

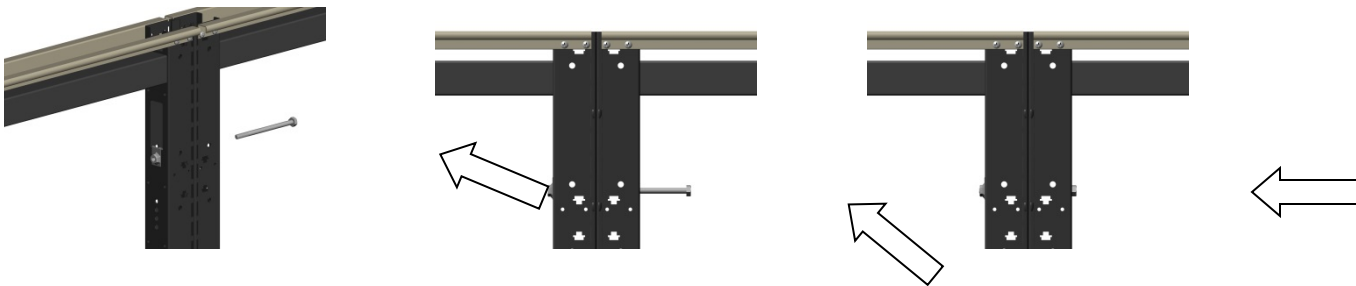
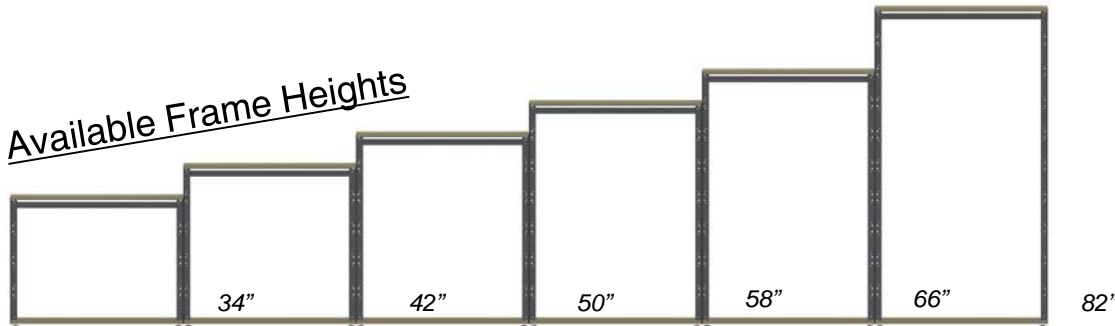
# MATRIX TRAINING GUIDE

# Frames

## Description

- Matrix Frames are steel tube, welded frames.
- Top caps are included.
- Top and bottom tile retainer bars are mounted at the factory.
- Finished frame thickness (footprint) is 3 ¼ inch.

*Available Frame Heights*

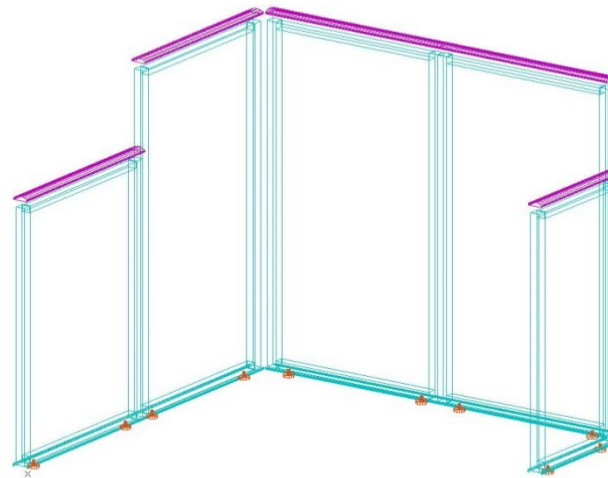
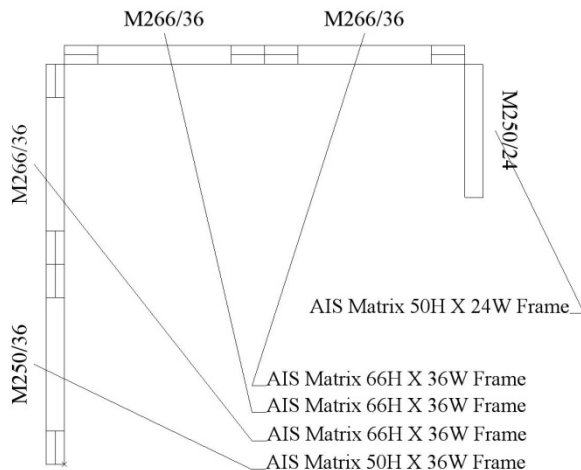


Matrix frames are connected by "hex head" bolts

# Frames

## Example

- Below is an example station that will be used for the training.
- In CAP and Giza, as long as the frames are snapped together in the corners, the automatic connector features will work
- 42"w x 82"h doors are also available



# Stack-On Frames

## Description

- Matrix Stack-On Frames are steel tube, welded frames.
- Top caps from the base frame are moved on top of stack on frames.
- Stack-On Frames can accommodate panel mounted storage.
- Finished frame thickness (footprint) is 3 ¼ inch.
- Note: 2 Stack on frame maximum for standard use.



*Matrix Stack on Frame*

1. Stack on frame location is selected



2. Base frame top cap is removed



3. Stack on is clear to insert



4. Stack on is installed in the base frame



5. Top cap is relocated to the top of the stack

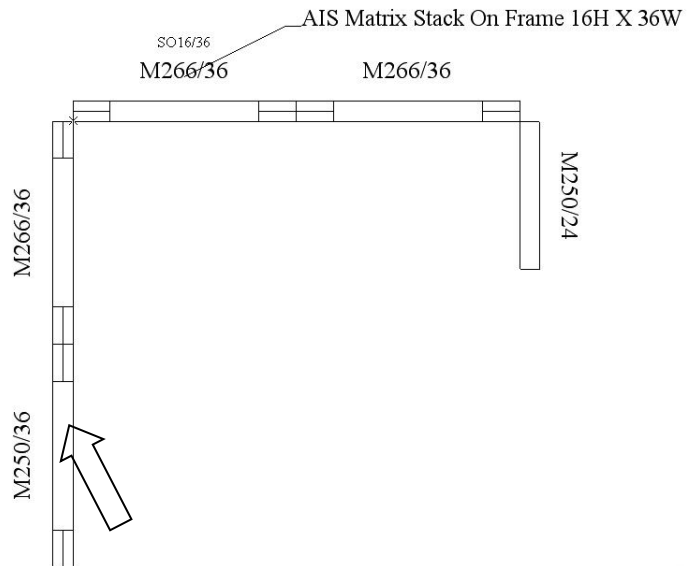


6. Complete

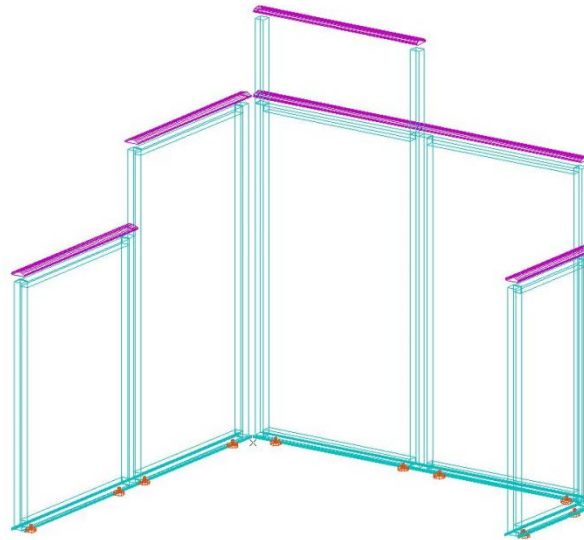


# Stack-On Frames

## Example



Stack on symbols  
go directly on top  
of base frame  
symbols



*Matrix Stack on  
Frame*

# Connectors

## Description

- Frame Connectors are available in the “traditional” configurations of 2-way, 3-way, 4-way and end cap connections. Trim pieces for Hi-Low situations are also available.
- 120 degree and 135 degree connectors are available.
- In CAP and Giza, the automatic connector feature will place these for you.
- 2-way, 3-way and 4-way connectors are also available for stack on situations.



