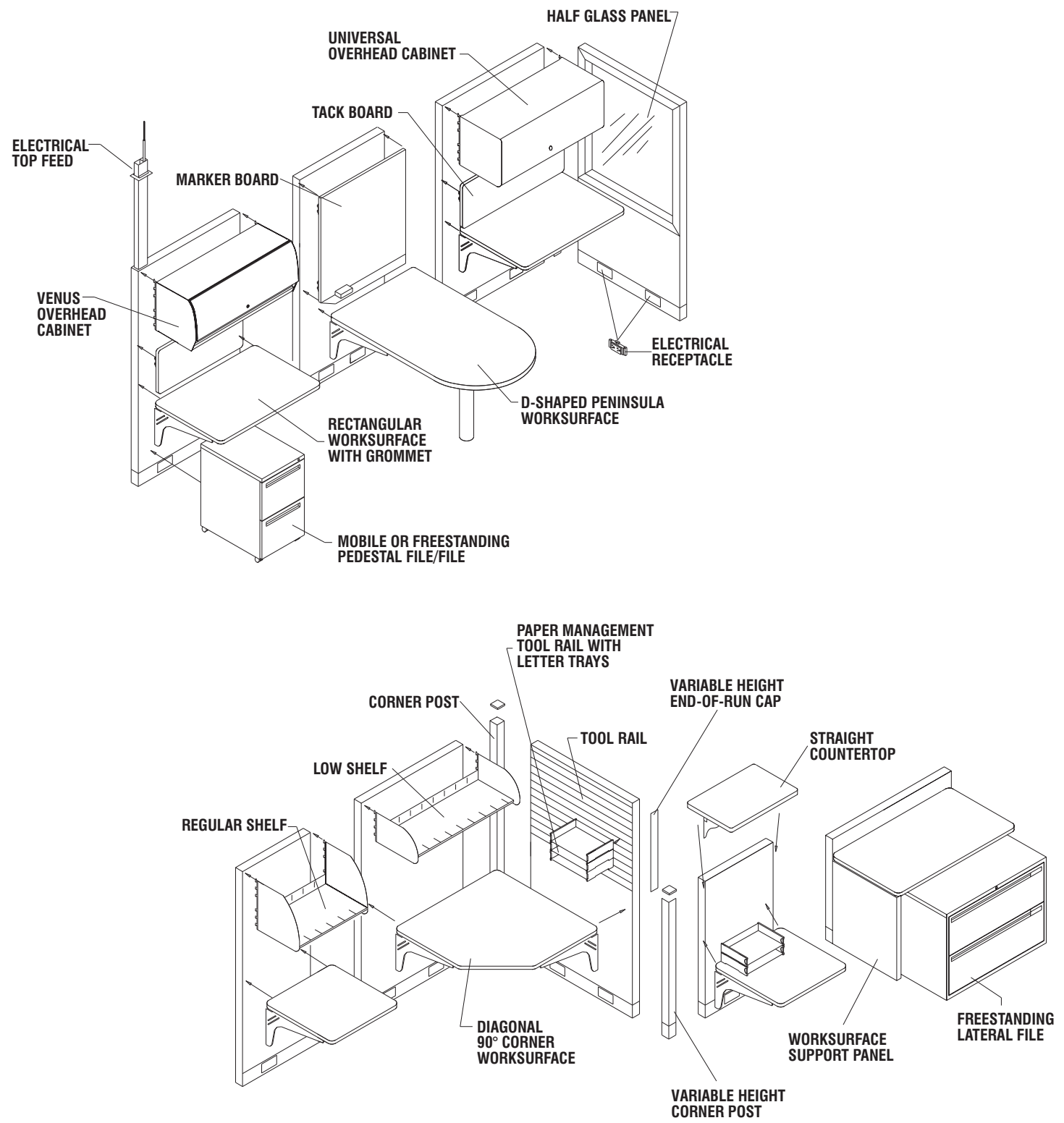
The Stack & Tile Panel System is completely modular in nature, designed for today's office environments. The modularity of the Stack & Tile panels stems from separate frame, tile and trim systems. A screwdriver and wrench are required to assemble overheads and install worksurfaces. A pre-wire power system can be run through the panels at base line or worksurface height. Data cables can be managed throughout the panel also and accommodates all standard types of cables. Stack & Tile also supports other modular data systems.

The panel core shall consist of a galvanized steel frame made from roll-formed steel "U" channels around the perimeter of the panel with two steel reinforcement gussets on each corner. The "U" channels shall be positioned so the open side is towards the frame perimeter permitting easy cable access. The frame and gussets shall be resistance welded to form a rigid structural unit. Each frame includes a steel top stiffener tube screwed to the underside of the top horizontal frame member. Panel tiles consist of 1/4" fiberglass board with tile stiffeners attached to the back side. Segmented tiles use an H-Spacer attached to the bottom of the tile to span the gap between tiles.

Panels come in three different styles to offer the end user complete control over the office environment through monolithic, segmented or stackable tiles. Segmented styles are based on the same construction so they can be easily mixed above base tiles throughout the panel. Base tiles are constructed similar to the segmented tiles, but they are restricted to the base of the panels only and stackable panels are attached to the top of the panels only. Monolithic panels provide power inside of the base raceway where segmented panels allow power inside the base raceway and at worksurface height by specifying a beltline raceway tile.

Tile options consist of upholstered tiles, painted steel tiles, perforated tiles, upholstered and painted beltline raceway tiles, and glass tiles.

