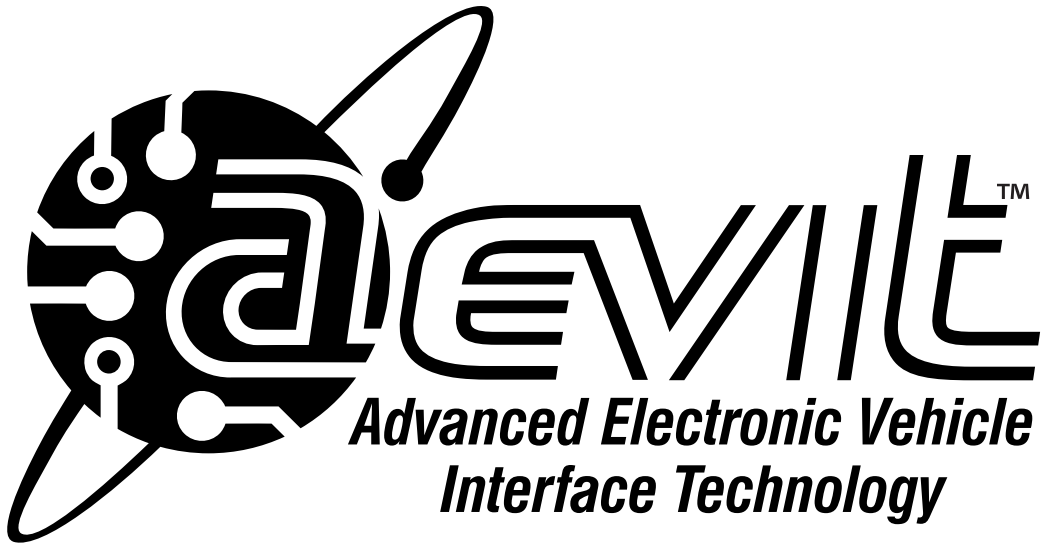


Product Guide



Driving The Future

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Electronic Mobility Controls

Electronic Mobility Controls was founded with the goal of providing individuals with high level disabilities the freedom of mobility. To achieve this goal, EMC has designed the AEVIT™ Driving Control System. This system is comprised of high-tech adaptive driving controls fitted to modern vehicles, allowing users from all walks of life to regain their driving mobility.

EMC manufactures a variety of primary driving control options designed to operate the gas, brake, and steering controls of your chosen motor vehicle. The AEVIT™ Driving Control System also allows for extensive control of the secondary functions of the vehicle.



Driving Control Systems

The new **AEVIT™ 2.0 Driving Control System** features the latest technological advancements in "Drive-by-Wire" adaptive driving controls. The system is sold as a totally integrated unit that contains both primary and secondary controls.

The following is a list of the major components found in the new AEVIT™ 2.0 System:



- **Servomotor:** The same dual wound redundant servomotor with three (3) safety critical feedback channels as found in AEVIT™ 1.0 System. These powerful servos are used to directly control the gas/brake and/or steering functions.

- **Input Devices:** The same safety critical electronics as found in AEVIT™ 1.0 System but with a brand new look! All of the input devices have been redesigned to be smaller and lighter, as well as more ergonomic and attractive. The neutral gray color matches almost every vehicle interior! The plug and play design allows you to choose from any of the input devices to configure your AEVIT™ 2.0 Driving Control System.



- **AEVIT™ Chassis:** This component is brand new to the AEVIT™ 2.0 Driving Control System! It replaces the older AEVIT™ Mounting System (AMS) and takes up 40% less space. Measuring a mere 12"L x 7"W x 12"H, it saves valuable floor space in the vehicle. The main purpose of the AEVIT™ Chassis is not only to house the primary control modules, but also allow for quick removal of any module for service. Each module is locked into the chassis with only two (2) screws using a custom designed "wedge-lock" system. The chassis housing also serves as the strain relief point for all primary control wire harnesses so removing a module takes only a few seconds.



- **Vehicle Interface Module (VIM):** This component is also brand new to the AEVIT™ 2.0 Driving Control System! It may look like the Gold Series CPU, but it is smaller and packs a larger punch! This single module contains the termination point for all secondary control wire harnesses as well as a direct connection to the vehicle's On Board Diagnostic (OBD) computer. Talk about integrated!



- **Display:** This single touch screen display is brand new to the AEVIT™ 2.0 Driving Control System! It replaces not only the AEVIT™ 1.0 Information Center but also the Gold Series touchpad. That means that all operation and programming is performed through this single touch screen. Since each icon is on the screen and not around the perimeter like in the Gold Series, the overall size can be reduced without changing the spacing of the functional "target-area". The display measures 7"L x 5"H x 2 1/2" D which is approximately 30% the size of the previous screens.



