

Access or Activations 2017



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Objectives

- Understand Seating as it applies to access for mobility
- Describe and identify different forms of alternative access
- Identify diagnoses based controls through use cases.
- Discuss switch access with and with out powered mobility.
- Recognize the importance of programming power wheelchairs
- Identify components necessary for access to Phones, Computers, and Communication devices

Seating History

- Seating was designed for support, containment and Control of a patient.
- It was started by Orthotists, and Rehab Engineers, who only used Anatomy and skeletal systems.
- For persons with CP the goal was to break tone. So we designed 90/90/90 seating That was a position of rest.
- Supporting someone with Quadriplegia we used long seats reclined tall backs and extended leg rests to maximize pressure distribution
- When we asked clients to do a something from this seating it failed. So we added more barriers.
- We did studies on pressure relief shear contact and distribution for skin integrity.
- Then we applied the same principles to all seating and diagnoses

Seating for Function

- What does it mean (Seating for function).
- Seating is not just Anatomy it is Physiology and Neurophysiology it is everything about our bodies and our Sensory motor system is how we function.
- It is not static. It is an action once we lose the ability to move or change position we lose function. we have to know how we can support this with seating
- Seating is a process it is a understanding of the Patient and their needs and wants.
- We need to support a patient with a system that works to support their needs both medically, physically and functionally.
- Seating has to start with the Patient not with the products.
- When you start with the patient it will lead you to the product

Body Postures

- Rest - as human beings how does or position in space effect how we function
- Work - When we need to do a task what positions help us perform the best.
- Eat - What position helps us eat or drink
- What does our sensory motor system have to do with seating.
- The worst thing we can do is only give someone one position to do all of these things.

Seating

Izaac

- Understanding how the sensory motor system effects seating
- What role does Visual, Tactal, Processing play
- Powered mobility plays a huge role in figuring out seating and switch sites.

Considerations for Mobility

- Cognition - How do we judge this with someone who has never had experience?
- Age - At what age does someone start gaining motor experience?
- Vision - Does client have visual processing concerns or are they blind?
- Safety - How will we ensure safety?
- What roll does powered mobility play in teaching skills?

Age for Mobility

- What age do children start learning and developing
- What happens when independent mobility is impaired or compromised.
- What do we understand about development.
- We do understand that for a child to grow and learn they must have experiences and manipulate objects
- Children who because of their disabilities miss acquiring foundational skills do not develop a foundation for achieving higher level functions and learning higher level concepts. (Tech for Tots 2000)
- This creates motor pathways and a Synapses. Synapses enable different parts of the brain to talk.

Wheelchairs and Electronics

R-Net



Curtis/Q logic



MK6i/Linx



Permobil

ROVI

Quantum

Invacare



Amy

Sunrise

Otto Bock

Linx

R-Net



Programmiers

Displays

Output modules



Dongle/ PC

Omni

Super Joy

IOM

I Device
Mouse Module





R-Net Settings

- Joystick through
- In Omni with ASL Sleep 12 V needs to be **on** or headarray wont power up when chair goes to sleep
- Port 1 is the best port for switch access most of the time
- SID **Three Switch** Headarray if you want reverse
- User switch **NO**
- F/R toggle **Off**
- Actuator selection **SID**
- Actuator Axis **L/R or R/L Headarray**
- Speeds Must set **Max and Min**
- Profiles On or Off must be on to get into the profile
- Modes each profile which functions you want on in each profile including programming
- Input Device / Input Type **Universal or Onmi**
- Latch only adjustable to 250 seconds
- If reset doesn't check D Bounce and change setting 50 or 100

MK6i/ Linx



Programmers

Displays

Output modules

MK6



MPJ



AUX/ ECU
2 ports

Linx

S&P Di



LAK

Linx access key



Linx 400



Linx 500



Input
module

BT Mouse
Included
No Output
Module
Yet



MK6

- Standard Program MEC all ASL Joysticks
- Important settings Traction, Trimmer dampening, G-trac for joystick smoothness.
- 4 completely separate drives,
- No drive
- Rim Control **Makes reset a mode not a condition of a switch activation**
- Torque by drive
- **G-track by drive**
- Auditory different for every mode
- Two ECU outputs
- Digital interface being separate **Not in the Display which causes funding issues**