Introduction



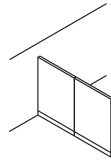
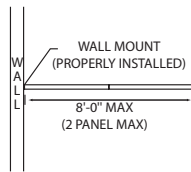
System XXI[®] Stack & Tile

Planning Guidelines

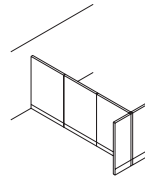
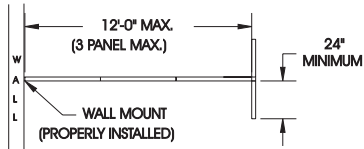
PANEL SUPPORT AND LOADING

The following figures show the maximum and minimum requirements for safe loading and supporting of panels. Review them carefully to insure panel stability:

Unloaded Panel Runs Starting With Wall Mounts

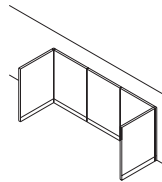
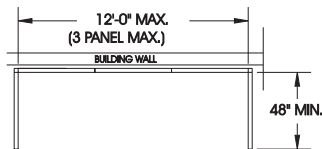


Panel height of 30"-66".

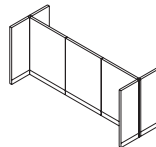
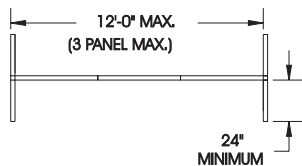


Return panels can be any height when they return in opposite directions as shown at left.

Unloaded Freestanding Runs With Returns At Both Ends



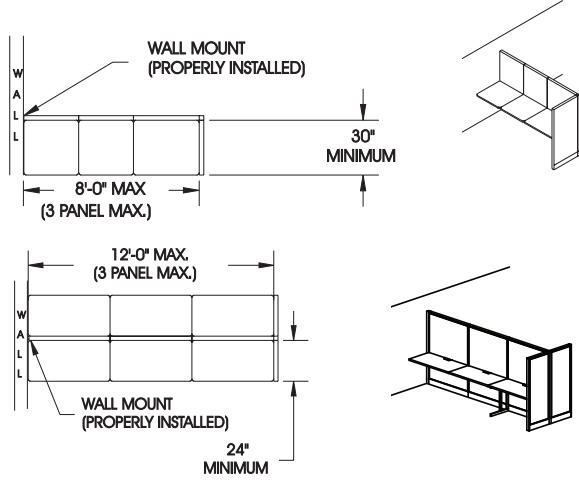
Return panel(s) must be equal to, or within 12" of the height of the main panel run, UNLESS the main panel run is tight against a building wall. If the main run is tight against the building wall, the return panels can be any height.



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

Planning Guidelines

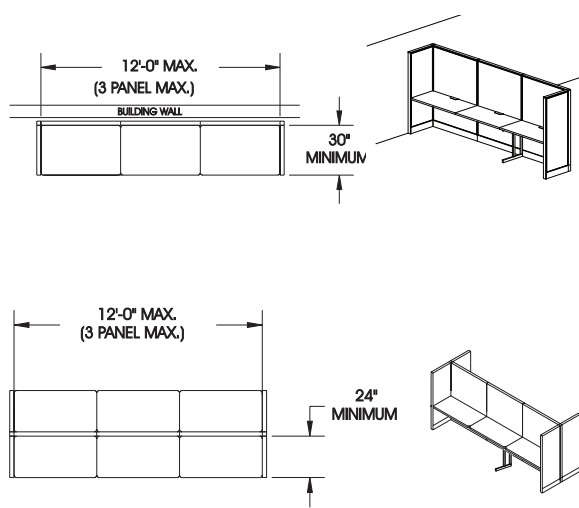
Worksurface Loaded Panels Starting With Wall Mounts



Return panel must be equal to, or within 12" of the height of the main panel run.

Return panels can be any height when they return in opposite directions as shown at left. Additional worksurface support is required for any surface runs beyond 8'.

Worksurface Loaded Freestanding Runs With Returns At Both Ends



Return panel(s) must be equal to, or within 12" 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. Additional worksurface support is required for any surface runs beyond 8'.

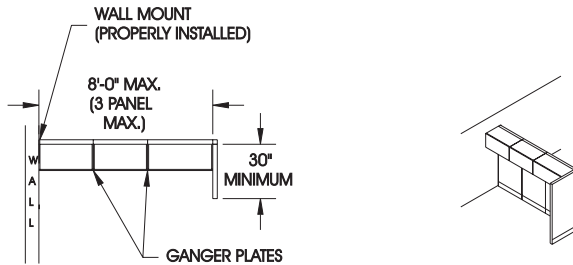
Return panels can be any height when they return in opposite directions as shown at left. When loading freestanding panels with worksurfaces, return panels must be used on both ends. Additional worksurface support is required for any surface runs beyond 8'.

System XXI® Stack & Tile

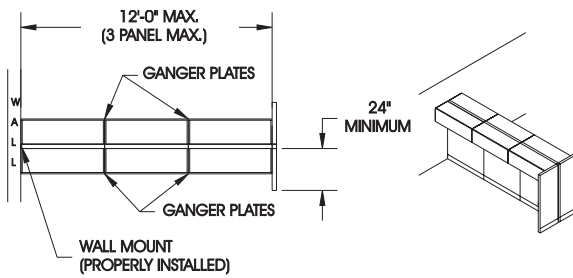
Planning Guidelines

PANEL SUPPORT AND LOADING

Storage Unit Loaded Panel Runs Starting With Wall Mounts – One or Two Units Per Panel

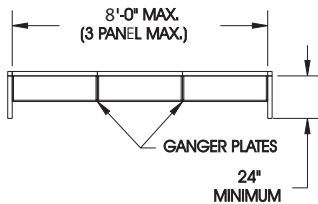


Return panel must be equal to, or within 12" of, the height of the main panel run, and must be on the same side as the storage units. All adjacent overhead units must have overhead ganger plates attached between them.

