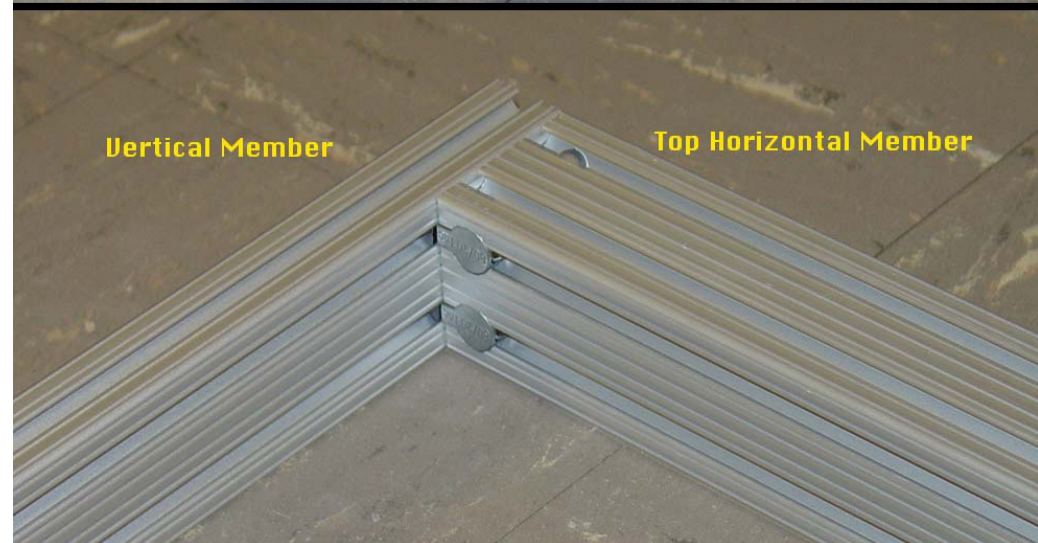
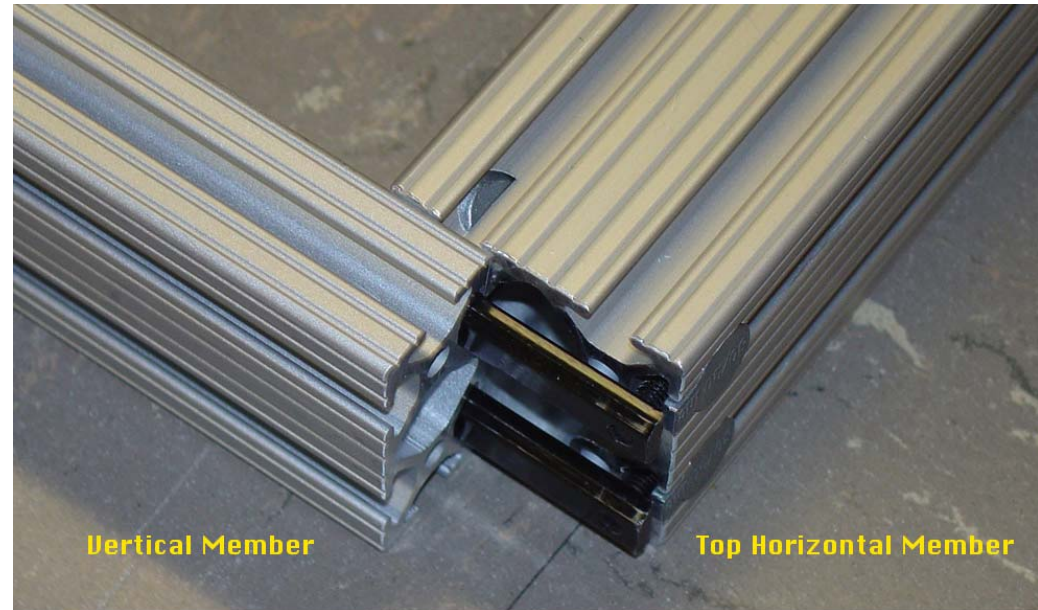