Curtis



Quantum

Otto Bock

Q2



Enhanced display



Q2 Joystick



AUX Module

Q3



Enhanced display



Skim



Q3 Joystick

No Output Module

Curtis - Settings

- **Program Adjustments**
- **Mode Options Drive, Seat program, Aux Program, Rest, Disable**
- **Drive P1 P2 P3 P4 P5**
- Speed settings **Speed Turn Rate**
- Active Device Three switch Head for Headarray Drivers if not seating is an issue
- Back Toggle **Disabled**
- Toggle while driving **Off**
- **Divice Options Folder**
- Device Double command **Disabled**
- **Three switch head folder**
- Mode Jack switch type **Toggle**

Mechanical Switches



Egg Switch



Ultra Light Switch



Wobble Switch



Button Switch



Pneumatic Switch

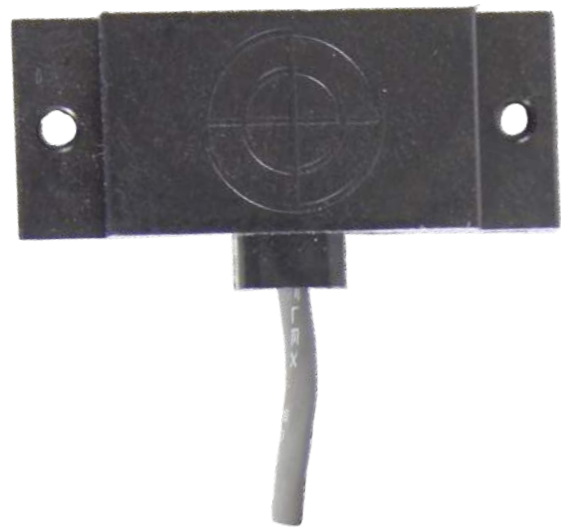


Lip Switch



Treadlite Switch

Electronic Switches



204 Proximity Sensor



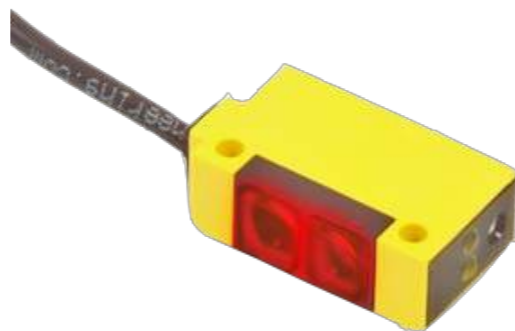
208 Adjustable Proximity Sensor



215 5V Round Proximity Sensor
(Water Resistant)



203 / 202 Fiber optics



209 Photo Electric

Atom for non Power chair users





ATOM Headarray

- Interface in headrest one Atom fits all wheelchair electronics
- LED directional indicator
- Adjustable switch trimmer
- On/OFF switch/User On/Off
- Adjustable auditory feature
- Switch setting for F/Rev toggle
- User switch port
- Connection indicator



HEAD ARRAY SIZES



CURVED WING
5"h X 3.25"w



PROTON WING
3"h X 2"w



STANDARD WING
3.25"h X 1.5"w



ELEMENT WING
3"h X 2"w

COMPATIBLE WITH:

MK6i Electronics (SNP DI Module)

R-Net Electronics (Omni Display)

Curtis Electronics (Enhanced Display)