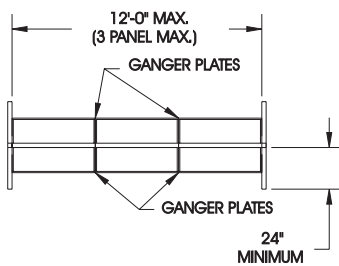


Return panels must be equal to, or within 12" of, the height of the main panel run when they return in opposite directions as shown at left. All adjacent overhead units must have overhead ganger plates attached between them.

Storage Unit Loaded Freestanding Runs With Returns At Both Ends – One or Two Units Per Panel



Return panels 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.



Return panels 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.

Planning Guidelines

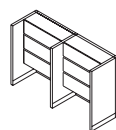
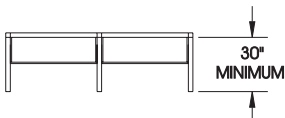
STORAGE UNITS

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
42"	4	3	2
54"	4	3	2
66"	6	4	3

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.



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

Panel Wrapping Lateral Files

When panel wrapping one lateral file, the panel behind the file can be the same width 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.

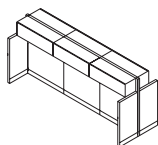
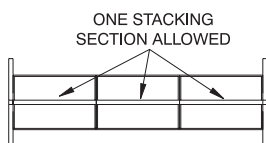
System XXI[®] Stack & Tile

Planning Guidelines

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.

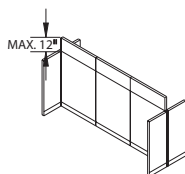
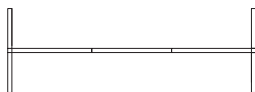
Balanced Load Bearing Applications



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.

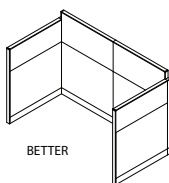
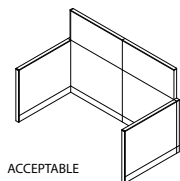
***NOTE: Overhead mounting not to exceed 66".**

Balanced Non-Load Bearing Applications



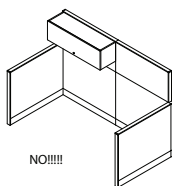
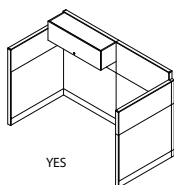
When panels will not be load bearing, you still must keep return panels within 12" in height from the main run for stability reasons. Panels can be stacked to a maximum height of 90". Only one stackable section is allowed per panel.

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 6" 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 6" 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.

Planning Guidelines

810 UNIVERSAL ELECTRICAL

Beltline to Beltline Power

When running power from one worksurface height to another worksurface height an 81" jumper will be required.

Raceway to Beltline Power

When running power from the base raceway to worksurface height, a 51" jumper will be required. Power *must* be run from adjacent panel raceway to feed beltline power.

Power Pass Through

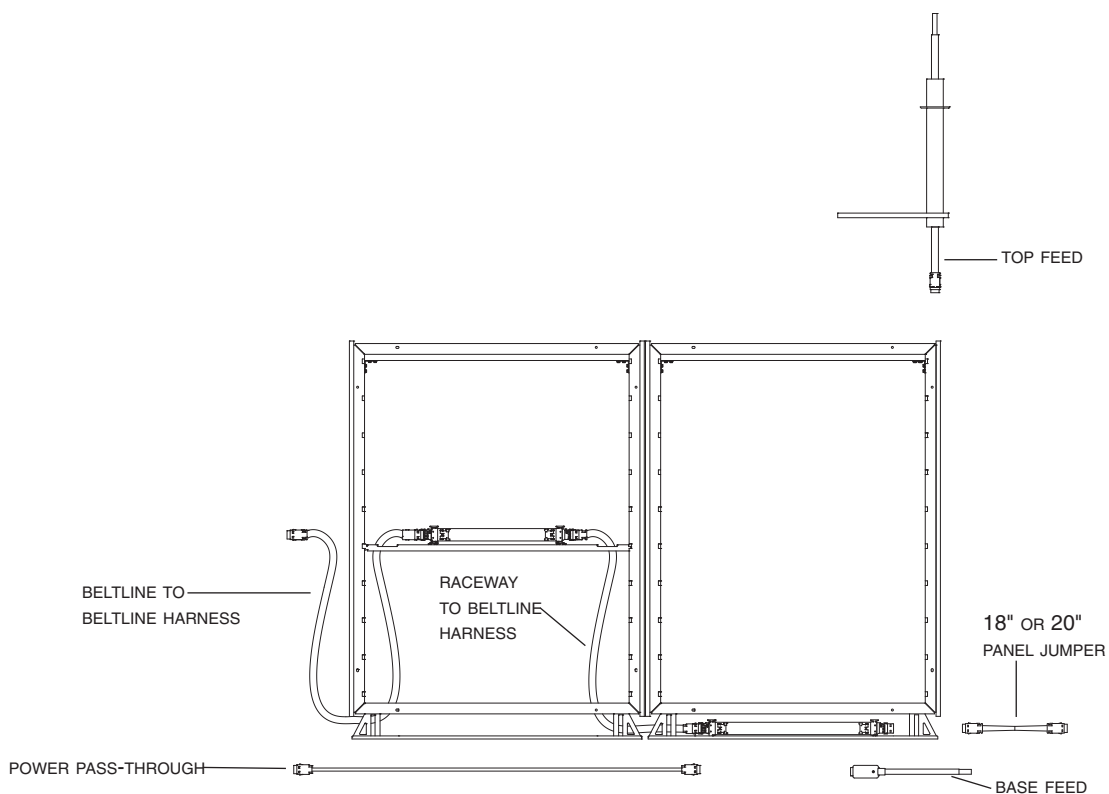
When power needs to be passed through a non-powered panel, a power pass through the same as the panel width must be used. Power pass throughs are available in 24", 30", 36", 42" and 48" lengths.