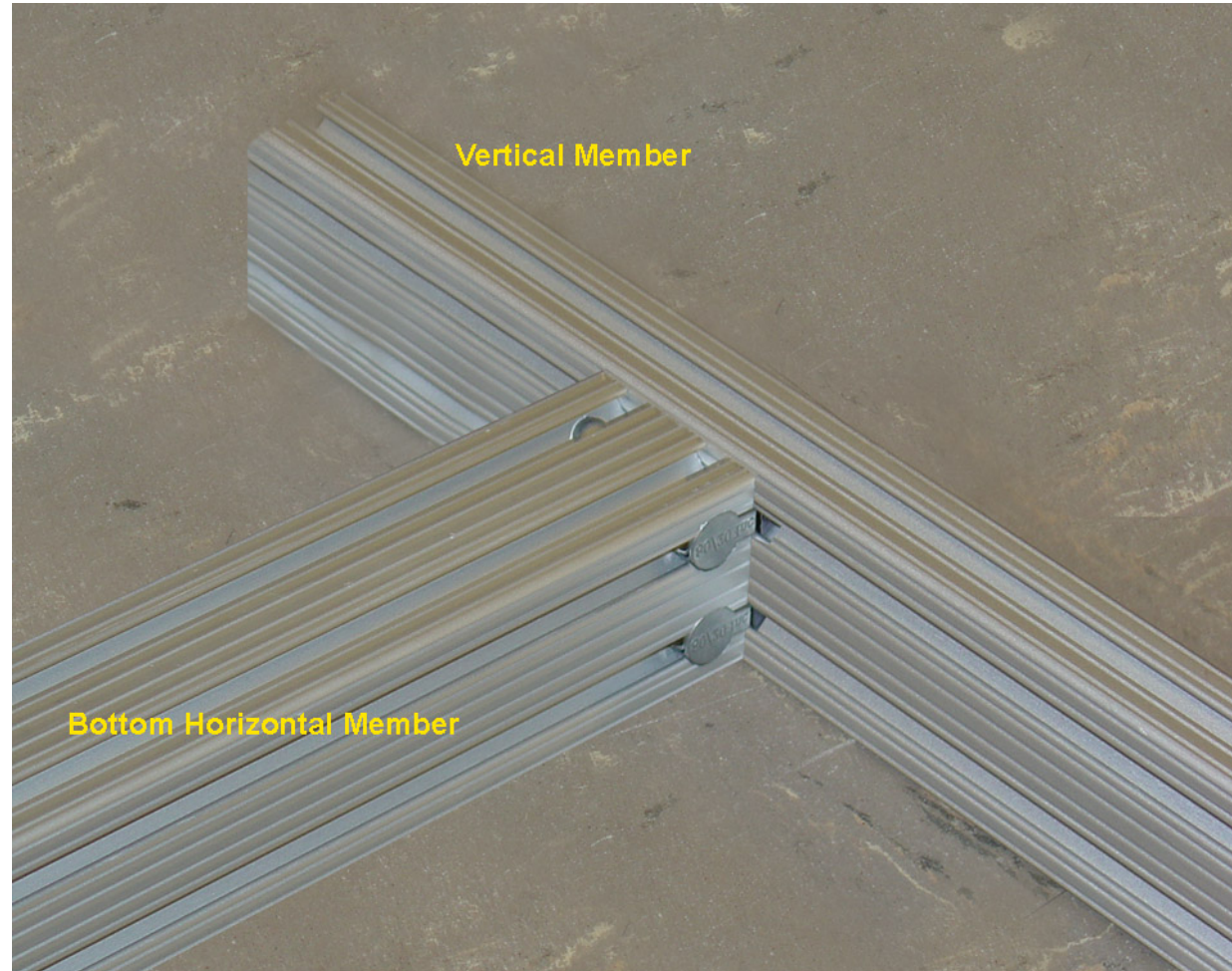