Primary Control Options

Select from one or more of the following input devices to configure your AEVIT™ 2.0 Driving Control System. Each device has a communication port on the bottom which can connect up to three remote switches used to trigger secondary vehicle functions. This makes it very handy when configuring the vehicle for individual needs! The type of input device(s) selected determines the name of the system. For example, a steering input wheel (W) input device along with a lever (L) input device makes the system a WL-Series. The following is a brief description of all of the input devices currently available:

- **Joystick (J or SJ):** A joystick that is available in a two-axis for gas/brake and steering or a single axis for gas/brake or steering. It has a total range of motion of 60 degrees and requires a maximum of 3.2 oz of force to operate. It is designed for customers with a minimal range of motion and effort level.



- **Lever (L):** A gas/brake input with 4" of travel and requiring 4 lbs of force from the full gas to the full brake position. It is designed for customers that have a wider range of motion and a larger effort level.



- **Wheel (W):** A steering input that has a 2:1 turn ratio between the AEVIT™ Wheel and the vehicle's steering wheel. It requires 3.2 oz of force at the proper orthotic position of 3 3/8" from the center. It is also designed for customers that have a wider range of motion.





- **Wheel/Joystick (WJ):** A wheel/joystick combination input that utilizes the wheel for steering and the joystick for gas/brake. It is designed to be mounted in the center of the driving area just above the lap.

The above inputs can be used in any combination, for example: Wheel/Lever (WL), Wheel/Single Axis Joystick (WY), Dual Single Axis Joystick (XY), and Lever Single Axis Joystick (XL).

Evaluator Control Options



- **Evaluator Console:** A joystick input with a pendant switch specifically designed to allow a driver-trainer to assume control of the gas/brake and steering controls of any AEVIT™ Driving Control System. A feature called the Inhabited Takeover (ITO) allows the driver-trainer to take over steering the vehicle's steering wheel and gas/brake using either the joystick or a mechanical training brake.



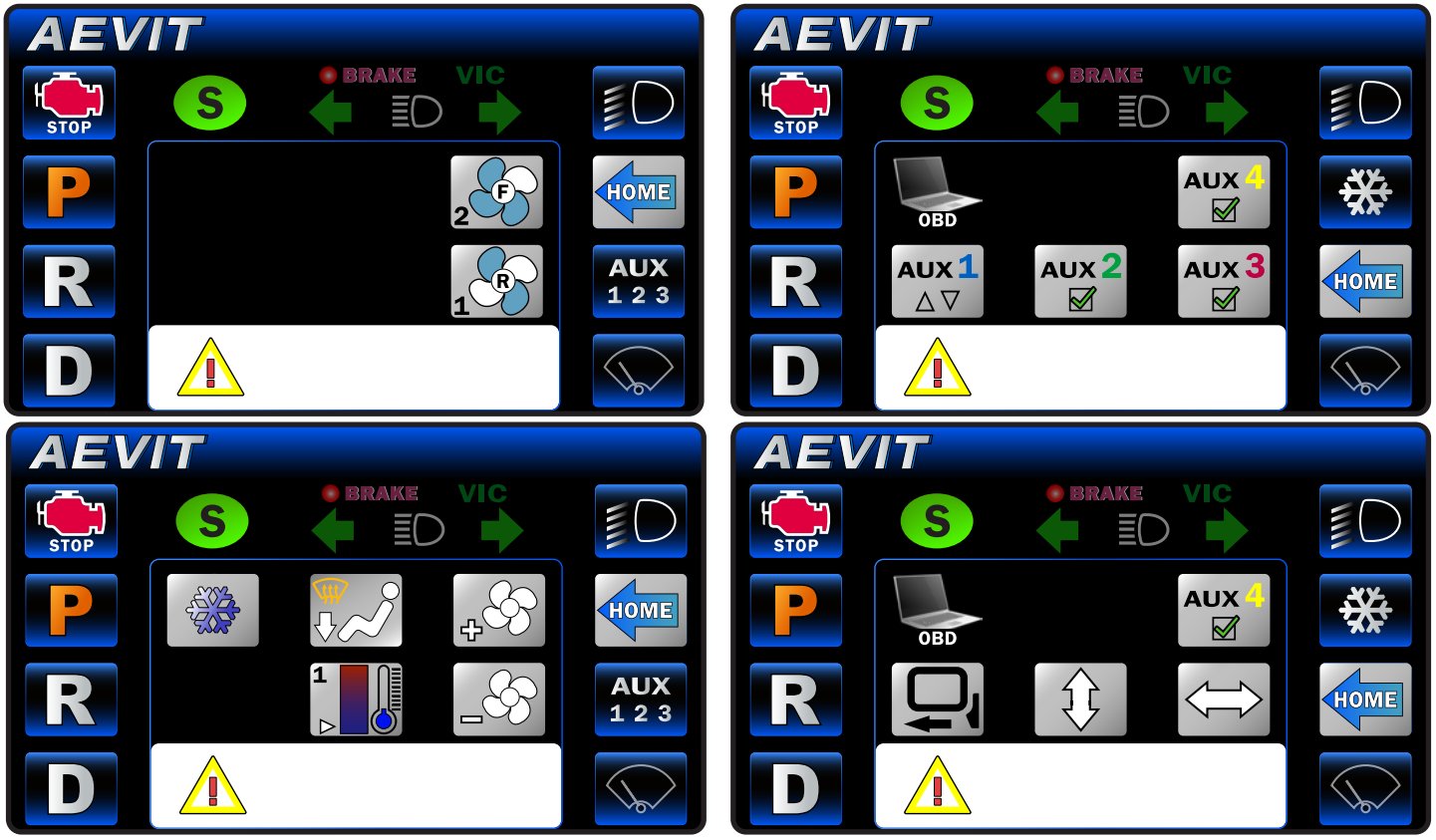
- **Evaluator Console:** The AEVIT™ Evaluator Console is a dual input control device that is designed to be connected to any AEVIT™ 2.0 Driving Control System for the purpose of taking control over the gas/brake and steering functions in an emergency situation. This provides a safe driving experience during client training. Activation of the Evaluator Console is accomplished by depressing either of the orange Override Switches.