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.



System XXI® Stack & Tile

Planning Guidelines

BELTLINE POWER REQUIREMENTS

Models with beltline power, refer to the price list or product offering catalog and guidelines.

Need to specify 442 or 622 beltline power.

Powered panel refers to the power requirement at the baseline. Non-powered panel contains a rigid wireway at worksurface height.

Specify beltline power rigid wireway 6" shorter than panel width.

Beltline power requires the power to be fed from the adjacent panel, either from the base raceway (51" jumper) or adjacent beltline (81" jumper).

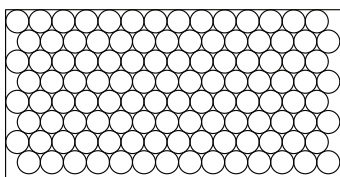
Availability

State: 442 electrical system or 622 electrical system

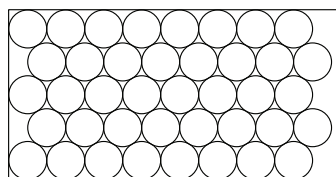
UNICOR: 442 electrical system or 422 (8-Wire) electrical system utilizing a 622 electrical system in the panels with an 8-wire power infeed.

RACEWAY DATA BEZEL CAPACITIES

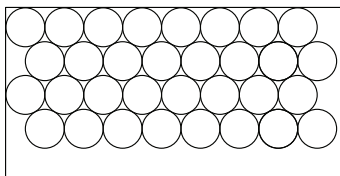
CAT 5 .185 DIAMETER
CABLE CAPACITY: 112



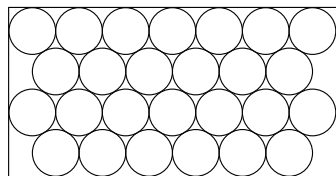
CAT 6 .305 DIAMETER
CABLE CAPACITY: 40



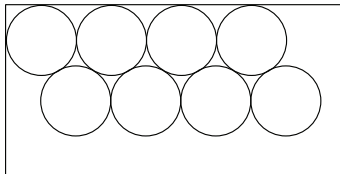
5/16 COAX CABLE
CABLE CAPACITY: 32



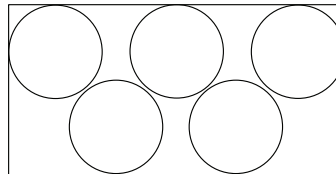
3/8" 25 PAIR
CABLE CAPACITY: 26



9/16" 50 PAIR
