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MOUNTING SPEECH GENERATING DEVICES AND TABLETS TO WHEELCHAIRS

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

Access to Independence

Mounting AT to Wheelchairs

- Speech Generating Devices (SGDs)
  - Larger
  - Smaller (less than 5 lbs)
- Computers
  - Notebooks
  - Tablets

Dynavox T Series

CONTINUED™

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Poll Time

- Are you working with Mounting Systems?
  - I recommend them
  - I mount them
  - Nope
  - I would like to!

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Whose Job is This? Recommendation

- Partly, it comes down to funding
  - If the SLP orders a mount with the device, then the SLP may need to “spec” this out
  - If the wheelchair supplier orders the mount, they may “spec” this out
- Sometimes, it is the Occupational Therapist
  - The OTR may determine the optimal SGD access, placement and mounting system

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Whose Job is This? Ordering and Funding

- If the mount is ordered with the SGD, funding may be for both and the SLP typically does this
- If the mount is ordered with a new wheelchair frame, the wheelchair supplier may order the mount, or at least a new frame clamp
- If a mount is ordered alone, whoever can pursue funding may order

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Whose Job is This: Mounting

- Who holds the Allen wrenches?
- Typically, whoever ordered the mount
- The wheelchair supplier often knows how, but if they did not pursue funding, they will not put on the mount
- Mounting is usually too difficult for a client or caregivers to do competently
- Whoever attaches the mounting system must be competent and assumes liability

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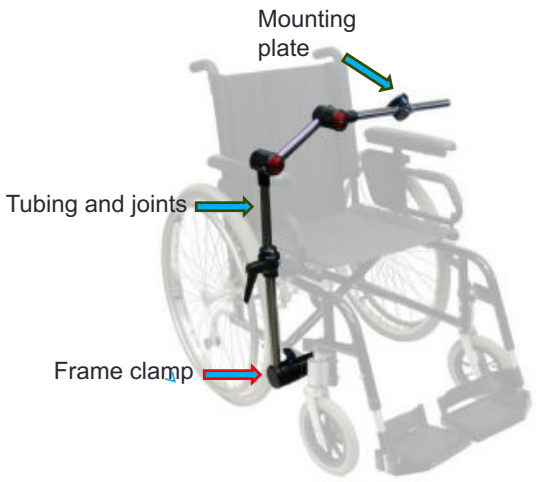
Terminology

- Frame Clamp attaches to frame and is designed to fit a specific shape and diameter



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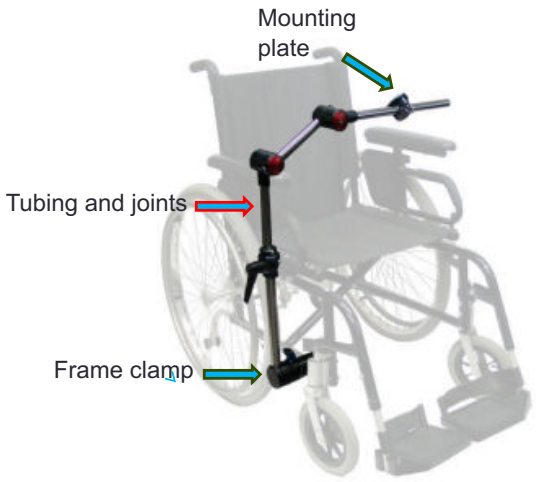
Terminology

- Horizontal and/or vertical sections of tubing with or without joints dictate final position of mount



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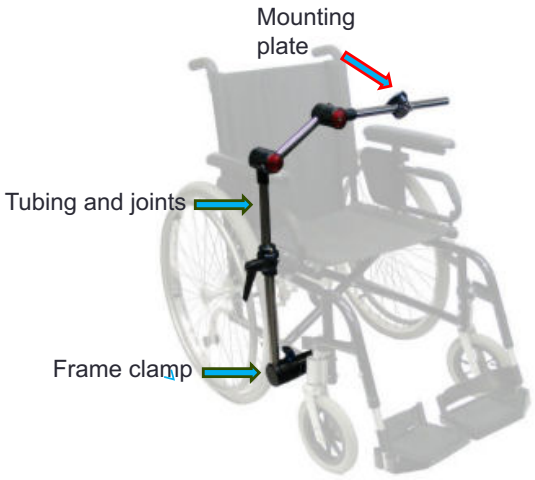
Terminology

- Mounting Plate connects the mount to the AT device. A device adaptor may be required.



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Terminology

- SGDs must have an adaptor plate on the device, as well

Device Adaptor

Mounting Plate

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Why Mount?

- Access
  - Direct
  - Head Mouse
  - Eye Gaze
- Visual Regard
- Security
  - Falling
  - Theft

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How Do I Get Started?

- Device Type
- Device Placement
- Mount Placement

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How Do I Get Started?

- Device Type
  - Which device?
  - What mounting plate will be required?
  - Will a device adaptor be required for the device itself?
  - Choose appropriate mounting category

Prentke Romich
Accent

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How Do I Get Started?