Secondary Control Options

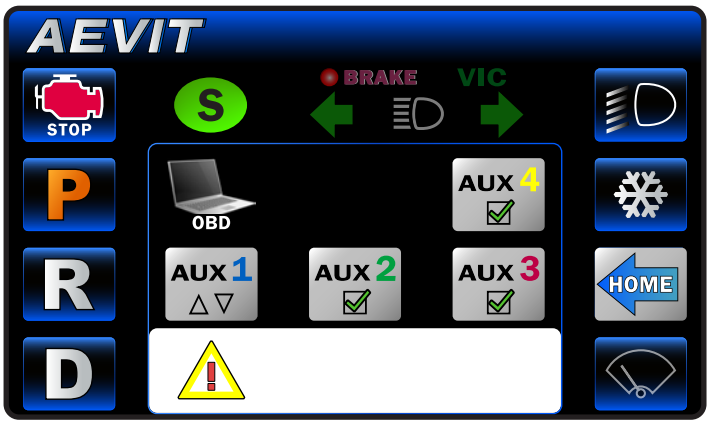
The following options are sold only in conjunction with a primary control system (stand-alone secondary control systems are also available):

Option A: Our most popular option contains almost every function that would be required in a modified vehicle! Look at what you get:

- Ignition
- Starting
- Lights
- Turn Signals/Hazards
- Horn/Dimmer
- Wipers
- Cruise On/Set
- Shifting (P, R, N, D, D2)
- Windows
- Locks
- Electric Park Brake

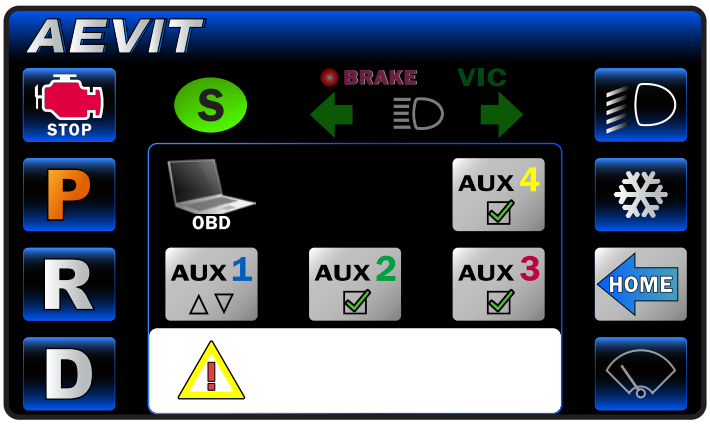


Plus...