CABLE CAPACITY: 8



3/4" 100 PAIR
CABLE CAPACITY: 5



Planning Guidelines

ELECTRICAL CONNECTION INFORMATION

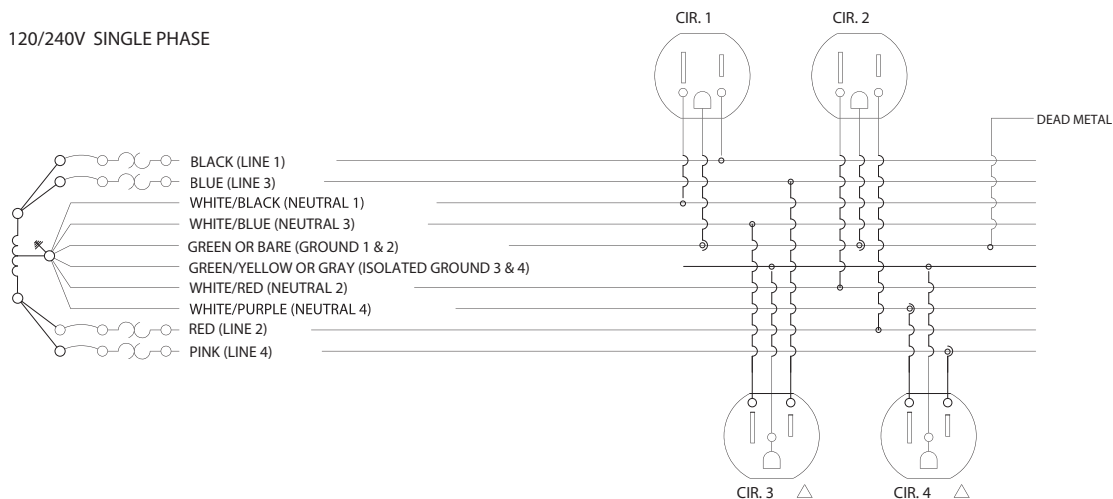
810 10-WIRE 442 SYSTEM

4-4-2 CONNECTION DIAGRAMS

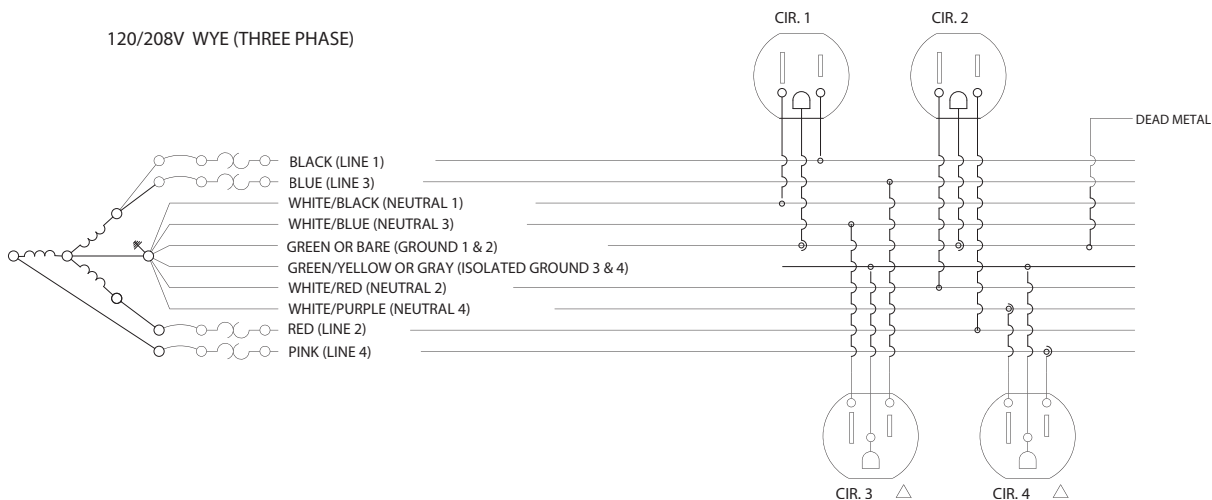
4-4-2

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/Red Letters	12
	Green or Bare	12
Circuit 3	Blue	12
	White/Blue Letters	12
	Green/Yellow Stripe or Gray	12
		12
Circuit 4	Pink	12
	White/Purple Letters	12
	Green/Yellow Stripe or Gray	12
		12

120/240V SINGLE PHASE



120/208V WYE (THREE PHASE)



System XXI® Stack & Tile

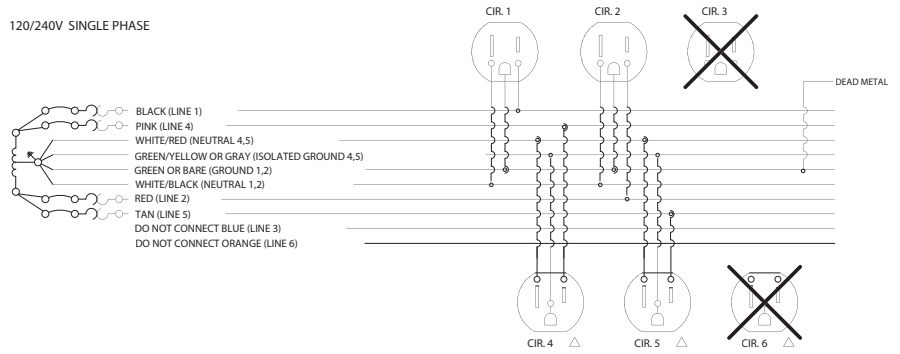
Planning Guidelines

ELECTRICAL CONNECTION INFORMATION

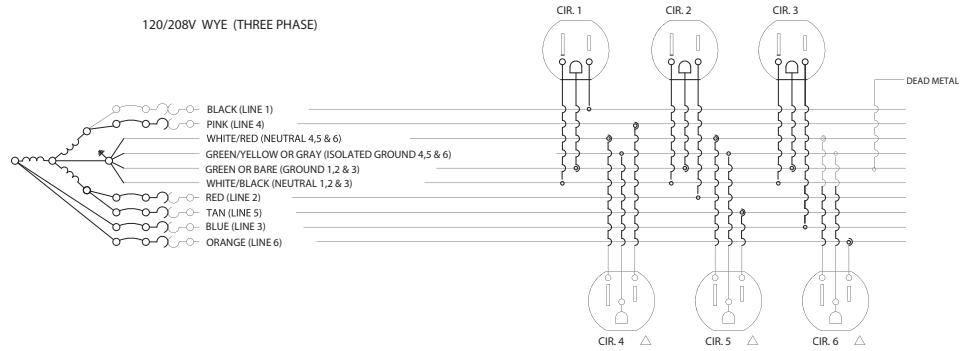
810 10-WIRE 622 SYSTEM

6-2-2 CONNECTION DIAGRAMS

120/240V SINGLE PHASE



120/208V WYE (THREE PHASE)

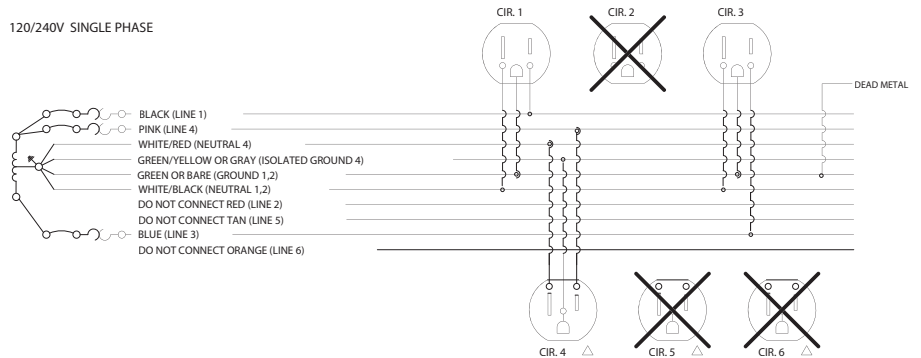


6-2-2

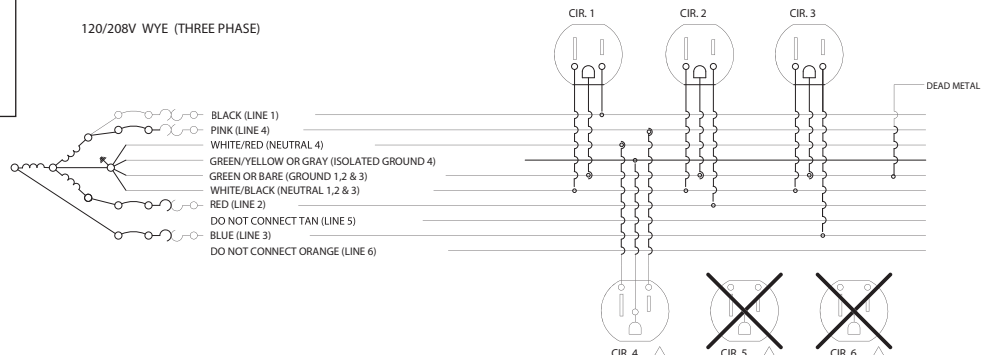
Receptacles available	Wires to be used	Gauge of wire
Circuit 1	Black White/Black Letters Green or Bare	12 10 12
Circuit 2	Red White/Black Letters Green or Bare	12 10 12
Circuit 3	Blue White/Black Letters Green or Bare	12 10 12
Circuit 4I	Pink White/Red Letters Green/Yellow Stripe or Gray	12 10 12
Circuit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