Assembly of Portable Screen

1. Slide the top horizontal member onto the top ends of the vertical members (horizontal members are the 2" square pieces, vertical members are 83" long pieces of 1"x2"). The top end of the vertical members is the end without the bores and fasteners. Make sure the male snap ends for the horizontal members are all on the same (front) side of the frame. Tighten the fasteners so the connection is firm and the parts will not slide. For all fasteners, do not over-tighten or you may be unable to take the frame apart again.

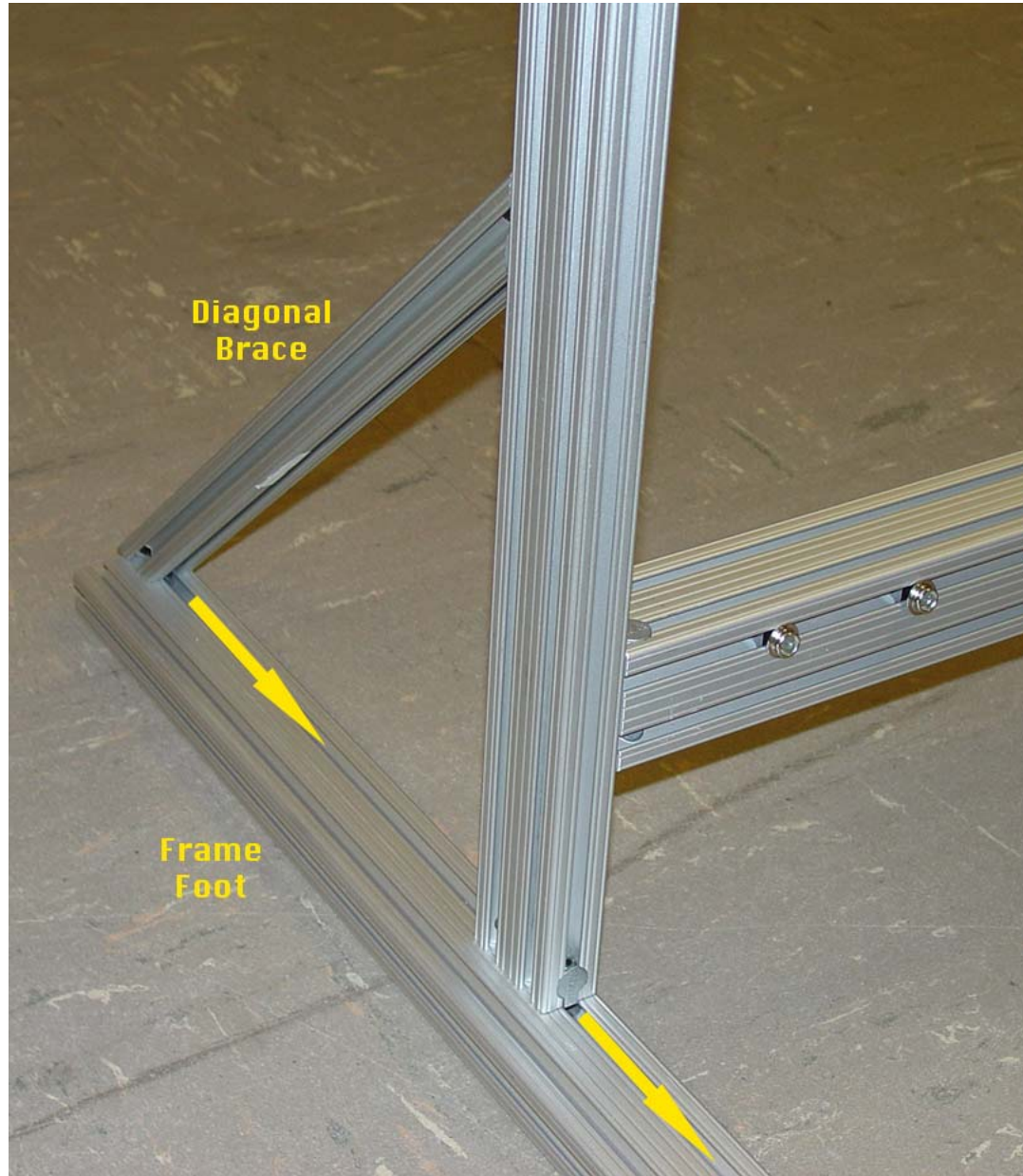


2. Slide the bottom horizontal member onto the bottom ends of the vertical members. Slide the piece up the vertical members. In order to have a 6' viewing area, the top edge of the bottom horizontal member should be 6' from the bottom edge of the top horizontal member. Tighten the fasteners.