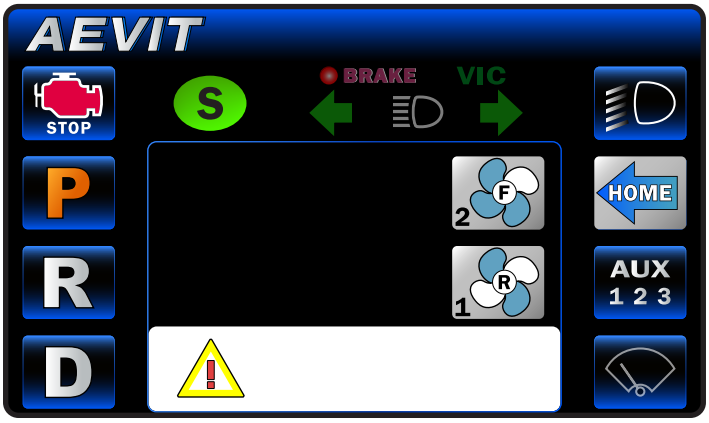
- Four (4) Programmable Auxiliary Functions
- Customer Screens

Or



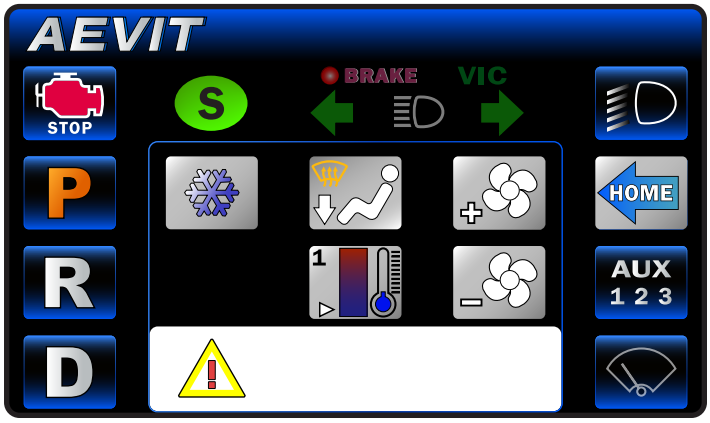
- Left and Right Power Mirror Control
- One (1) Auxiliary Function
- Customer Screens

And



- Front & Rear Fans

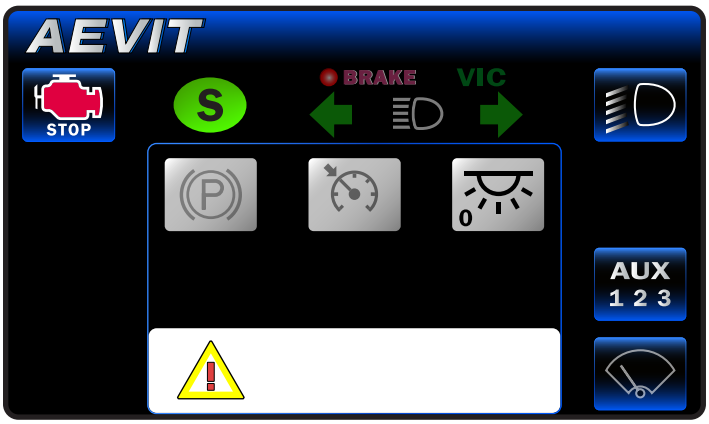
Or

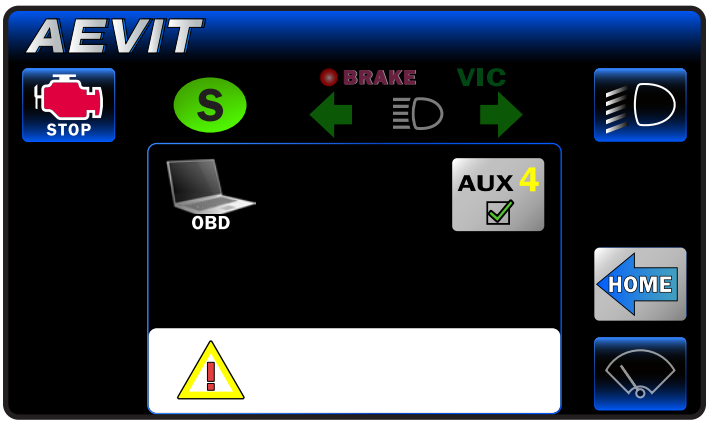


- Front & Rear Fans
- HVAC

Note: HVAC is an acronym that stands for heating, ventilation, and air conditioning. HVAC operates the direction of airflow, temperature control, and AC Compressor for manual HVAC units. This is achieved through the implementation of interceptor modules.