6-2-2 CONNECTION DIAGRAMS TO AN 8-WIRE BUILDING

120/240V SINGLE PHASE



120/208V WYE (THREE PHASE)



Planning Guidelines

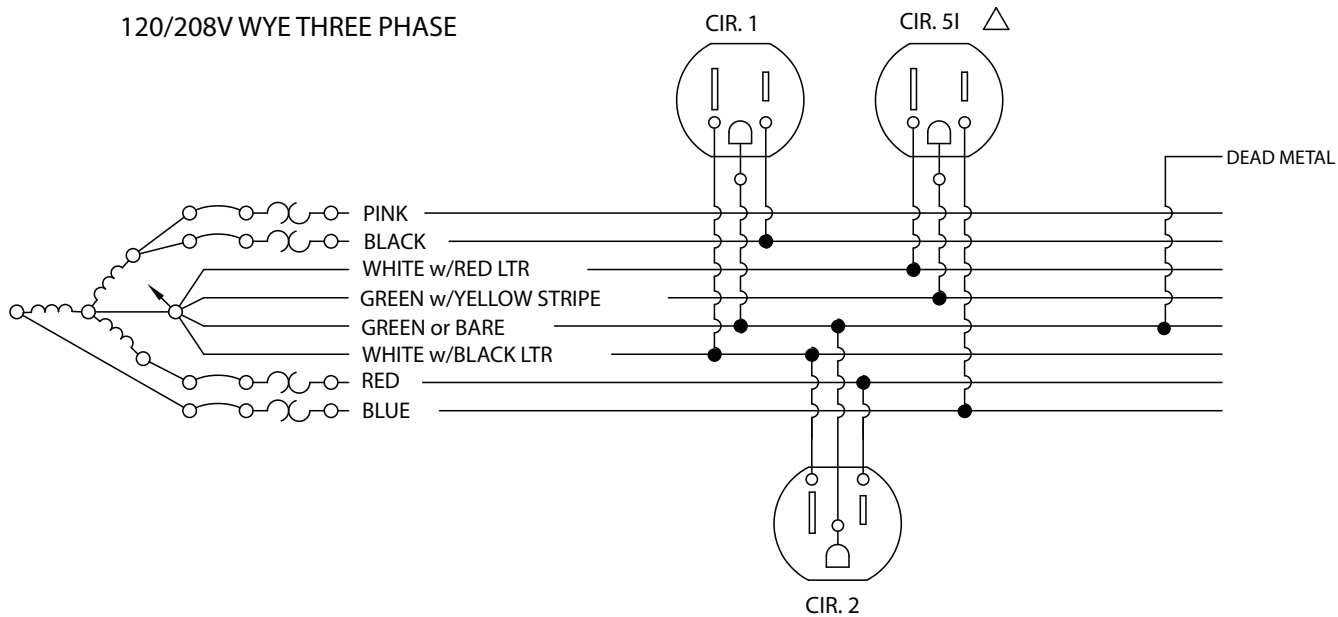
ELECTRICAL CONNECTION INFORMATION

8-WIRE SYSTEM

8-Wire System

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 5I Isolated Ground Circuit	Blue	12
	White/Red Letters	10
	Green/Yellow Stripe	12

8-WIRE SSA CONNECTION DIAGRAMS



System XXI® Stack & Tile

Planning Guidelines

BUILD YOUR OWN TILES

Frame Only

Choose frame in widths of 24", 30", 36", 42" and 48" and heights of 30", 42", 54" and 66". Refer to tiles below for tile sizes.

Base Tiles

Can be powder paint coated steel or fabric covered and always located directly above the base raceway. The tiles are available in widths of 24", 30", 36", 42" and 48" and heights of 30", 42", 54" and 66".

Segmented Tiles

Fabric Tiles - Available in widths of 24", 30", 36", 42" and 48" and heights of 12", 18", 24" and 36". Tile will have an H-channel attached to the bottom of the tile.

Perforated Base Tiles - Available in widths of 24", 30", 36", 42" and 48" and height of 30" and located directly above the base raceway.

Tool Tiles - Available in widths of 24", 30", 36", 42" and 48" inches and heights of 12" or 24" and located anywhere above the base tile. Tile will have an H-channel attached to the bottom of the tile.

Steel Base Tiles - Available in widths of 24", 30", 36", 42" and 48" and heights of 30", 42", 54" and 66". Tiles are always to be located directly above the base raceway.

(Worksurface Height) Raceway Tiles - Available in widths of 30", 36", 42" and 48" and a height of 12". The TPMSRT model string specifies a rigid wireway 6 inches narrower than the panel width at worksurface height. Raceway tiles are only available at worksurface height and will have an H-channel attached to the bottom of the tile.

Stackable Tiles

Glass - Painted aluminum frame with ¼" clear tempered glass and may be installed without removing the existing panel from the panel run. Available in widths of 24", 30", 36", 42" and 48" and heights of 12", 18" or 24". PVC spacer extrusion, steel alignment brackets, and hinge(s) provide the mounting method to attach to the top of the existing panel.