ATOM BT Accessories



ASL 557-3

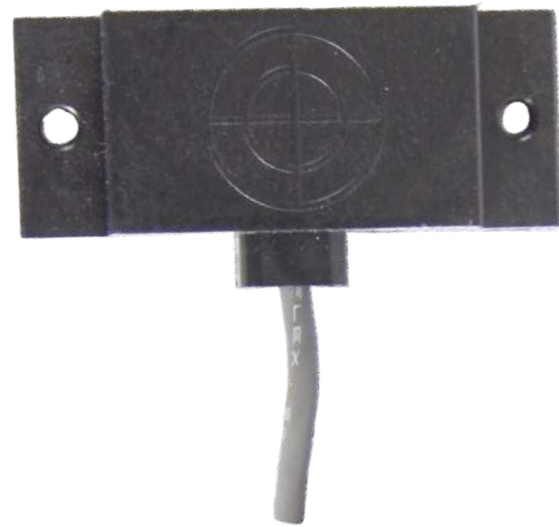


ASL 558



TECLA E
with bluetooth to
ATOM
8 devices

106 Proximity Tray Array ATOM Version



Fiber Optics Atom



Large Fiber Optic Cable



Small Fiber Optic Cable



Illumination Box



Palm Tray



Four Switch Fiber Optic



S&P
Attachment



Two Switch Fiber Optic



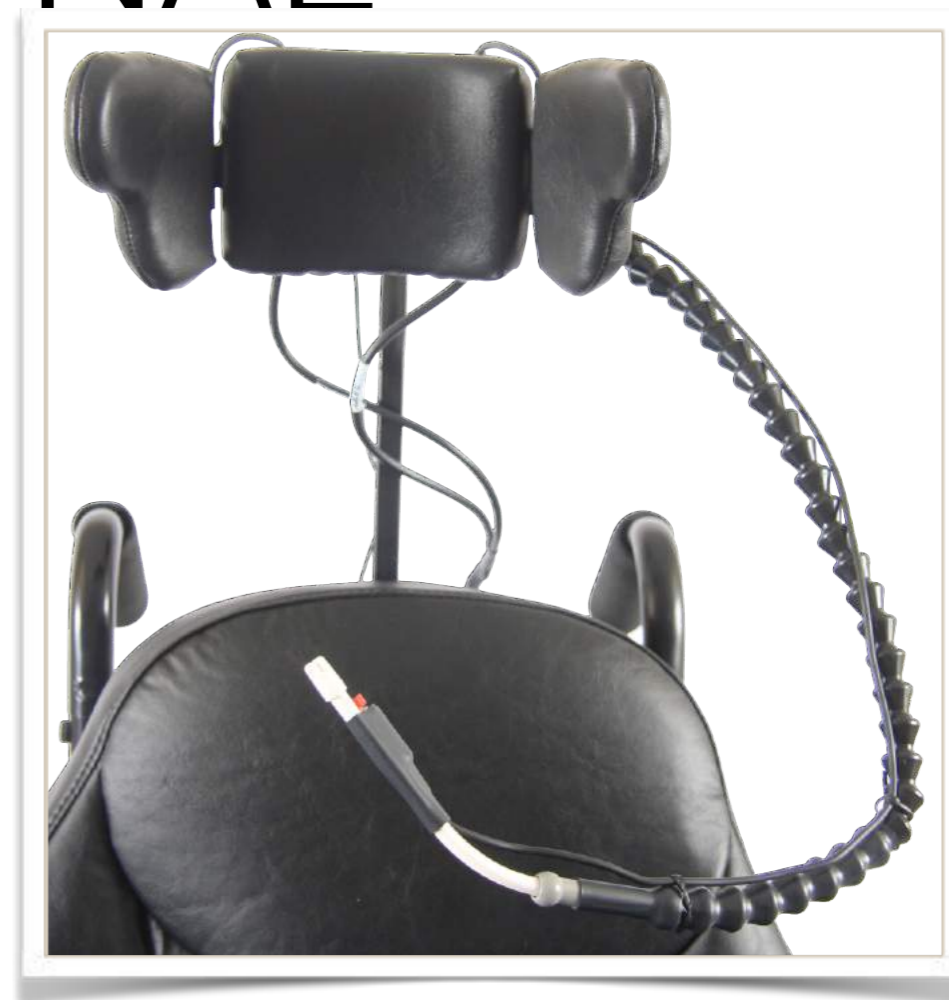
ASL DIGITAL/ PROPORTIONAL



ASL 111 Proportional Digital



Proportional forward and reverse
Digital left and right



ASL S&P HEADARRAY
Any puff is forward
Any sip is reverse
Headarray is left and right

Alternative Joysticks



ASL 135 Mushroom Joystick



ASL 134 Compact Joystick
Dual



ASL 133 Compact Joystick
Single



ASL 132 Pediatric Compact Joystick



ASL 634

Extremity control



ASL 129/130 Micro
Extremity Control
(MEC)