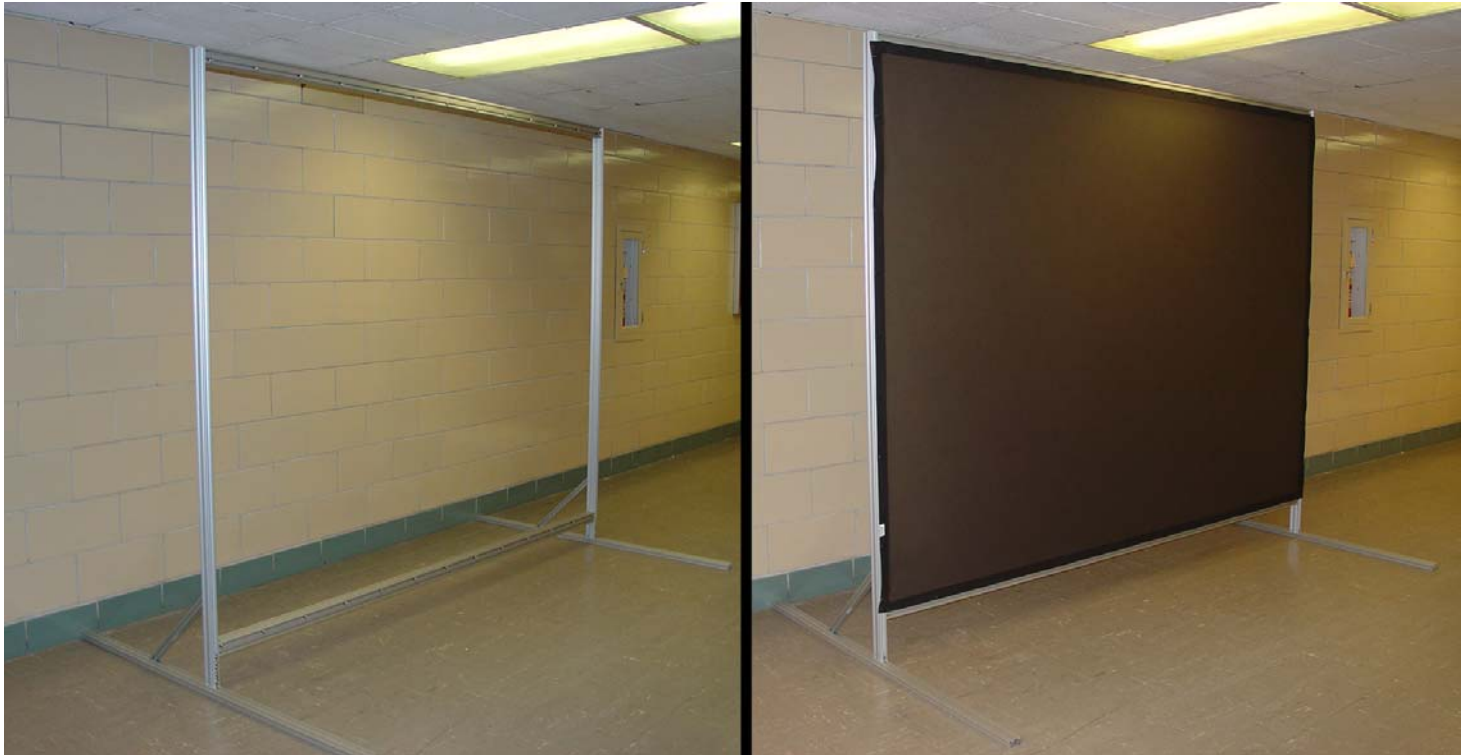


3. Slide the “feet” (the 60” long pieces of 1”x2”) onto the bottoms of the vertical members. Do not tighten yet.

4. Stand the frame up on the “feet.” Attach the diagonal braces on the back side (the back is the side without the snaps) of the frame as follows: slide in one end of the diagonal brace at the top of the vertical member, then when the brace is near the floor, slide the other end of the diagonal brace into the foot. Slide the diagonal braces and vertical members across the feet until the vertical members are centered on the feet. Tighten all fasteners.



5. Attach the screen to the frame by the snaps. Always be extra careful when handling the screen. Start at the top edge so that the screen will hold itself in place while you fasten the sides and bottom. You may have to stretch the screen material slightly (up to about 3/4"). This is normal. Try to handle the screen only by the webbing material around the edges. Avoid touching the center portion of the screen if possible. When stretching the screen, pull slowly and evenly. Do not pull the screen around a corner – stretch the screen first, then fold around the corner. Beware that even slightly sharp edges can puncture the screen, including fingernails, frame corners, small rocks, etc. Retain the original shipping carton and materials for the screen! When the screen is removed the frame, it must be carefully rolled up into the shipping carton with the packing materials in place– do not fold the screen!



PORTABLE VISUALIZATION SYSTEMS

The Envision Center currently has two portable visualization systems. One system is rear projected (the projector is located behind the screen) and one is front projected (the projector is located in front of the screen on the same side as the user). Both systems use passive polarized stereo and are built from inexpensive off-the-shelf components, such as conference room projectors and standard PCs with high-end graphics cards. The front projected system currently uses linear polarization and the rear projected system uses circular polarization. Each system can be constructed for approximately \$10k, though the rear projected system is slightly more expensive due to the higher cost of a rear projected screen and circular polarizers. Both systems can be easily moved around campus or even transported in a van or truck for off-campus use.

Why choose one system over the other?

The rear projected system can also be equipped with an Intersense IS-900 tracker, which greatly increases the cost, but allows for a user-centered perspective and direct 3D interaction. Front projection prevents users from standing close to the screen as they can when using a rear projected system, because they block the projected image. But a front projection system also occupies a smaller footprint, enabling the system to be setup in a smaller space, or in situations where 3D interaction and a user-centered perspective are not required. Because the systems are so similar, most applications that run on one system can be run on the other system.

COMPUTERS AT ENVISION - Portable Systems

Both portable systems are driven by PCs with high-end dual-output graphics cards by nVidia. The systems are outfitted with more RAM and processor power than the average PC, and cost approximately \$5,000 each. The systems run both Windows and Linux.