Fabric - Panels are comprised of a welded roll formed steel frame with removable tiles on both sides and may be installed without removing the existing panel from the panel run. Available in widths of 24", 30", 36", 42" and 48" and heights of 12", 18" or 24". PVC spacer extrusion, steel alignment brackets, and hinge(s) provide the mounting method to attach to the top of the existing panel.

Planning Guidelines

WEIGHT CAPACITIES

Notes About Hang-On Components

System XXI Stack & Tile hang-on components (excluding markerboards, tackboards and tool rails) include a specially designed hanger bracket to prevent accidental dislodgement from the panel or wall track.

All System XXI Stack & Tile 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 lb 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
72"	324 lbs	504 lbs
84"	378 lbs	588 lbs
90"	405 lbs	630 lbs

Overhead Storage Units:

Functional Load:	3.0 lbs/linear inch for 60 minutes
Proof Load:	5.0 lbs/linear inch for 15 minutes

Overall Length	Functional Load	Proof Load
24"	72 lbs	120 lbs
30"	90 lbs	150 lbs
36"	108 lbs	180 lbs
42"	126 lbs	210 lbs
48"	144 lbs	240 lbs

Note: The lifting force required to open a universal overhead door (based upon a 48" unit) is 6.0 lbs. The lifting force required to open a Venus Overhead Door is less than 5.0lbs., making it ADA compliant.

System XXI® Stack & Tile

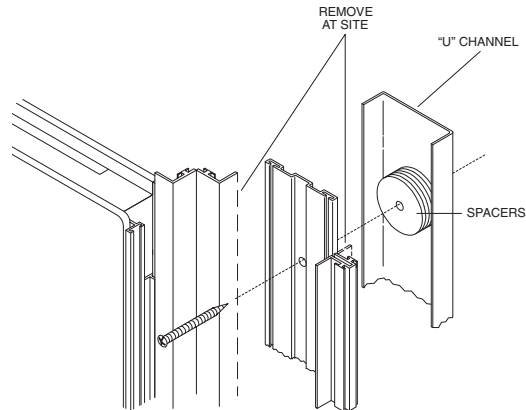
Planning Guidelines

WALL MOUNTING

Adjustable Wall Mount Kits

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

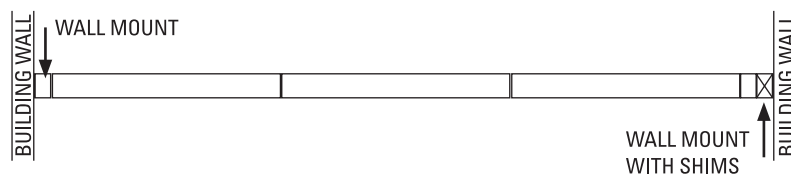
An adjustable wall mount adds .312" - .875" to the length of a panel run (see below).



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.



Planning Guidelines

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:

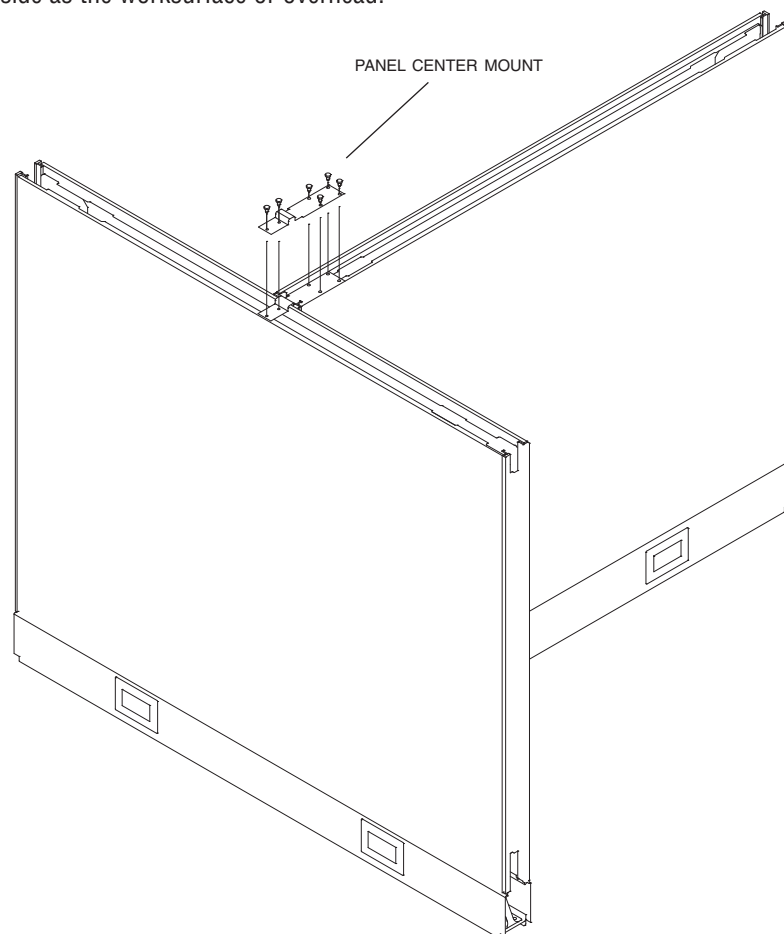
a) The center mounted panel cannot be mounted over the hinge of two panels.

NOTE: Minimum mounting distance from centerline of the panel hinge to centerline of center panel mount is 8 ¼ inches inward.

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.

c) Due to the amount of room that a panel center mount mechanism takes up on the end of a panel which is being center mounted to another panel, this intersection end of the center mounting panel cannot be used as a top feed location. If power is required in the center mounted panel, the top feed must be located at the opposite end of the panel of the center mount bracket.

d) If the center mounted panel is to have worksurfaces or overhead storage mounted on one side, then a C-Leg support must be added to the base of the panel below the center mount bracket and on the same side as the worksurface or overhead.