- Device Placement
  - Determine approximately where the device needs to be placed
    - For optimal visual regard and access
    - Within boundaries of wheelchair so device doesn't get bumped
      - i.e. through doorways
    - Not blocking client's view of
      - Communication partner
      - Blackboard
      - Where they are propelling MWC or driving PWC

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How Do I Get Started?

- Mount Placement
  - Where will the frame clamp be placed based on desired device placement?
  - Place above tilt
  - Avoid moveable parts
  - Ensure mount can move out of the way for transfers
    - Fold, swing-away or remove
  - Ensure mobility base will not tip over from weight of mount and device if to the side during transfers

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Ordering Help

- Some Mounting manufacturers offer additional help
- For example, take photos from several directions holding the device where you want it in relation to the wheelchair
- They will spec out what you need!
  - REHAdapt VMS

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Questions?

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Mounting Speech Generating Devices (SGDs)

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Mounting: SGDs

- Larger devices include:
  - Dynavox Maestro
  - PRC ECO, Essence
  - Tobii
- Smaller devices include:
  - Dynavox T series
  - PRC Accent
  - Saltillo NovaChat series

Dynavox

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Mounts for Larger SGDs

- Larger devices are bigger in dimension and weight
- Usually not a weight limit due to variety of configurations and usage
- Devices accessed by eye gaze always require a heavier capacity mount due to both weight and height requirements

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Mounts for Heavier SGDs

- BlueSky Designs
- CJT Enterprises
- Daedalus
- Dynavox
- Prentke Romich
- REHAdapt

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BlueSky Designs

- Mount n Mover

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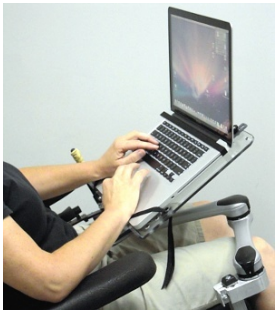
Specifications

- Pros:
  - Allows the user to independently move the mount in various positions for transfers and access. It can be especially helpful with Eye Gaze technologies.
  - Supports wide range of wheelchair frame sizes
  - Supports wide range of SGDs



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Specifications

- Cons:
  - Heavy
  - Bulky
  - Large frame clamp
  - Does not fold
- Cost
  - $710-1300

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CJT Enterprises

- Profiler
- Profiler Angular

Profiler Angular

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Specifications

- Pros:
  - Fits most frames
  - Many options for placement on frame
  - Supports wide range of devices

Profiler

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Specifications

- Cons:
  - Heavy
  - Bulky
  - Large frame clamp
  - Does not fold
- Cost:
  - $856-1400
  - Standard and Super versions

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Profiler Angular

- Can attach under the seat pan or behind seat back

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Daedalus

- Rigid
- Folding
- Locking Swing Away
- Rear Folding
- Positioner

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Specifications

- Pros
  - Wide variety of frame clamps, including custom sizes, locking clamp for tilt frames, side clamp for placement on seat rail
  - Clamp takes up little space on frame
  - Supports many devices
  - Folding version

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Specifications

- Cons
  - Heavy
  - Pin in frame clamp can slip during tilt if locking clamp is not used
- Cost
  - $600 - 1100

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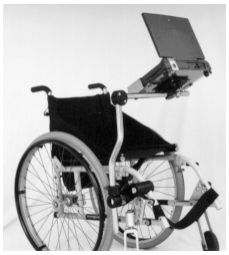
Rigid

- Rigid
- Lighter than others
- Simple
- Less costly



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Folding

- Folds away to side
- Allows transfers without base tipping
- Device is facing out – risk of damage

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Rear Folding

- Very heavy
- Non-removable
- Allows device to remain on chair out of the way, even during transport

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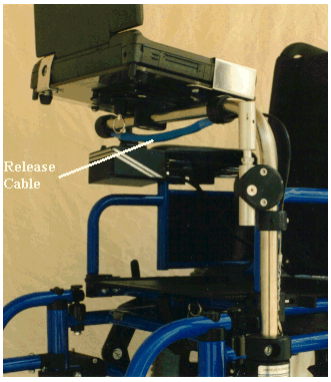
Locking Swing Away

- Allows client to pull down on cable and push mount to the side for independent transfers
- Can be difficult to operate



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Positioner

- Different joints than other Daessy mounts
- Less bulky
- More planes of adjustment at joints

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DynaVox

- ConnectIT
- Made by REHAdapt

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Specifications

- Pros
  - Lighter weight than other mounts in this category
  - Fits most frames
  - Frame clamp is small
  - Tubes flow through joints for increased adjustability

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Specifications

- Cons:
  - Only supports Dynavox products
  - Does not fold
- Cost:
  - $1100 base

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Prentke Romich

- Wheelchair Mounting Kit (WCMK)
  - Basically a Daessy Rigid Mount

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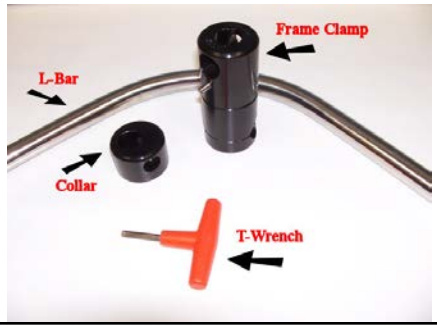
Specifications

