

## Wheelchair Mounting Systems Comparison Matrix

Michelle L. Lange, OTR/L, ATP/SMS

Many consumers using manual and power wheelchairs also utilize other assistive technologies, such as speech generating devices, notebook computers, tablet computers and smartphones. These technologies often need to be attached or mounted to the wheelchair frame for physical access (i.e. direct, head mouse, or eye gaze), visual regard, and security (from falling or theft).

The following matrix categorizes mounting systems by the type of assistive technologies supported and lists product features. This matrix is not exhaustive and is not intended to endorse a specific product.

A mount has three main components and terminology may vary.

**Frame Clamp:** this component attaches to the wheelchair frame and is specifically designed to fit a specific shape and diameter.

**Mount:** this section includes horizontal and/or vertical sections of tubing with or without joints in between that dictate final position of the mount.

**Mounting Plate:** this component connects the mount to the assistive technology device (called a universal device socket by Rehadapt). Some assistive technology devices, particularly speech generating devices, also must include an attached device adaptor (called a mounting plate by Rehadapt) that connects to the mounting plate.

### So how do I get started?

1. Device type: Determine what device is being mounted and ensure the proper mounting plate is ordered for the mount and any device adaptor for the device itself. Choose the appropriate mounting category for the device type (see below).
2. Device placement: Determine approximately where the device needs to be placed. Keep in mind the optimal position for visual regard and access. Try and keep the device mounted within the boundaries of the wheelchair so that the device is not likely to get bumped going through doorways. Try to position the device so that the device does not block the client looking at a communication partner, whiteboard or where they are propelling a manual wheelchair or driving a power wheelchair.
3. Mount placement: Determine where the frame clamp will be placed, based on the desired device placement. If the wheelchair includes a tilt, be sure to place the frame clamp above the tilt mechanism so that the device follows the client during changes in position. Avoid mounting on moveable components such as swing away footrest hangers and removable armrests. These may feel secure now but will eventually get very wiggly if a mount is placed there. Ensure that the mount can move out of the way (fold, swing away or be removed) for transfers and that the mobility base will not tip over from the weight of the mount and device when the client transfers.

## **Speech Generating Devices**

*Larger Devices are bigger in dimension and weight. These mounts will hold heavier devices, though most do not have specific weight limits due to the variety of configurations and usage.*

*Devices accessed by eye gaze typically require a heavier capacity mount due to weight and height requirements.*

1. Blue Sky Designs Mount'n Mover (single arm, dual arm, tilt 'n turner), Easy Mover (single or dual arm, tilt plate), and Pow!r Hybrids
  - a. allows user to independently move the mount to various positions if adequate motor control is present or use a power version, swings away
  - b. heavy, bulky, large frame clamp, does not fold
2. CJT Mounting GT Enduro, GT Enduro Angular
  - a. fits most frames, many options for placement on frame, MAX and Lite versions, swings away. Angular version adds a third arm for more specific placement. Provide photos to ease ordering.
  - b. heavy, bulky, large frame clamp, does not fold
3. Daedalus Rigid, Folding, Locking Swing-Away, Rear Folding, Positioner Daessy mounts
  - a. fits most frames, small frame clamps, custom frame clamps available, locking clamp for tilt frames, side clamp for placement on seat rail, folding version
  - b. heavy, pin in frame clamp assembly can slip during tilt (if not using locking clamp).
4. Rehadapt Engineering Monty 3D
  - a. lighter weight than other mounts in this category, fits most frames, small frame clamp, tubes flow through joints, limitless angles, works with a variety of devices. Can move between 3 positions. Versions include quick shift levers or tool adjustment. Folding version (3DK). Holds up to 13 lbs. Heavy Duty version for heavier eye gaze systems (M3D Plus). Virtual Mounting Service to ease ordering.

*Smaller Devices are smaller in dimension and weight. If a client uses excessive force against the device or the mount, a heavier mount may be indicated. These generally do not offer the height available in heavier mounts, such as that required for eye gaze systems.*

1. CJT Mounting TBO
  - a. holds up to 5lbs, smaller and lighter than standard mounts, attaches to a variety of equipment
  - b. some frames require large frame clamp
2. Daedalus Mini Mounts (M series)
  - a. smaller and lighter than standard mounts, holds up to 10lbs, 3 versions
  - b. heavier than many other lightweight mounts
3. Rehadapt Engineering Hybrid 3D and L3D Mounts
  - a. smaller and lighter than standard mounts, quick shift levers or tool adjustment. Frame clamps fits most size frames, Super Clamp also available for unusual sizes (i.e. adaptive strollers). Tubes flow through joints, limitless angles. Device adaptors for most lightweight SGDs. Hybrid 3D holds up to 4lbs, L3D holds up to 2.6lbs. Mounting plates for a variety of lightweight devices, including tablet based devices.
  - b. Quick shift lever configuration may compromise consistent placement. If so, use tool adjustment.