2-Way



3-Way



4-Way



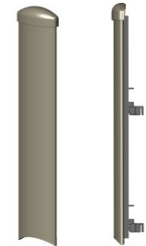
End  
Cap



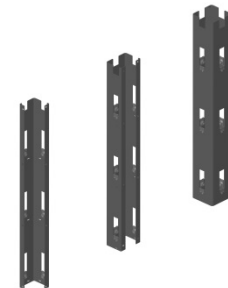
120 and 135  
Connectors



Hi-Lo Trim for  
straight situations



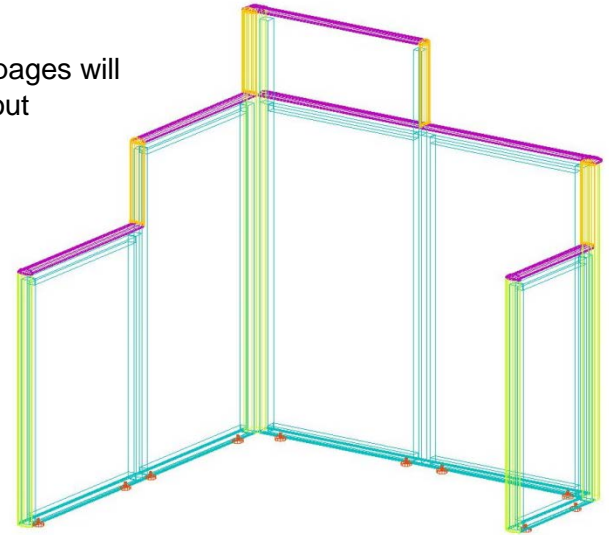
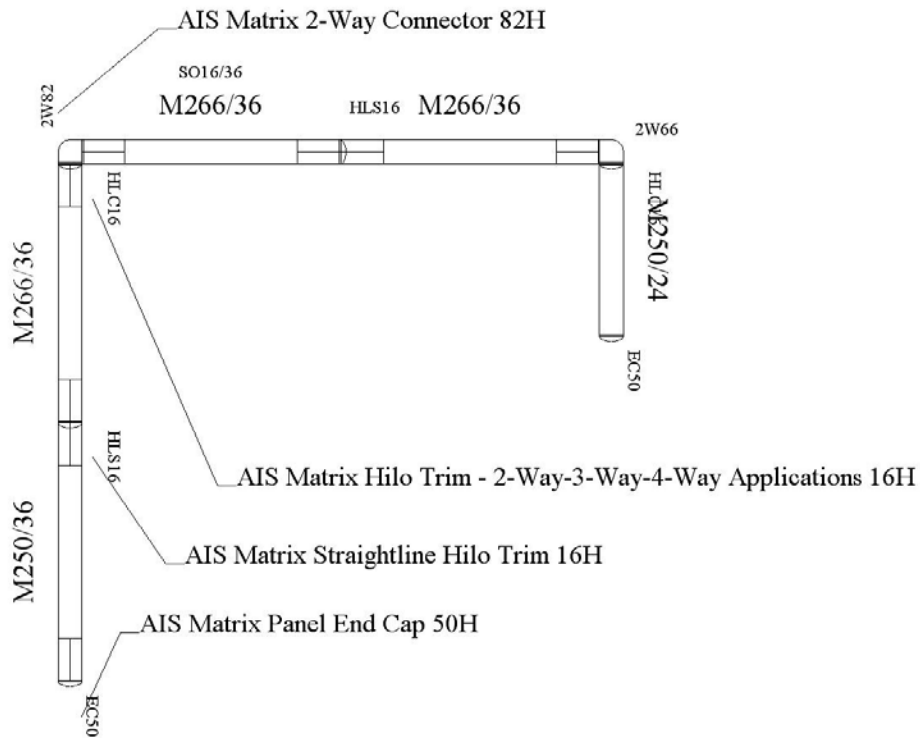
Hi-Lo Trim for angled  
situations



Stack On Connectors

## Example

- Here are some connectors in the example station. The following pages will show the other connector symbols “in-use” in a plan / 3d view layout

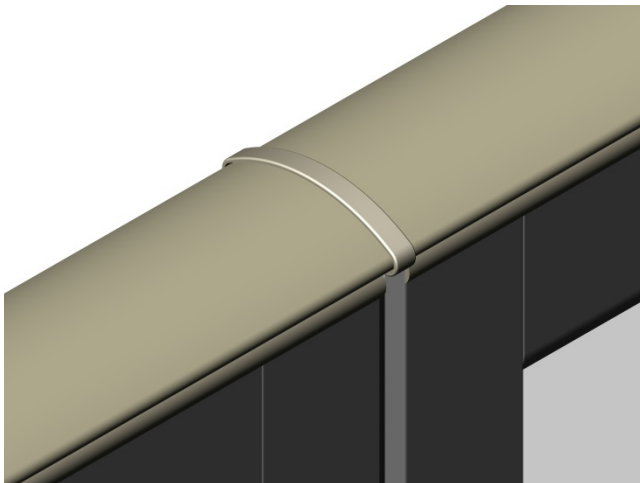


# Connectors

Example



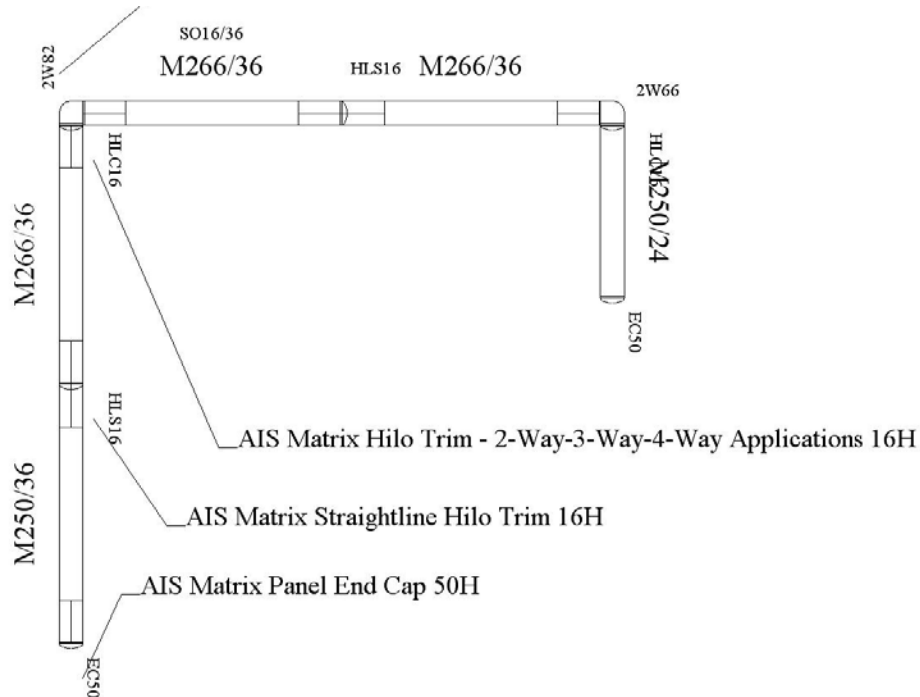
△ AIS Matrix 180-Straightline Connection Topcap Trim



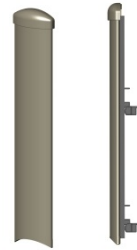
# Connectors

## Example

- Hilo trim pieces provide a finished look when frames change heights.
- Straight Hilo trim pieces finish off the difference between two frames in a straight line.
- Corner Hilo trim pieces finish off any change of height that is not in a straight line between two frames.
- Note: The connector that corresponds to the tallest frame involved in a change of height should be used, then the Hilo finishes off the difference.



Hi-Lo Trim for straight situations



Hi-Lo Trim for angled situations

# Electrical

## Description

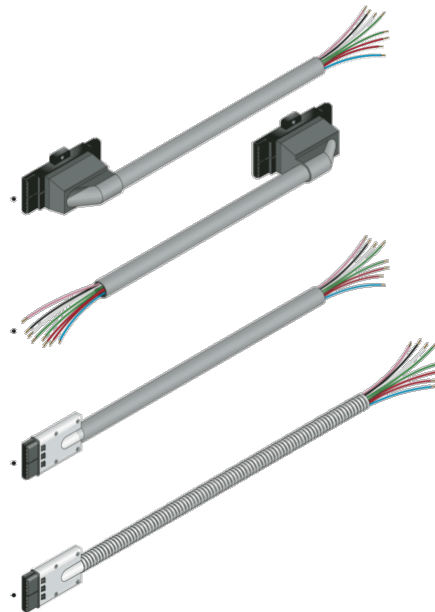
- Matrix Electrical is an 8 wire, 4 circuit system.
- All electrical components are specified individually.
- Electrical can be installed at any height inside Matrix frames, although we discourage the use of position 4 due to the fact that the outlets would be installed behind the surfaces.
- Dual and Quad electrical tiles are available with fabric, or as a painted steel surface.
- The following pages will detail a number of common electrical scenarios.