Option B: With this option you get most of the standard secondary functions including:



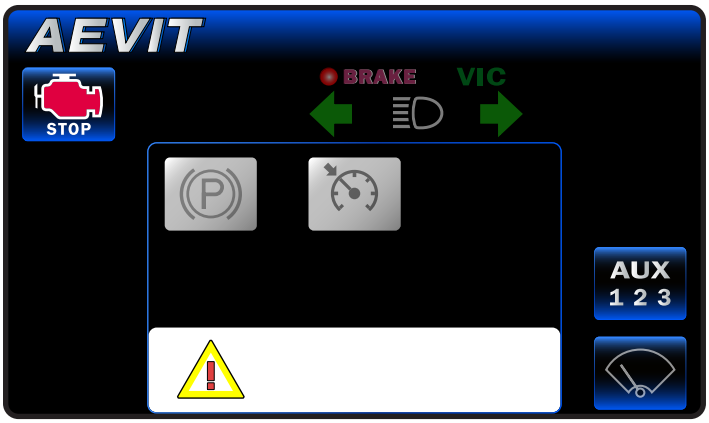


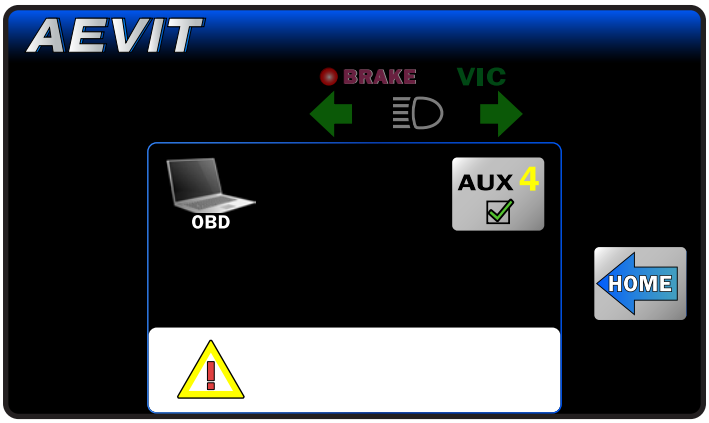
- Ignition
- Starting
- Lights
- Turn Signals/Hazards
- Horn/Dimmer
- Wipers
- Cruise On/Set
- Electric Park Brake

And

- One (1) Programmable Auxiliary Function
- Customer Screens

Option C: With this option you get a small number of the secondary functions including:





- Turn Signals/Hazards
- Horn/Dimmer
- Wipers
- Cruise On/Set
- Electric Park brake

And

- One (1) Programmable Auxiliary Function
- Customer Screens

Note: Secondary control systems are available without the purchase of a primary control system.

Standard Orthotics

Gas/Brake



Lever with Hand Splint



Lever with Controller Pin Switch



Lever with T-Handle



Lever with Tri-Pin with Switches



Lever with Tri-Pin with Thumb Switch

Steering



Wheel with Hand Splint



Wheel with Swivel Pin



Wheel with Tri-Pin



Wheel with 1" & 2" Spinner Knobs



Joystick with Pin Switch



Pin (included with all Joysticks)



Round Knob (included with all Joysticks)



Oval Knob (included with all Joysticks)

Custom Orthotics

Custom Orthotic Design Service

At EMC, we strive for the freedom of mobility for all of our drivers. To better achieve this goal, we offer 3-D printed custom orthotics to best meet your driving needs. Choose from our wide range of available custom orthotics, or contact us to develop an orthotic tailored specifically to your requirements. With our engineering team, and your orthotic vision, we can transform your desires into a reality.



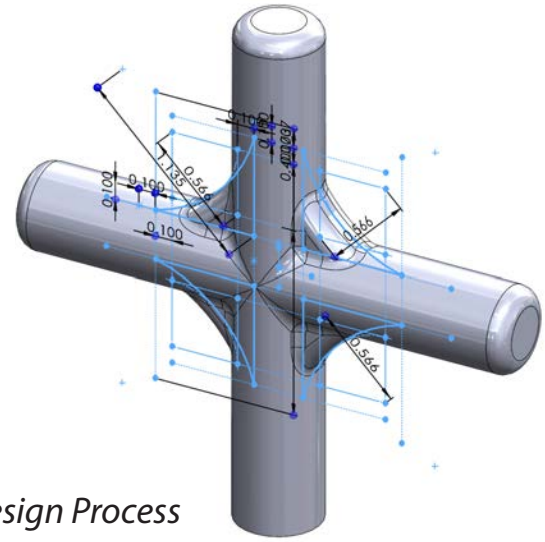
Orthotic Design Process

- **Conception:** Every orthotic is tailored to the user's specific needs. Let's walk through the design process for an orthotic requested by a CDRS. It all starts with an idea for what will work best - it could be an object, a drawing on a napkin - or in this case, a pen taped to the pin orthotic.



Mock up supplied by CDRS

- **CAD Design:** We then get started on designing the orthotic using CAD software, meeting the design criteria set forth by the customer.



Orthotic Design Process

- **Prototype:** After internal review, we print a protoype and send it to the customer for validation. With the customer happy with the protoype, we print a final copy out of carbon fiber infused nylon.