## **Computers**

*Notebook/Laptop. Generally, a tray is used. See each manufacturer's website for further information.*

1. Blue Sky Designs Mount'n Mover
2. C.J.T. Mounting GT Enduro, GT Enduro Angular
3. Daedalus Daessy series
4. Rehadapt Engineering

## **Tablets**

*There are an ever increasing amount of Tablet mounts. Some of these do not hold their position well or offer adequate positioning of the tablet and so are not listed here.*

1. Mount 'n Mover
  - a. supports a variety of size and brand tablets, swings away.
2. Rehadapt Engineering Tablet Mount
  - a. Quick shift levers or tool adjustment. Frame clamps fits most size frames, Super Clamp also available for unusual sizes (i.e. adaptive strollers). Tubes flow through joints, limitless angles. Various tablet mounting plates available, including universal. For devices up to 2.6lbs.
3. Stealth Products iPad Mount:
  - a. various links can be added or removed to achieve desired position, adjustable mounting plate holds various size tablets, swing away option. Gatlin and Standard styles. Heavy.
4. Therafin Corporation Communication Mount:
  - a. supports a variety of size and brand tablets. Attaches to frame, armrest, tray, under seat cushion, or channel tubing.

## **Smart Phones**

*The following mounts are designed to support a smart phone for access, visual regard, and security.*

1. Mount 'n Mover
  - a. supports a variety of size and brand smartphones, swings away. Can be combined with tablet mount.
2. Rehadapt Engineering
  - a. variety of adaptors, including universal. Tubes flow through joints, limitless angles.
3. Stealth Products
  - a. can attach to tablet mount or a separate mount. Adjusts to hold a variety of phone sizes.
4. Therafin Corporation Communication Mount:
  - a. supports most smart phones.

**Table Mounts**

*These mounts are generally used when the client is not in a mobility base and is at a work surface. These are sometimes used in evaluation settings.*

1. Blue Sky Designs Mount'n Mover
  - a. Mount'n Tilter table top, angle adjustable
  - b. Table Clamp attaches to table or other work surface
  - c. Stand + 90 table top. Flat, vertical, or 45 degrees
2. CJT Mounting ET Table Stand Mount
3. Daedalus Desk Mount, Clamp Desk Mount, Vertical Desk Stand, and X-Base Folding Desk Stand
4. Rehadapt Engineering Table Stands and Table Clamps
5. TobiiDynavox ConnectIT TableTop ClampOnMounts, and TableTop TS XL

**Over Bed/Floor Mounts**

*These mounts can be used by a client in bed or in another base, such as a recliner. These can also be used in an evaluation center. If used with an electric hospital bed, ensure that the angle can be changed to match the angle of the client in bed.*

1. Blue Sky Designs Floor Stand with optional extension, casters, and tilt plate adaptor
2. CJT Mounting ET Roller
3. Daedalus Daessy Rolling Mount
4. Rehadapt Engineering Classic, Penta, and Mini Floorstands
5. TobiiDynavox ConnectIT Vario Floorstand

## **Switches**

### ***Evaluation Switch Mounts***

*Evaluation switch mounts are designed to quickly and temporarily secure a switch in a location to determine final placement for a client. These mount to a variety of surfaces, typically using a Super Clamp frame clamp, move in a variety of planes and tighten down without tools. Switches can be Velcroed or more permanently attached to a mounting plate.*

1. AbleNet Hover
2. AbleNet Latitude
3. AbleNet Universal Switch Mounting System

### ***Permanent Switch Mounts***

*Permanent switch mounts are designed to mount a switch in a specific location for consistent access and security. These typically are adjusted by tool. Many seating components can be modified to mount switches in specific body locations, as well.*

1. CJT Mounting Locline Switch Mount
  - a. bolts or optional knobs, variety of connector options
3. Rehadapt Engineering Miniclamp Switch Mount Kit
  - a. various size frame clamps and switch adaptors/plates are available. Versions include quick shift levers or tool adjusted joints.