*Jumpers*



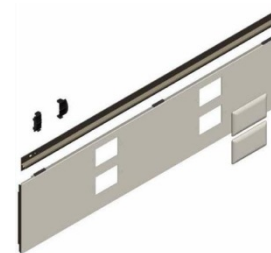
*Single Power Way*



*In feeds*



*Duplex Tile*



*Quad Tile*

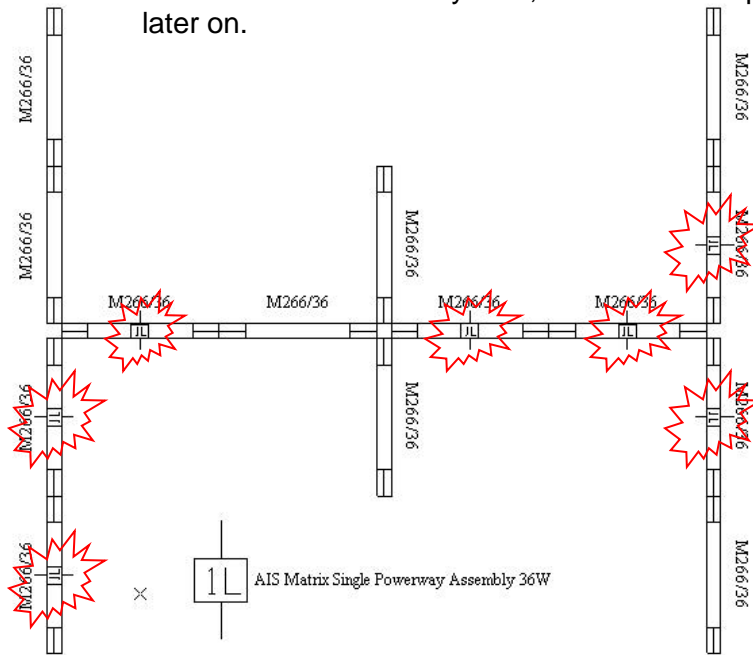


*Double Power Way*

# Electrical

## Description

- Single Power Way assemblies are what you would use in order to turn a non-powered frame into a powered frame.
- The symbol itself has two characters within it, one is a number (which refers to the installation position) and the other is for upper or lower position. The lower is the default, so typically you would not need to place upper symbols.
- Single Power Ways can accommodate up to 2 duplex outlets per side (24" is 1 only)
- Below is a 4 station layout that I have placed some power ways into in order to be able to show the symbol, as well as to explain the jumpers and in-feeds later on.



### Single Power Way

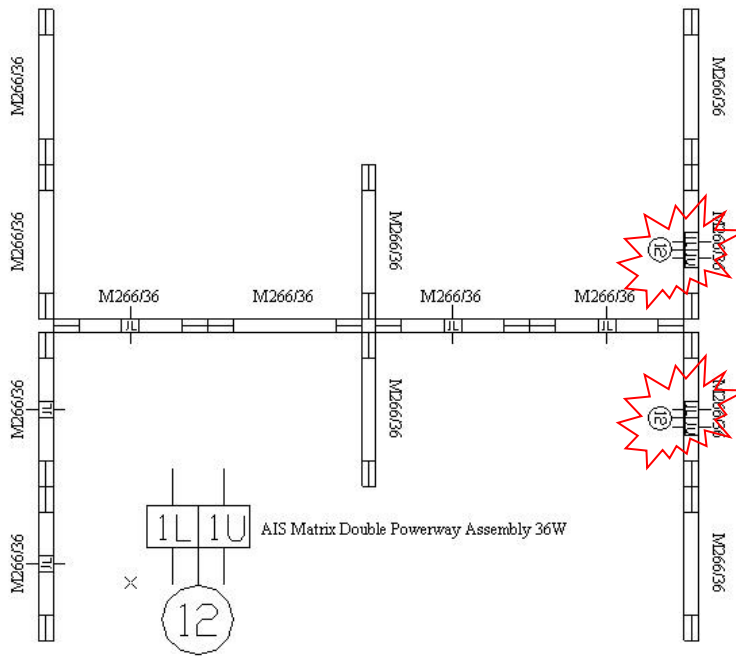
# Electrical

## Example

- Double Power Way assemblies are what you would use in order to turn a non-powered frame into a powered frame.
- The symbol itself has multiple characters in it. As it is a combination of upper and lower locations a second symbol is not needed, but they are both shown.
- Double Power Ways can accommodate up to 4 duplex outlets per side (24" is 2 only)
- I have changed two of the power ways below to show them in the example.



*Double Power Way*

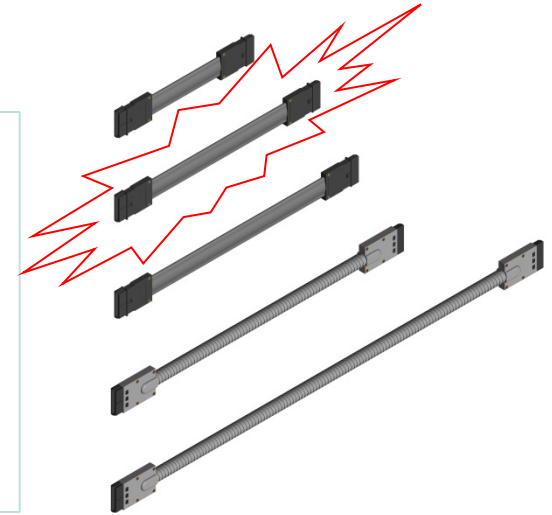


NOTE: Double Power Ways automatically include the 12" double power way jumper that connects the upper and lower position power ways. This small jumper is pictured at the top of the jumper image.

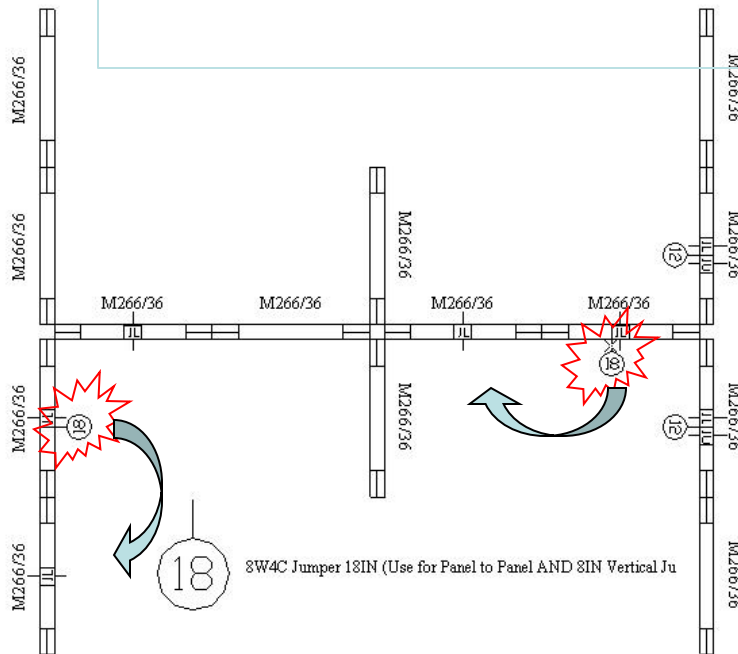
# Electrical

## Example

- Panel to Panel Jumpers connect two power way assemblies across a straight panel connection at the same elevation height.
- This jumper is not long enough to make any other connection except for the straight line panel to panel connection.