Finished Orthotic on Input Device

Mounting Options

Orthotics can be mounted on any of our Input Devices

W-Series Wheel Input





L-Series Lever Input





Y-Series and J-Series Joystick Input





Finish Options

Orthotics come in both Smooth and Rubberized finishes

Smooth





Finished products are 3-D printed out of carbon fiber infused nylon

Rubberized





Finished products can be sprayed with a rubber coating

Customer Examples

The following are examples of orthotics we've designed for customers

THA Cup

The THA Cup was designed to perfectly fit a customer's residual limb. It rotates on a ball bearing to glide with the motion of the L-Series Input.



Flightstick

The Flightstick emulates the design and form of an aviaton joystick a customer sent in. The complex angles and shapes show that anything is possible with custom orthotics.



Short Top

Sometimes simple is all you need. The Short Top was a design request from a CDRS to put in their evaluation tool box. It has become an often prescribed orthotic.



Full Catalog

The AEVIT™ System, by nature, allows for deep customization of how a driver will operate a vehicle. These custom orthotics further expand on this principal, allowing for endless possibilities for how a vehicle can be controlled. If you can dream it, we can design it.

Scan the QR code below or visit
https://electronicmobilitycontrols.com/emc-custom-programs/custom-orthotic-design-catalogue/
to view the full catalog of pre-designed custom orthotics.

With our engineering team, and your orthotic vision, we can transform your desires into a reality.

Additional Control Accessories

These accessories are available for either an integrated AEVIT™ 2.0 Driving Control System or a stand-alone console system.

Remote Start: Push button starting of the vehicle from up to 250 feet away. Automatic shut-off after 15 minutes if the vehicle is left unattended.



AVPS Battery System: The world's first dual battery system that allows the vehicle's alternator to "intelligently" maintain two independent batteries. Microprocessor based circuits automatically cycle the batteries for charging but also allow the client to manually switch to a fully charged backup battery. The AVPS will provide critical back up power for:

- The AEVIT™ System
- Emergency Egress
- Emergency Vehicle Starting



With AVPS, you will never be stranded again!



Electric Park Brake w/ Interface Module: This system replaces the vehicle's mechanical park brake with an electric actuator installed in a custom designed aluminum housing. The Interface Module has all the electronic timing circuits required to operate the park brake from a single button.



Power Headrest: Designed for the wheelchair driver that requires assistance with upper body support and secondary switch activation.



Power Headrest (no switches)



Power Headrest w/ 1 button



Power Headrest w/ 6 buttons

Digitone: Allows the use of auditory skills for selection of up to eight (8) secondary controls from a single switch. Press and hold the switch to cycle through tones, releasing on the desired secondary function.



Universal ELB-AB Switch: EMC offers two standard, 2-button touchpad controls: the ELB-TS for Turn Signals, and the ELB-AB for Auxiliary Functions. Each touchpad incorporates two tactile low-effort switches; allowing simplified access to a minimal number of vehicle functions. These units can be mounted just about anywhere, including directly to a hand control device.





Low Effort Pin Switches

Low effort pin switches used for the activation of Digitone in a variety of configurations.



Lever



Joystick

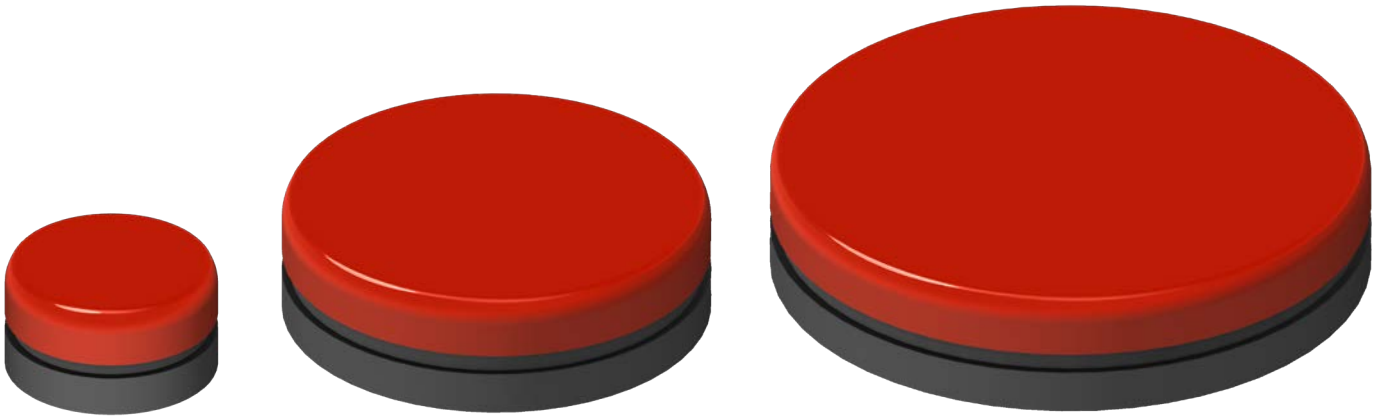


Multi

Low Effort Momentary Switches:

EMC has designed and produced a new low effort switch, rated for 60 million presses.