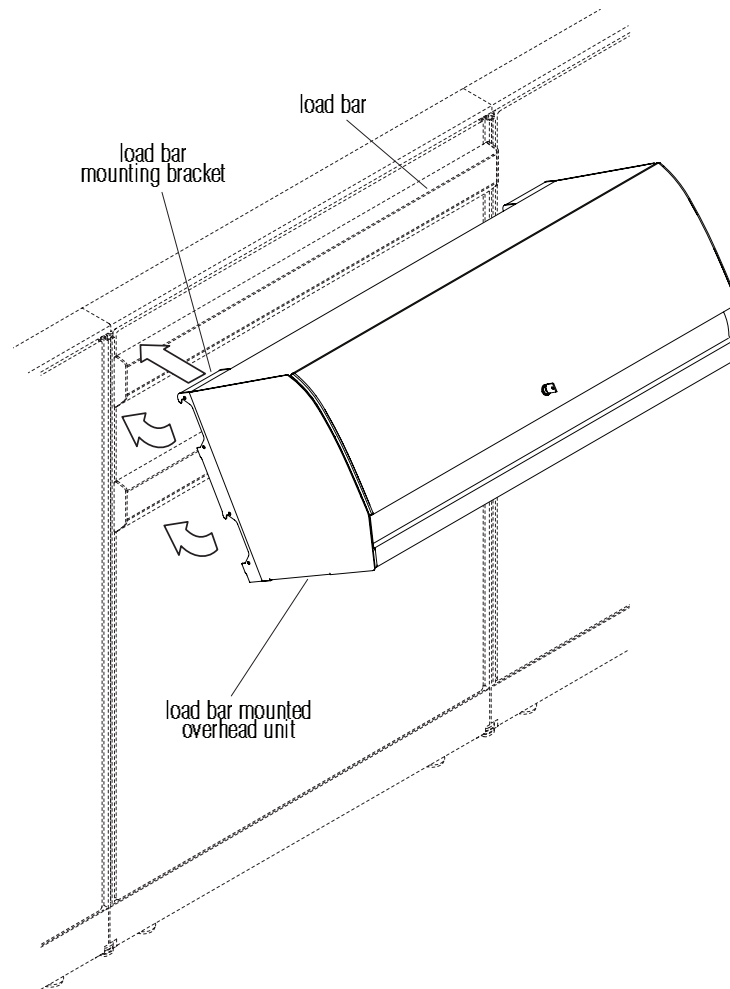
Planning Guidelines

OFF-MODULE/LOAD BAR MOUNTED OVERHEAD UNITS

Load Bar Mounted Overheads

Off-module mounting of an overhead will require the use of two load bars. Overhead mounting off-module 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.



Planning Guidelines

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.

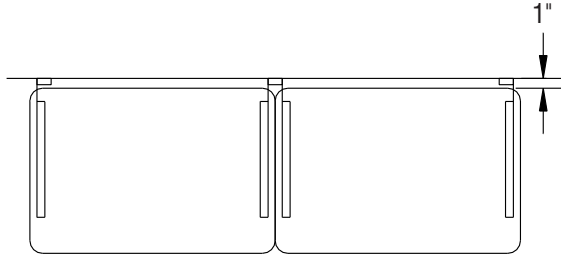
Wall track **MUST** be anchored into one of the following wall types:

- A concrete wall using a good quality concrete anchor installed to the manufacturer's recommendation.
- A dry wall surface that is over a minimum $\frac{3}{8}$ " thick plywood. Secure the wall track using a good quality hollow wall anchor (toggle bolt) installed according to the manufacturer's recommendations.
- 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 $\frac{1}{2}$ " 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 (see Product Overview page 14): one piece of wall track can actually support two adjacent hang-on components (see below).



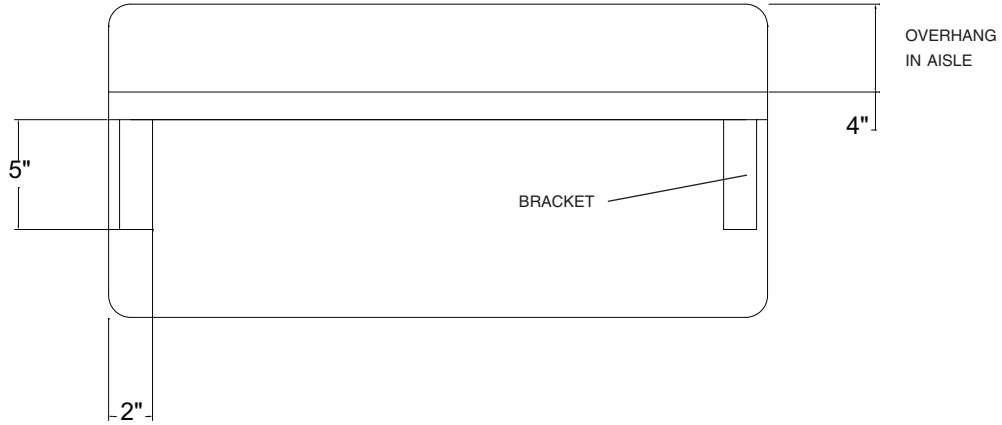
Worksurface that are hung on wall track will have a space about 1" wide between the back of the worksurface and the wall.

System XXI[®] Stack & Tile

Planning Guidelines

COUNTERTOPS (TRANSACTION WORKSURFACES)

Countertops can be mounted on any height panel, but are normally spaceplanned on a 42" panel or a 30" panel for handicap access. A 30" high panel does not allow for a worksurface to be mounted below the countertop in the workstation.



Planning Guidelines