*Panel to Panel Jumper*

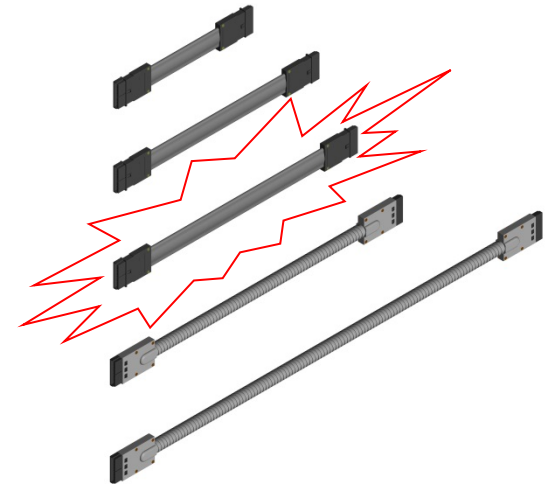


8W4C Jumper 18IN (Use for Panel to Panel AND 8IN Vertical Ju

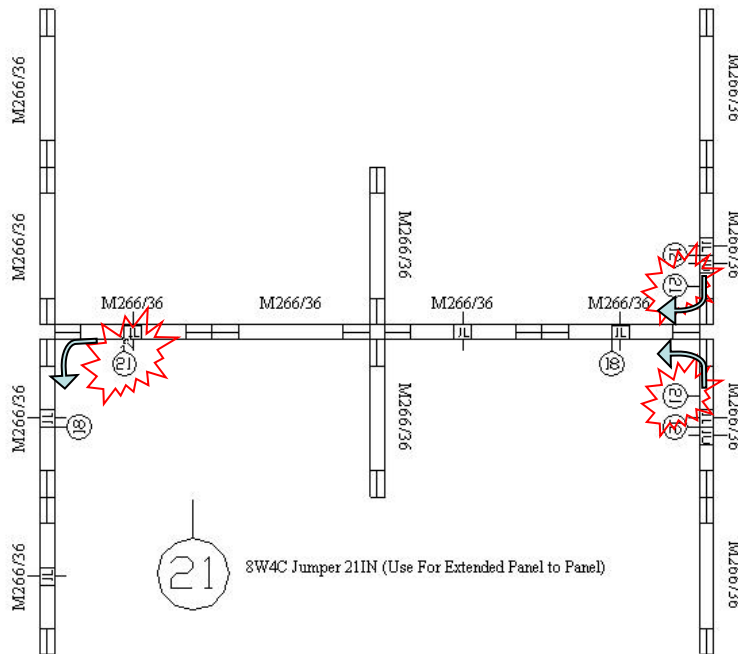
# Electrical

## Example

- Extended Panel to Panel Jumpers connect two power way assemblies through any Matrix frame connector.
- This one is longer than the standard panel to panel jumper to accommodate for the extra space needed to get through a connector. This includes going across a 3-way or 4-way junction.



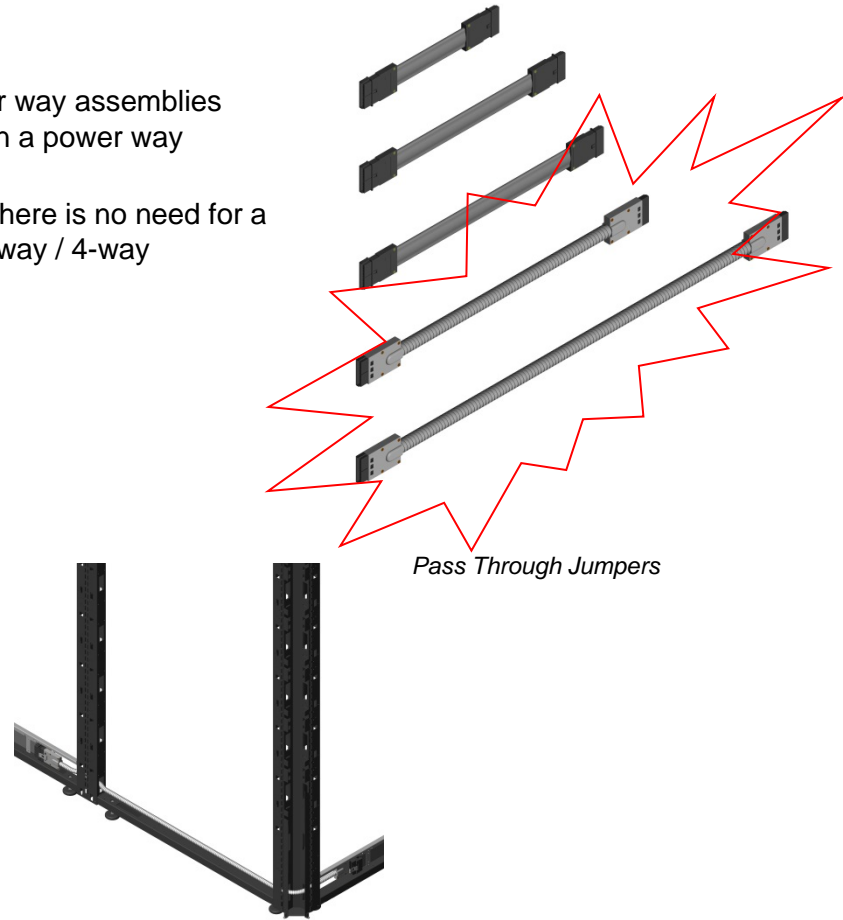
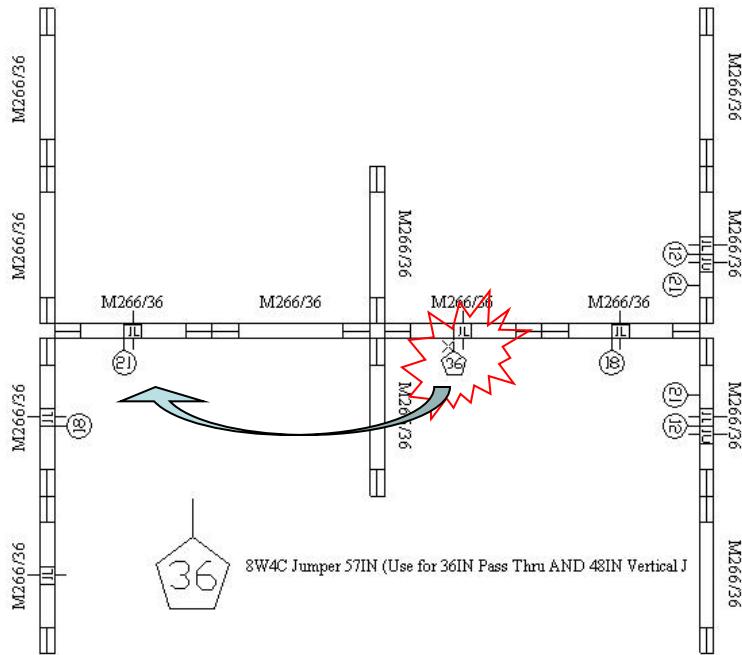
*Extended Panel to Panel Jumper*



# Electrical

## Example

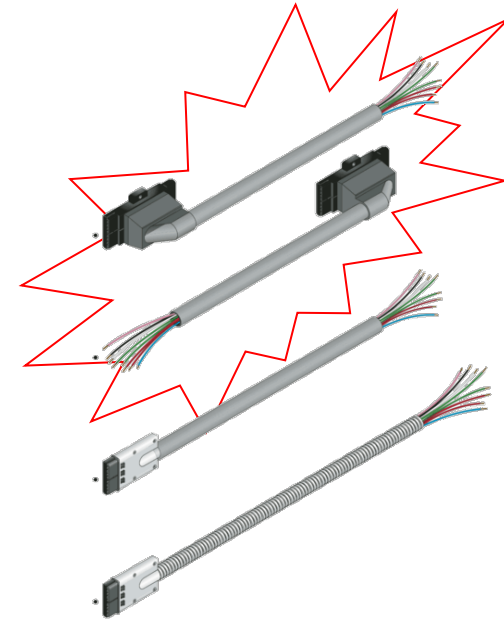
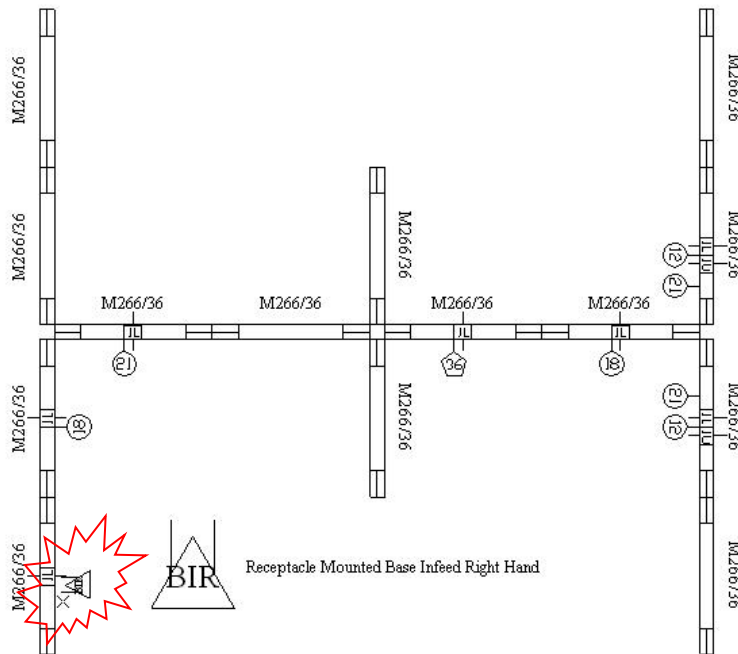
- Pass through jumpers are used to connect two power way assemblies that are separated by one frame that does not contain a power way assembly.
- All pass through jumpers are naturally extended, so there is no need for a different jumper when going through a connector / 3-way / 4-way situations.