Sizes:



1.25″ 2.5″ 3.5″

Colors:



Black Blue Orange



Red White

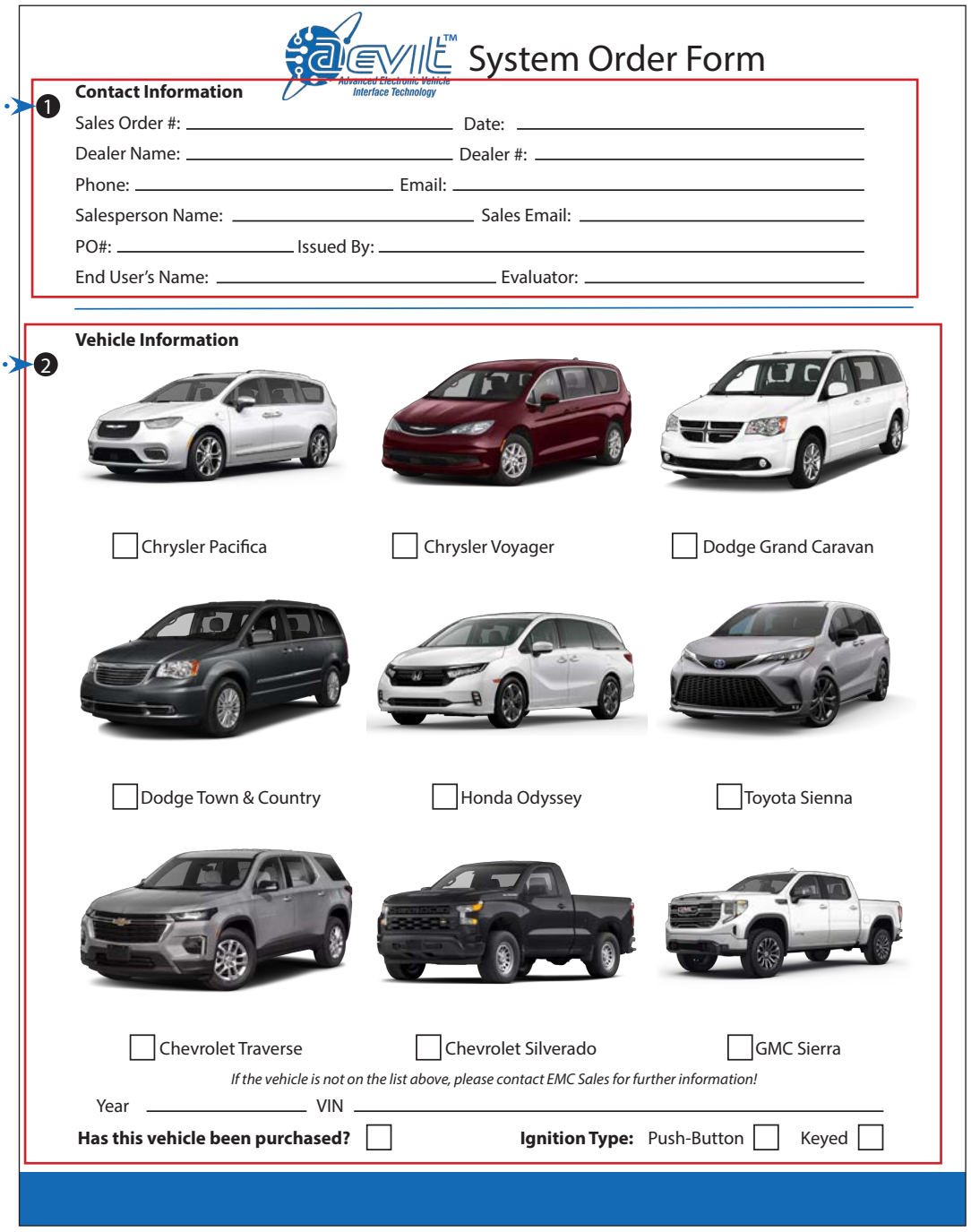
AEVIT™ System Order Form Guide

Simply follow these steps to fill out your AEVIT™ System Order Form.

1. Fill in the Contact Information. Please fill in your phone number in its entirety. Be sure to enter the name of the sales person responsible for invoicing so that it is ensured that all invoices are sent to the correct person of contact.