ASL 128 Molecule



ASL 136 Micro
Mini Proportional



ASL 128 Molecule BLUETOOTH

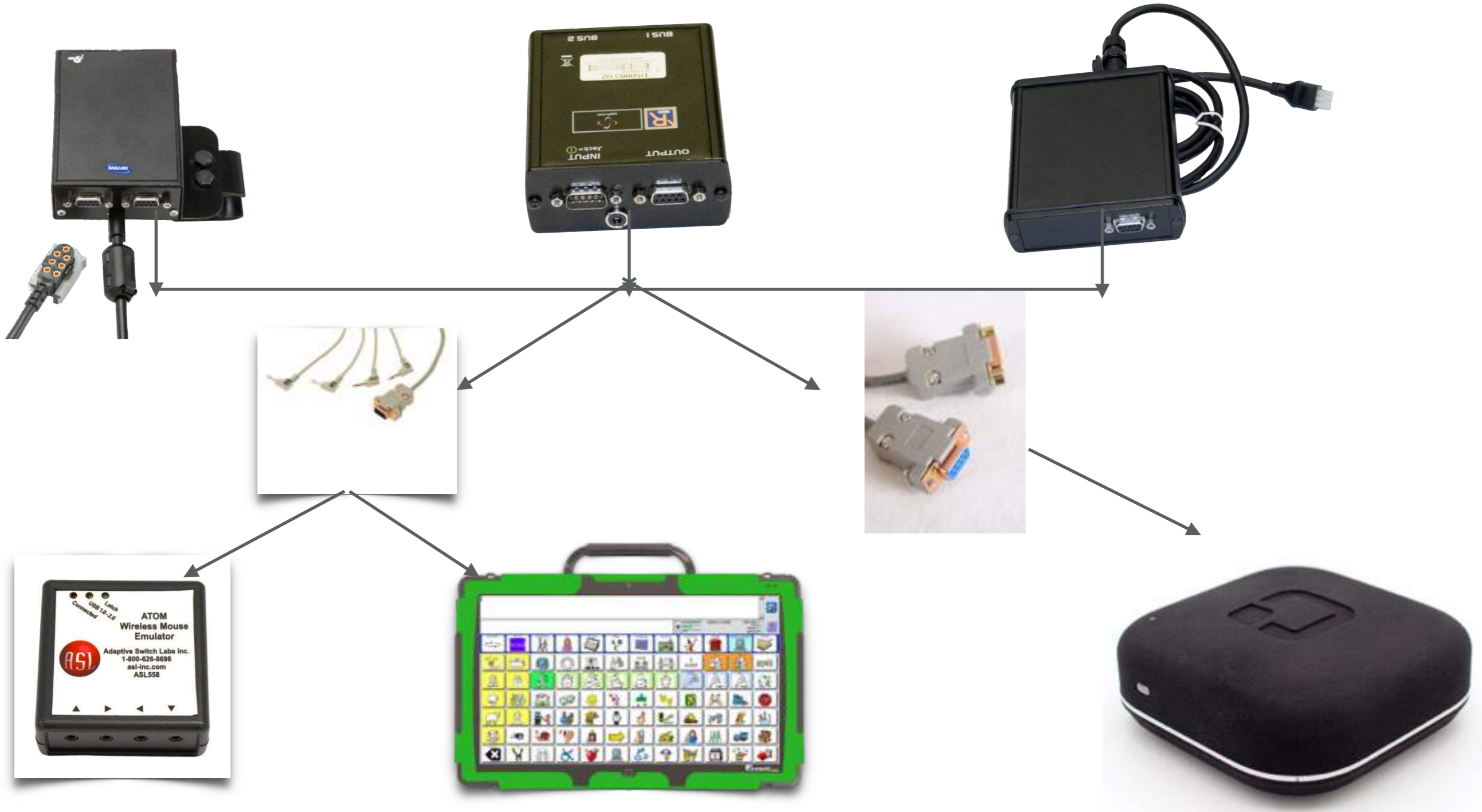


Output modules

MK6i
AUX

R-NET
IOM

Q-Logic
ECU



TECLA E

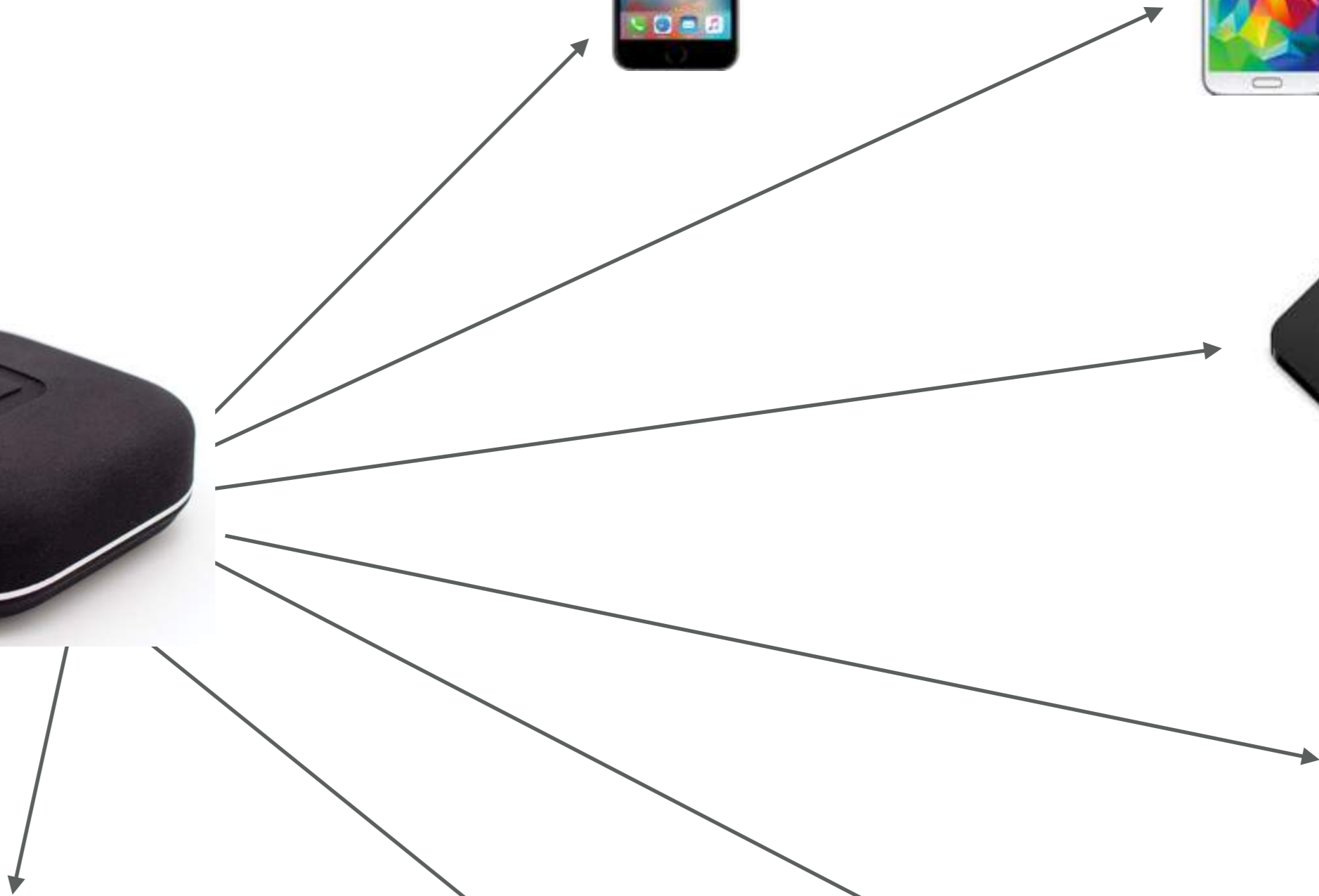


Atom Technology



- ASL ATOM BT Chip Connected
- Android & iOS
- Mac and Windows
- Connects to up to 8 devices at one time
- Bluetooth
- Wifi
- 3G
- GPS
- Integrates with Logitech Harmony
- Temperature, Light, Sensors

TECLA-e



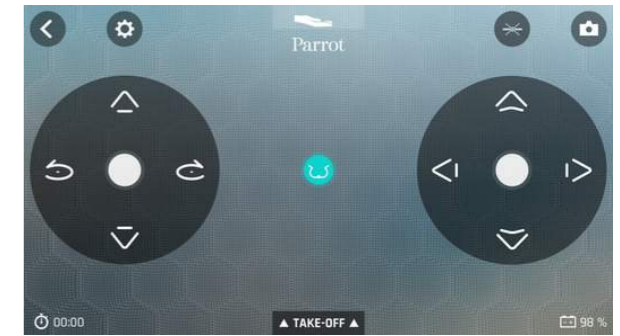
Parrot Mambo Drone



ASL 104 Atom



Tecla E



iPad with
App for Parrot
Mambo



Sady

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Objectives Reviewed

- Apply basic principals of seating for access
- Recognize the roll of powered mobility in determining access for involved clients
- Describe and identify at least two forms of alternative access for powered mobility, computers or AAC devices
- Give examples of alternative access without powered mobility

Thanks for Attending



Chris Codie Lisa Byron Brendon Joe Trey James

2017