# Electrical

## Example

- Receptacle Mounted In-Feeds take the place of a duplex outlet in order to connect the stations to the buildings electrical system.
- These are either right or left handed, depending on your choice.
- The picture to the right has the right handed in-feed pictured at the top, and the left handed pictured below it.
- AIS recommends no more than 8 stations per in-feed, in order to avoid the possibility of overloads.

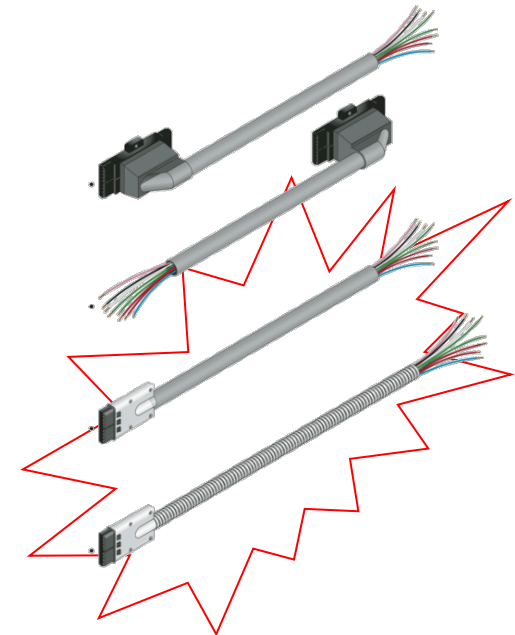
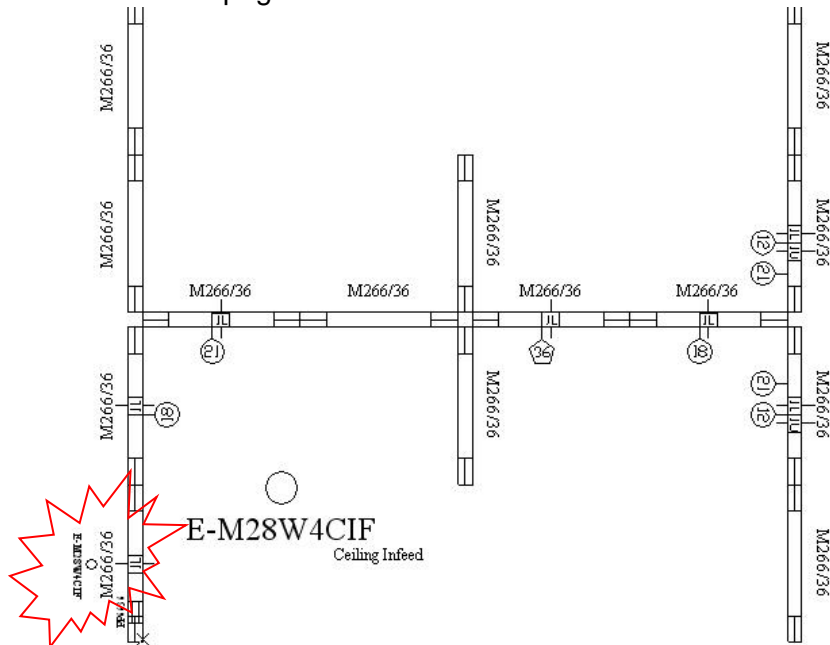


*Receptacle Mounted In-Feeds*

# Electrical

## Example

- Ceiling In-Feeds enter the frames from the top cap by way of a power / data pole (specified separately)
- This in-feed is essentially a 15' long cable, to accommodate connecting to the ceiling.
- AIS recommends no more than 8 stations per in-feed, in order to avoid the possibility of overloads.
- Note: More detailed information for the ceiling in-feed is on the following page.

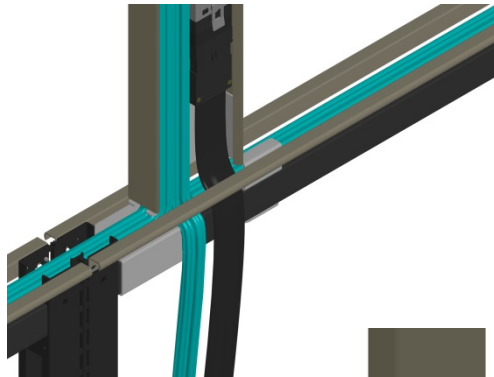


*Ceiling In-Feeds*

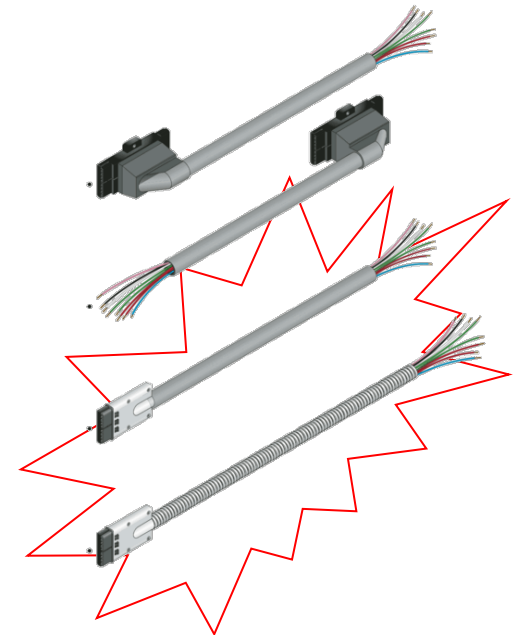
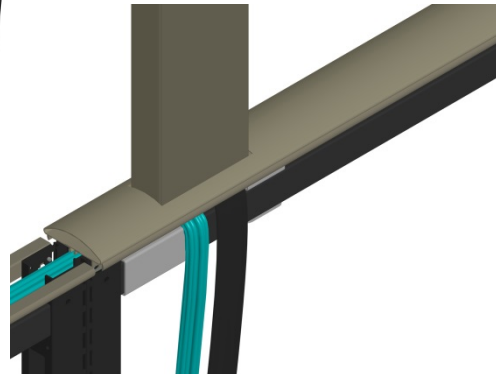
# Electrical

## Example

- Ceiling In-Feeds not only require a power / data pole, but an additional “vertical” jumper is needed in order to connect the building electrical to the stations.
- The length of this jumper is directly influenced by the height of the frames as well as the height of the power within the frames.
- The amount of inches between the power and the top of the frame is the easiest method of specifying the correct vertical jumper.