- Pros:
  - Simple
  - Easy to mount
  - Less costly than some other options



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Specifications

- Cons:
  - Rigid with little adjustment
  - Heavy
  - Only supports PRC products
- Cost
  - $675

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REHAdapt

- Monty 3D

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Specifications

- Pros:
  - Lighter weight than other mounts in this category
  - Fits most frames
  - Small frame clamp
  - Tubes flow through joints for more adjustability
  - Works with a variety of devices
  - 3 positions for transfers
  - Knob or tool adjustment versions

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Specifications

- Pros:
  - Folding version (3DK)
  - Heavy duty version for eye gaze
  - systems (3D eye)

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Specifications

- Cons
  - Pin can slip during tilt without Swivel Joint with lever (not included on standard 3D)
- Cost
  - $755 - 1100

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Power Options

- Some clients need to reposition a SGD for varying access methods (i.e. Direct and Eye Gaze)
- Some clients need to reposition a SGD for visual field during mobility
- Some clients need to move a SGD out of the way for transfers

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Power Options

- Power mount
- Motion Concepts

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Mounts for Smaller SGDs

- Smaller in dimension and weight
- If client uses excessive force against the device and/or mount, a heavier mount may be indicated
- Generally lack the height available in heavier mounts
  - i.e. for eye gaze

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Mounts for Smaller SGDs

- CJT Enterprises
- Daedalus
- REHAdapt

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CJT Enterprises

- ProLite

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Specifications

- Pros:
  - Holds up to 5 lbs
  - Smaller and lighter than standard mounts

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Specifications

- Cons:
  - Some frames require larger frame clamp
- Cost:
  - $565.00

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Daedalus

- M series
  - Mini Adjustable Mount
  - Mini Folding
  - Mini Rigid

Mini Adjustable

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Specifications

- Pros:
  - Smaller and lighter than standard mounts
  - Holds up to 10 lbs
  - 3 versions

Mini Folding

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Specifications

- Cons:
  - Heavier than many other mounts in this category
- Cost:
  - $900

Mini Rigid

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REHAdapt

- Tablet Mount
  - Supports other device adaptors for smaller SGDs

with SuperClamp

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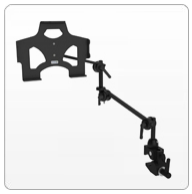
Specifications

- Pros:
  - Smaller and lighter than standard mounts
  - Versions include knob (QS) or tool adjustment
  - Frame clamps for most size frames
    - SuperClamp for unusual sizes
  - Device adaptors and mounting plates for most lightweight SGDs, including tablet based devices

QS version



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Specifications

- Cons:
  - None that I have come up with…yet
- Cost:
  - $275-355

IC version for wheelchair

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Questions?

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Mounting Computers

- Notebook/Laptop
- Tablet

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Mounting Notebooks

- BlueSky
- CJT Enterprises
- Daedalus

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BlueSky Designs

- Mount 'N Mover

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CJT Enterprises

- Profiler
- Angular

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Daedalus

- Daessy series

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Questions?

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Poll Time

- Are you being asked to mount Tablets?
  - All the time!
  - Occasionally
  - Never

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Mounting Tablets

- REHAdapt
- Stealth
- Therafin
- Others

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Mounting Tablets

- There are an ever increasing amount of Tablet mounts
- Some do not hold their position well or offer adequate positioning, so are not included here

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REHAdapt

- Tablet Mount
- Pros:
  - Versions include knob or tool adjustment
  - Frame clamp fits most size frames
  - SuperClamp available for unusual sizes
  - Various tablet mounting plates available

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REHAdapt

- Cons:
  - None that I have come up with yet…
- Cost:
  - $275-355

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Stealth Products

- Tablet Mount
- Pros:
  - Various links can be added or removed to achieve desired position
  - Adjustable mounting plate holds various size tablets
  - Swing away option

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Stealth Products

- Cons:
  - Heavy
- Cost:
  - $375 Gatlin style
  - $555 Standard

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Therafin Corporation

- Communication Mount
- Pros:
  - Holds iPads, iPad minis, 7” and 10” tablets
  - Extension kit adds 3-6” to any mount

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Therafin Corporation

- Communication Mount
- Cons:
  - Frame clamps are limited
- Cost:
  - $510 - 815

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Other

- Resourceful? Check out RAM mounts
- http://www.rammount.com

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Funding

- Can you get funding for a Tablet mount?
- Yes – if Tablet is being used for communication
- No – most of the time

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Questions?

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Thanks!

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References:

- Wheelchair Mounting Systems Comparison Matrix, www.atilange.com, under Resources
- Carrington, Patrick, Amy Hurst, and Shaun K. Kane. "How power wheelchair users choose computing devices." *Proceedings of the 15th International ACM SIGACCESS Conference on Computers and Accessibility*. ACM, 2013.
- Lin, Wendy, et al. "Mobility-assistive technology in progressive neuromuscular disease." *Physical medicine and rehabilitation clinics of North America* 23.4 (2012): 885-894.

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