2. Fill in the Vehicle Information. Please check off the checkbox for the vehicle's make and model. Fill in the year and VIN # in the below form. The VIN # section can be left blank if that information is not known yet. Indicate which type of ignition the vehicle has by checking off the associated box.

To acquire and fill out the AEVIT™ System Order form, scan or click on the QR code.



aevit™ Advanced Electronic Vehicle Interface Technology

System Order Form

Contact Information

Sales Order #: _____ Date: _____

Dealer Name: _____ Dealer #: _____

Phone: _____ Email: _____

Salesperson Name: _____ Sales Email: _____

PO#: _____ Issued By: _____

End User's Name: _____ Evaluator: _____

Vehicle Information

☐ Chrysler Pacifica ☐ Chrysler Voyager ☐ Dodge Grand Caravan

☐ Dodge Town & Country ☐ Honda Odyssey ☐ Toyota Sienna

☐ Chevrolet Traverse ☐ Chevrolet Silverado ☐ GMC Sierra

If the vehicle is not on the list above, please contact EMC Sales for further information!

Year _____ VIN _____

Has this vehicle been purchased? ☐ **Ignition Type:** Push-Button ☐ Keyed ☐

3 Provide information for the AEVIT™ System being ordered.

3 a. Indicate which primary control type you would like for your order by checking the box associated with that primary control type.

b. Be sure to check off which Secondary Control Option you would like for your AEVIT™ System.

AEVIT™ System Information

3 a. **Primary Control Options:**

Gas & Brake:
- ☐ L-Series
- ☐ Y-Series

Steering:
- ☐ W-Series
- ☐ X-Series

Gas & Brake & Steering:
- ☐ J-Series
- ☐ XY-Series
- ☐ XL-Series
- ☐ WL-Series
- ☐ WY-Series

3 b. **Secondary Control Options:**
- ☐ Option A
- ☐ Option B
- ☐ Option C

3 c. **Gas/Brake Standard Orthotics:**
- ☐ LVR-HAND-SPLNT
- ☐ LVR-PIN-SWITCH
- ☐ LVR-SWIVEL-PIN
- ☐ LVR-T-HANDLE
- ☐ LVR-THUMB-SW
- ☐ LVR-TRI-PIN-2

c. Check off the boxes under Gas/Brake Standard Orthotics or Steering Standard Orthotics if you would like to add a Standard Orthotic to your AEVIT™ System.

3 c. **Steering Standard Orthotics:**
- ☐ WHL-HAND-SPLNT
- ☐ WHL-SPIN-KNOB-1
- ☐ WHL-SPIN-KNOB-2
- ☐ WHL-SPIN-PIN
- ☐ WHL-TRI-PIN

3 d. **Switch Options:**
- ☐ DIGI-PIN-SWITCH
- ☐ PWRHR (Power Headrest No Switches)
- ☐ PWRHR-1 (Power Headrest w/ 1 button)
- ☐ PWRHR-6 (Power Headrest w/ 6 buttons)
- ☐ Low Effort Switch QTY:_____

3 d. **Mounting Brackets:**
- ☐ BRKT-AEVIT-DOOR
- ☐ BRKT-AEVIT-FLR
- ☐ BRKT-AEVIT-DISP
- ☐ BRKT-AEVIT-DASH

d. Check off the boxes in the Switch Options or Mounting Brackets section if you would like to add a Switch or Mounting Bracket to your AEVIT™ System. For switches, please indicate the quantity of switches that you would like to order.

3 e. **Stand Alone Secondary Systems:**
- ☐ Option A
- ☐ Option B
- ☐ Option A w/ Mirrors
- ☐ Option B w/ Mirrors
- ☐ Stand Alone Smart Shift w/ Bracket

e. The Stand Alone Secondary System section is optional and should only be filled out if you are ordering a Stand Alone Secondary System. Leave blank if not ordering a Stand Alone Secondary System.

3 f. **Additional Control Accessories:**
- ☐ HVAC
- ☐ Remote Start
- ☐ Digitone
- ☐ ELB-TS
- ☐ ELB-AB
- ☐ Park Brake w/ Interface & Low Effort Switch
- ☐ EC-Series Evaluator Panel
- ☐ Smart Shift (For Option B or C)
- ☐ AVPS Battery System
- ☐ Custom Orthotic

f. Please check off which Additional Control Accessories you would like to add to your AEVIT™ system in the Additional Control Accessories section.

For more information on our products and the AEVIT™ System, scan or click on the QR code.

Electronic Mobility Controls

26 Gabriel Drive,
Augusta, Maine 04330

207-512-8009

electronicmobilitycontrols.com



EMC
Electronic Mobility Controls

MADE IN U. S. A.

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26 Gabriel Drive,
Augusta, Maine 04330