*Example of how  
a CIF enters a  
frame*

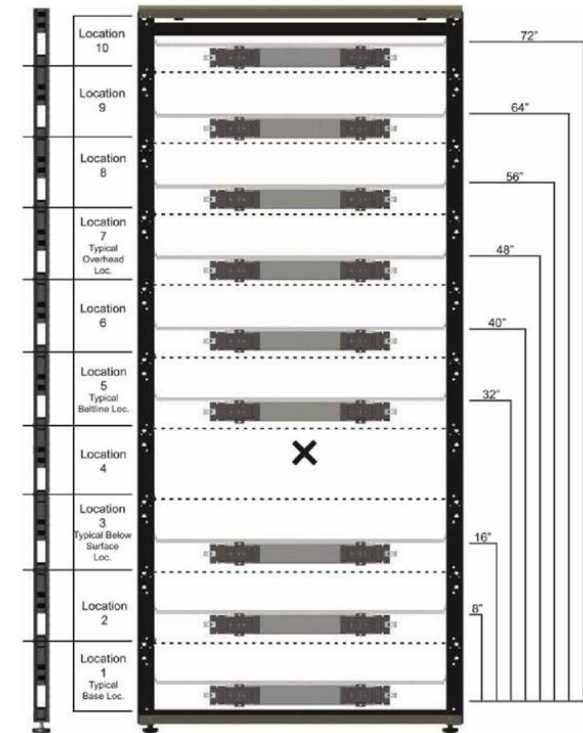
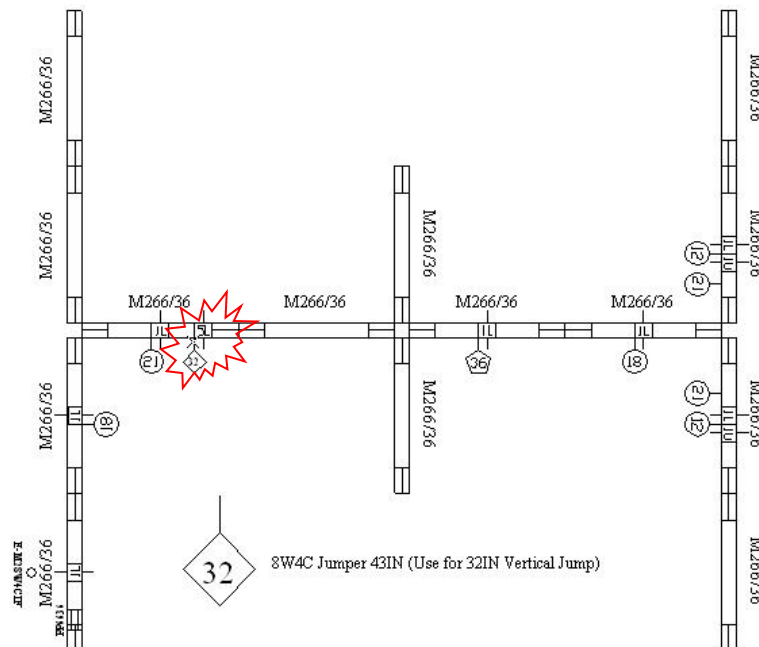


*Ceiling In-Feeds*

# Electrical

## Example

- Multiple heights can also be used with Matrix electrical.
- The vertical jumper used to transition between heights equals the number of tile spaces you are jumping through.
- EX: To go from the base height (position one) to the belt line height (position 5), you will need a 32" vertical jumper, as pictured below.

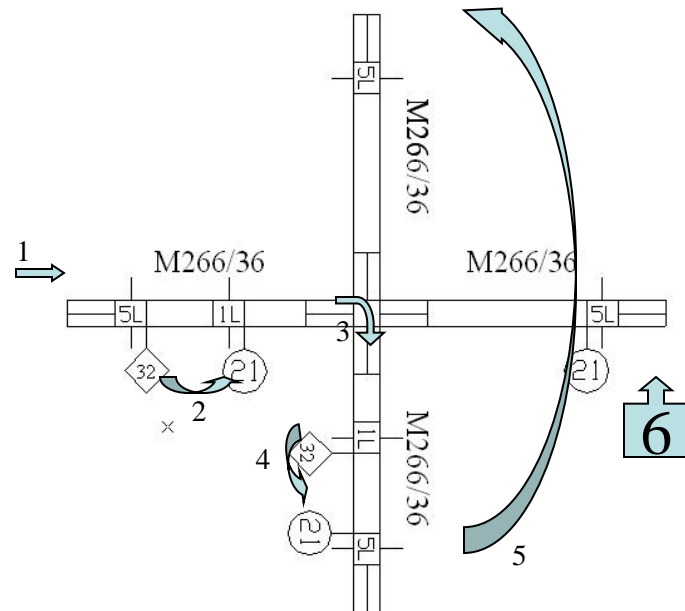


Vertical Jumper Diagram  
(Page 4-8 of the Matrix Catalog)

# Electrical

## Example

- Once you change heights the same rules apply (for horizontal connections) with the exception of at 4-way intersections. These locations do not have enough turning room for the pass through jumpers to bend around corners.
- What we do here is jump down to position one, then turn the corner and go back up. It is recommended to do this for any 4-way connections where you need to get power from the spine to the wing panels. Even though an extended panel to panel jumper can make the “bend”, it is extremely difficult on installers, which is why we recommend jumping down.



1. Power comes from this direction at position 5
2. A 32" vertical jumper connects down
3. An extended panel to panel jumper turns the corner at position 1
4. A 32" vertical jumper connects back up
5. An extended panel to panel jumper connects to the top frame across the 4-way intersection in a straight line
6. An extended panel to panel jumper connects from here along the spine (back to the #1 step), allowing for frames further down the spine to connect to it to continue power.



*4-Way Matrix Connector  
(showing the extra room at  
position 1)*

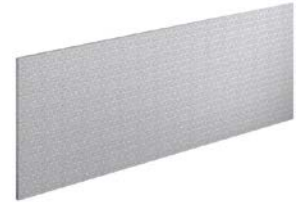
# Tiles

## Description

- All Matrix Tiles include the mid tile retainer.
- Matrix frames have the top and bottom retaining bars installed before they leave the factory, so additional ones are typically not needed. Should you not “dress” one side of a frame with tiles, additional retaining bars may be needed. Please contact AIS for clarification should you require this.
- All tiles are available in widths to match any Matrix frame.



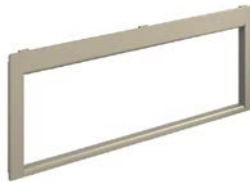
**Tool Rail**  
Heights  
8"



**Tackable Acoustical Fabric**  
Heights  
8" – 64"  
8" increments



**Glass or Acrylic**  
Heights  
16" and 24"



**Open Frame (Pass through)**  
Heights  
16" and 24"



**Perforated (Air Flow)**  
Heights  
8" – 64" in 8" increments



**White Board**  
Heights  
16" and 24"



**Laminate or Veneer**  
Heights  
8", 16" and 24"



**Embossed**  
Heights  
16" and 24"



**Painted Steel**  
Heights  
8", 16" and 24"



**Dual & Quad Electrical**  
Heights  
8"

# Tiles

## Description

- Dual and Quad electrical tiles can be used for duplex outlets or phone / data needs.
- In order to place a duplex outlet, a power way assembly must be installed within the frame behind the tile, at the appropriate height (see electrical).
- One common use for the quad tiles is to install the duplex outlets in the lower knock out locations, and the phone and data in the upper locations. This makes installation easier, as well as provides a centralized power / data location.

Quad tile with all 4 locations used for duplex outlets



Quad tile with all 2 duplex outlets  
And 2 data / phone locations



Position 3 Power / data  
(under the work surface)



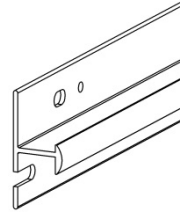
**Dual & Quad Electrical**



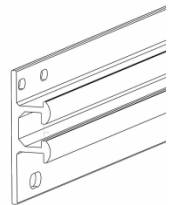
# Tiles

## Description

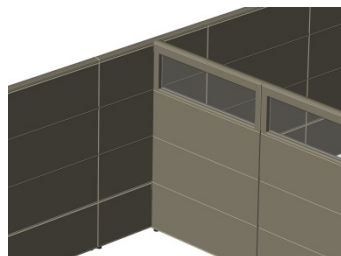
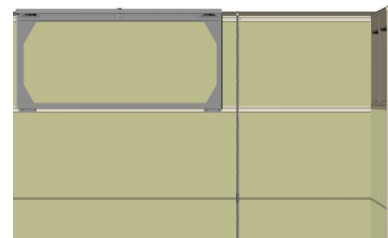
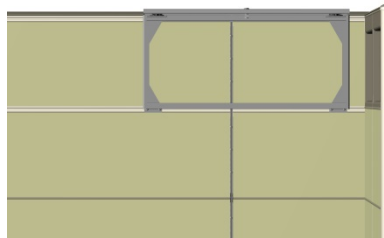
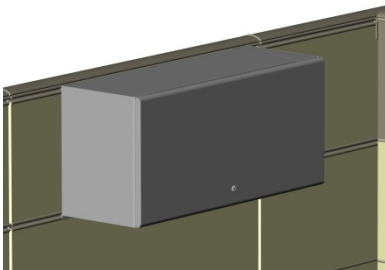
- Off-Modular fabric tiles are made smaller in height to accommodate off-modular rails. Use off-modular rails in conjunction with off-modular frame connections and overhead conversion kits.
- When using off-modular overheads, specify 2 off-modular tiles with a 16" difference, so you have rails at the top and bottom of the overhead.
- When using off-modular frame connections, specify 2 off-modular tiles as far apart as possible in order to provide the most stable frame connection possible.



Standard Tile Rail



Off-Modular Tile Rail



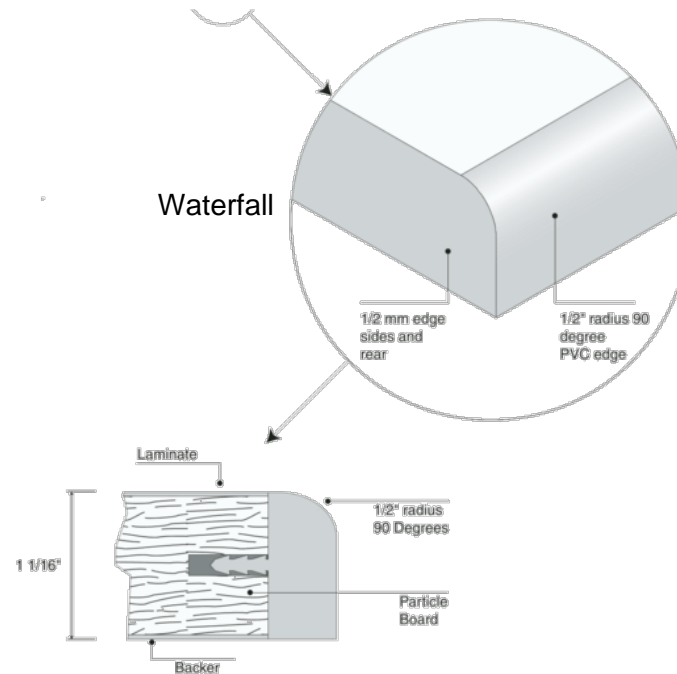
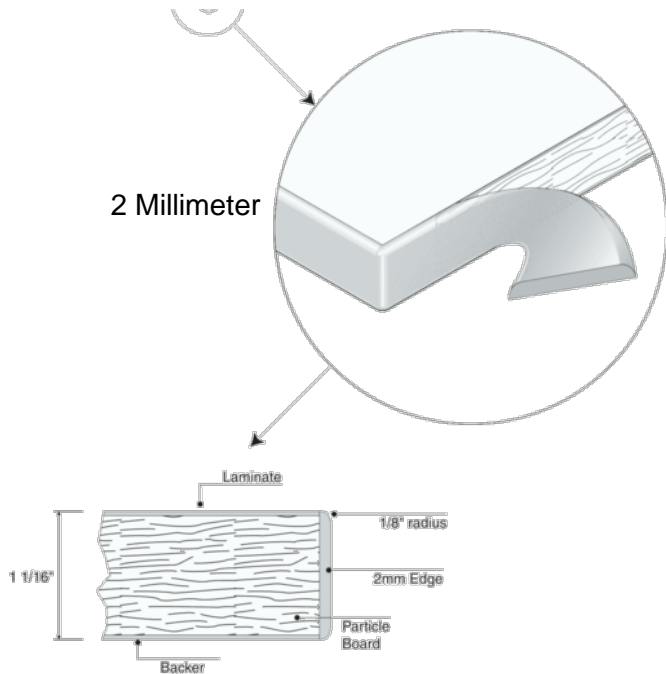
(Above) Typical Off-Modular Overhead

(Left) Typical Off-Modular Frame Connection

# Worksurfaces

## Description

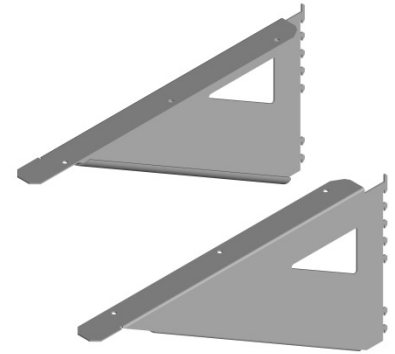
- Worksurfaces are available in a large selection of different shapes and sizes. Please consult the catalog to see the available options.
- Two different edge details are available (2 Millimeter and Waterfall)



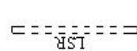
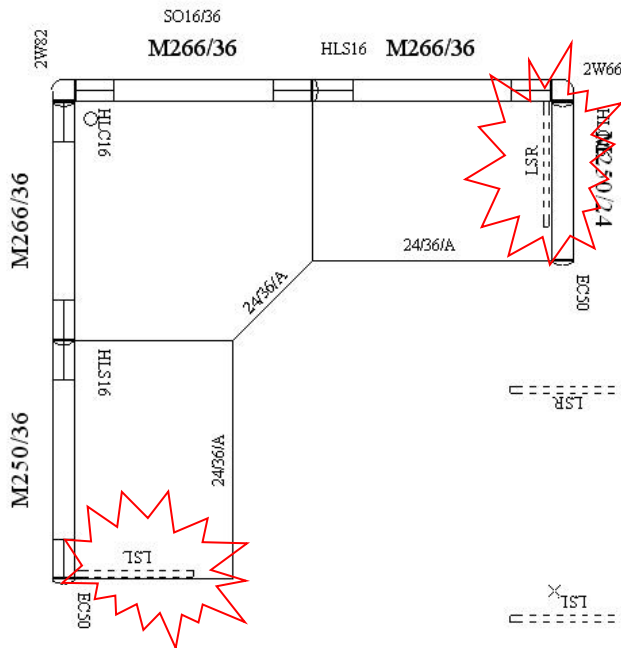
# Supports

## Example

- Regular Cantilevers provide cantilevered worksurface support from panel or wall track at either the left or right hand side of worksurface.
- Cantilevers can also be used in the center of surfaces that are longer than 48" in order to prevent "bowing" where storage is not adding to the surface stability.



*Regular Cantilevers*



Regular Cantilever Right-Handed- 24D

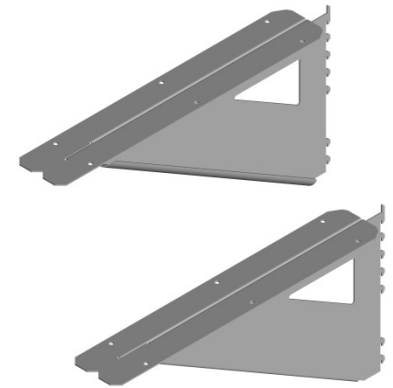


Regular Cantilever Left-Handed- 24D

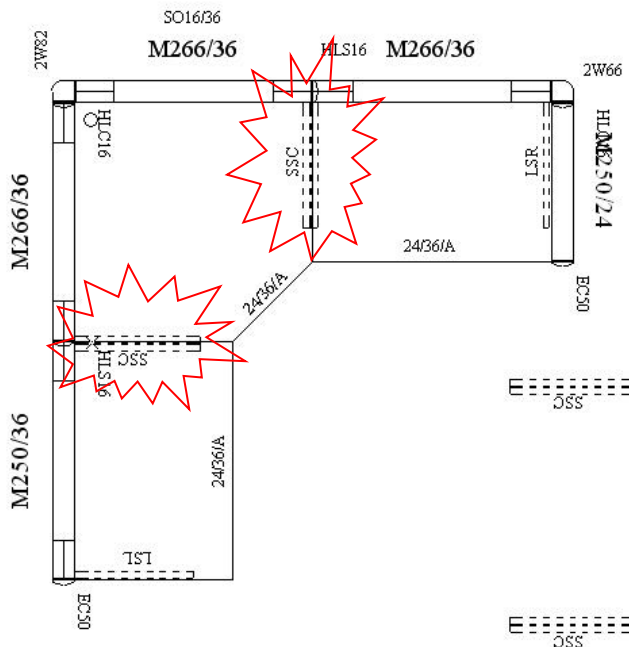
# Supports

## Example

- Shared Cantilevers provide cantilevered worksurface support from panel or wall track at the seam of two surfaces.
- Shared cantilevers are used in conjunction with flat plates to provide the most stable support possible.



*Shared Cantilevers*



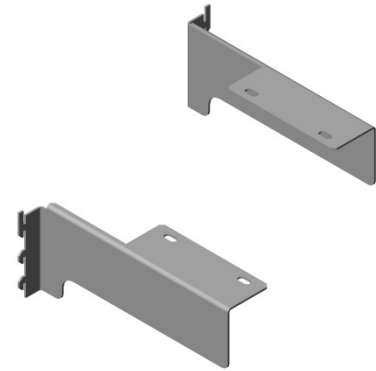
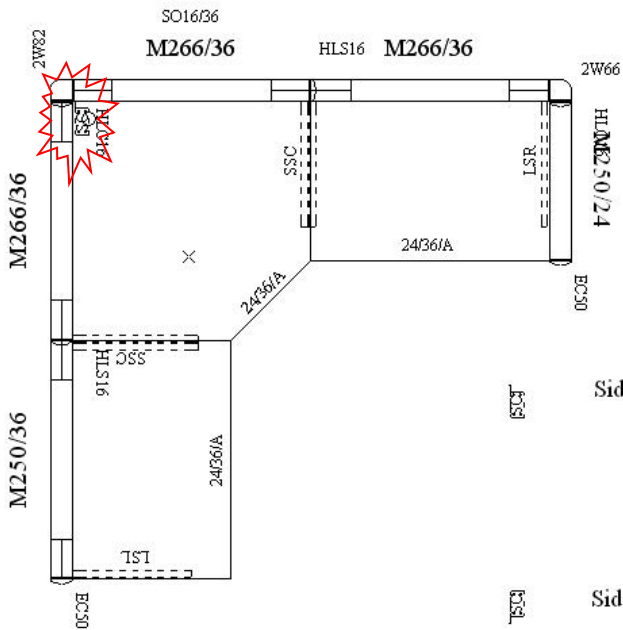
Shared Cantilever- 24D

Shared Cantilever- 24D

# Supports

## Example

- Side Support / Rear Brackets provide support from panel or wall track along the short side of a rectangular surface or at the rear corner of a worksurface.
- SSRB's are also used on the used side of P-Top and D-Top surfaces for support. This allows the "guest" side to pull a chair up to the surface without fear of hitting a standard cantilever.



### Side Support / Rear Brackets

### Side-Rear Bracket Right-Handed

### Side-Rear Bracket Left-Handed

# Supports

## Example

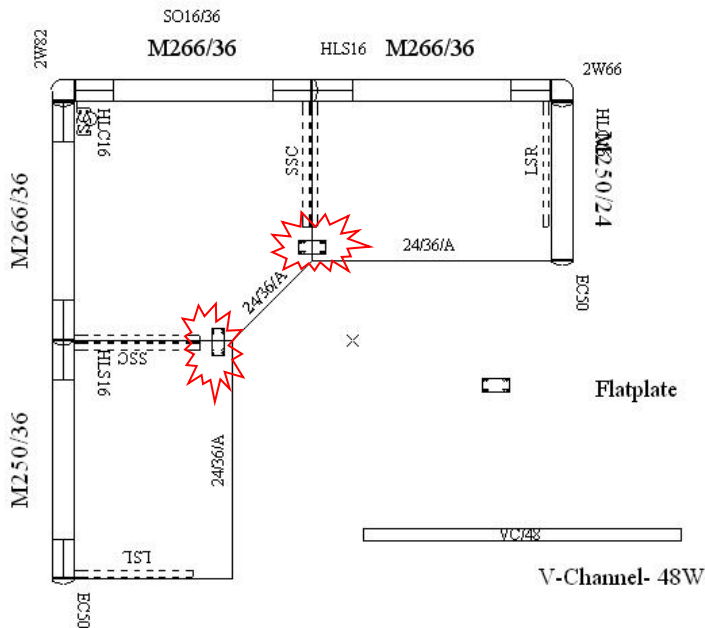
- Flat Plates are used to splice two surfaces together at the edges. They are extremely useful for adding stability, and securing the seams of surfaces
- Flat Plates are always used in conjunction with shared cantilevers to provide the most support possible.
- V-Channels mount under surfaces to provide bracing where a cantilever can not be placed
- V-Channels are commonly used under longer surfaces to prevent “bowing”. This is a common recommendation for surfaces over 48” where a cantilever can not be placed.



*Flat Plate*



*V-Channel*



# Supports

## Example

- Full Laminate Support Panels provide floor based support for freestanding applications.
- Pins and Cams provide a simple yet rigid means of connection.
- There are a HUGE number of ways these can be used, please consult the catalog for more detailed information.
- Notice the symbols have small “M” and “F” tags on them, which are for male or female connection points.



*Example: “U” Configuration*



*Example: “U” Configuration (recessed)*



*Example: Corner Configuration*



*Example: “T” Configuration*



FLSP A 24

Full Laminate Support Panel-Male-1 End-Flush (FLSP A) - 24W



FLSP B 24

Full Laminate Support Panel-Male-1 End-Recessed (FLSP B) - 2



FLSP C 24

Full Laminate Support Panel-Male-Centered (FLSP C) - 24W



FLSP D 24

Full Laminate Support Panel-Male-Both Ends-Flush (FLSP D) -



FLSP E 24

Full Laminate Support Panel-Female-Both Ends (FLSP E) - 24W



FLSP F 24

Full Laminate Support Panel-Female-1 End (FLSP F) - 24W



*Full Laminate Support Panels*

# Supports

## Example

- Universal combination legs is available in black, brushed steel, and can be painted to match the station trim.
- Leg can be converted in a number of ways
  - Standard Peninsula Leg
  - Mobile Leg
  - Extended Height Mobile Leg
  - Nesting Leg
  - Extended Height Leg



Base Leg (Included)



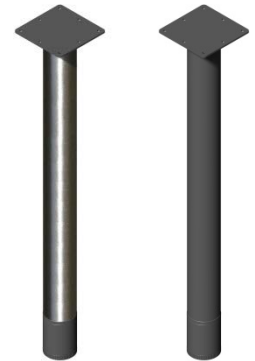
Extended (Included)



Glide (Included)



Caster (Order Separately)



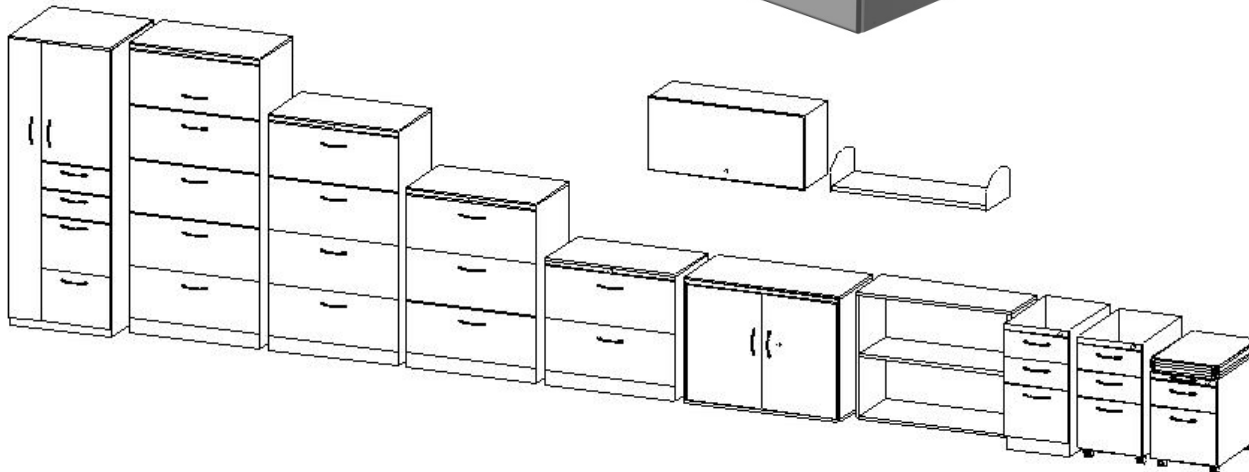
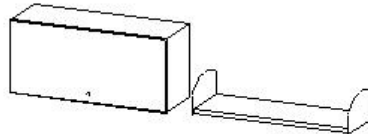
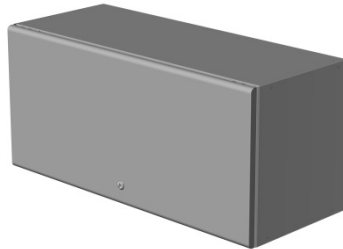
*Universal Combination Leg*

# Storage

## Description



- AIS offers a large variety of storage options. Looking through the catalog is the best way to familiarize with what we offer.
- When using an “under surface” storage item, such as pedestals or lateral files, they are considered supporting. Cantilevers will not be needed at these locations, however, a side support / rear bracket behind the item will tie the surface into the back frame and add stability.



Please remember that due to the virtually endless possibilities that Matrix offers, it is not really possible for us to cover everything in this guide. This is a good starting point, and just remember that the following are always available to you:

- AIS Website
- Design Checker
- E-Catalogs
- E-Brochures
- The AIS Team (Customer Service / Design / Reps)
- And much, much more.

