Quickie® Enhanced Display

QR-ED

Owner's Manual

QUICKIE®

SUNRISE MEDICAL®

www.sunrisemedical.com

Improving People's Lives

TABLE OF CONTENTS

I. INTRODUCTION

Welcome to the Quickie Enhanced Display control system. Before delving into the features of this exciting new product, please take a moment to brief yourself with the following safety considerations.

WARNING

Please ensure that the cabling on your power chair remains secure. Loose cabling can become caught and cause damage or injury.

The display is intended to provide the driver with important information about the status of the power chair. Please make sure that you can read clearly the display at all times.

If the display becomes damaged due to dropping or hitting an object while driving, please check with your wheelchair supplier to ensure proper function.

Alterations to the power chair and powered seating programming should only be done with careful consideration by a trained professional. Ensure with your supplier that you can safely operate the vehicle in all situations.

QUICKIE ENHANCED DISPLAY

The QR-ED or Quickie Enhanced Display provides a dashboard view of the driving and non-driving status of your power chair. It is an important device that is critical to safe driving and control of powered seating systems as well as the option of controlling many elements in your environment. This manual is intended to assist with the understanding these important new features.

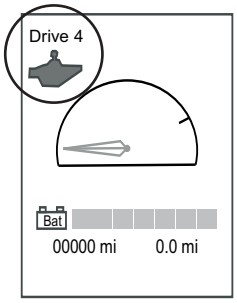
NOTE: If at any point in time while reviewing this manual you become lost or stuck in a screen, either hit the mode button (see button location on the next page) or turn the chair off and start over.

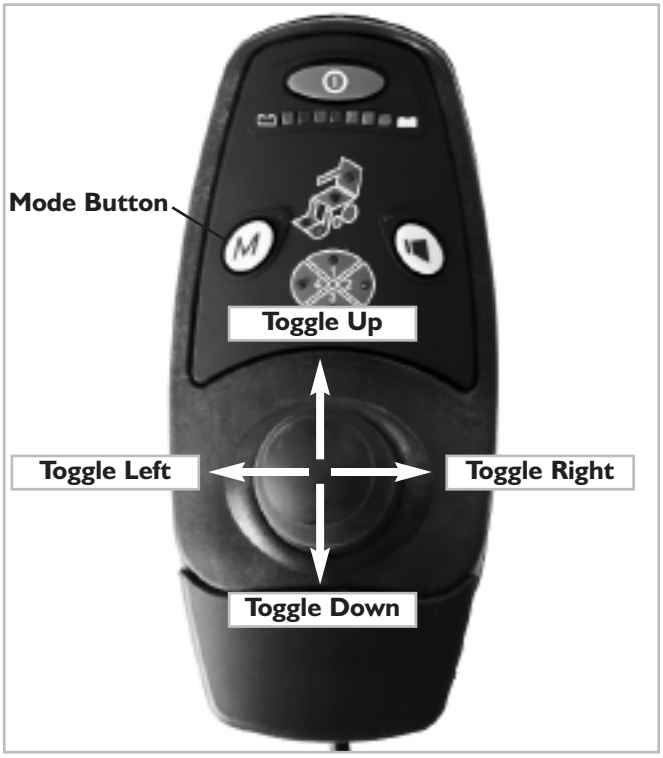
TERMINOLOGY FOR OPERATING YOUR SYSTEM

NOTE: *The instructions throughout this manual refer to a "mode button" and a "toggle direction". All systems will have either a joystick or a specialized input device, such as proportional head control, Sip & Puff control, etc, that is used to drive the power chair. On a joystick (as shown below) there is a Mode button located on the device. In the case of a specialized system, the mode button may be a switch plugged into the Quickie Specialty Control Input Module (QR-SCM). If your system does not have another switch, you may be using time to go from driving to non-driving functions. Please review this with your supplier to understand your set-up. Throughout this manual all "mode button" commands are equivalent, meaning the button on the joystick functions just like a button plugged into the QR-SCM and just like using time.*

NOTE: *As you are using your driving system to navigate through menus, a "toggle direction" command is equivalent to a "directional input command". Please contact the chair's supplier or technician if there is any confusion concerning how to operate a specialized input system.*

NOTE: *If chair operation is through a specialized control device, the drive icon in the top left corner of the menu screen will be different from the handcontrol icon in the menu illustrations at right.*
(See specialized icons listed on page 5.)





3 MAIN MENUS

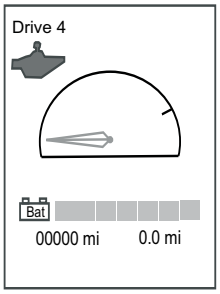
There are three primary screens in the Quickie Enhanced Display: The Drive display screen, the Driver Menu screen, and the Main Menu screen. The majority of operations are accessible through the first two. Movement between these menu screens is described below.

Detailed descriptions of each screen are in the following pages.

Drive Display

This is the ready-to-drive screen. When in this screen, inputs to your driver control will move the chair.
To move to the Driver Menu, press the mode button or if a timed function, wait the programmed number of seconds to move to Driver Menu.

Purpose: *The Drive Display features realtime feedback on the chair's performance. It helps users more easily gauge the chair's operation.*



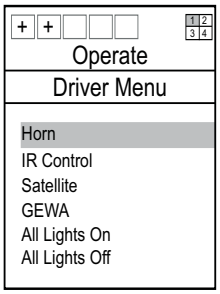
Drive Display

Driver Menu

This screen is a short cut list of all the functions you are most likely to use. To return to the Driving Display, press mode button or give a quick left command. If timed, wait the programmed number of seconds.

To enter the Main Menu, toggle left and hold for 5 seconds. This opens the Operate Menu. Left toggle again to the Main Menu.

Purpose: *The Driver Menu provides a list of short-cuts to commonly used menu items. The Driver Menu eliminates time consuming navigation required to locate these items in the electronic menu tree.*

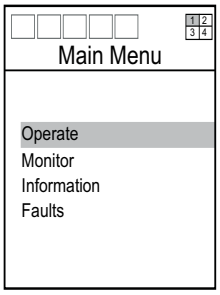


Driver Menu

Main Menu

Press mode button to return to the Drive Display.

Purpose: *The Main Menu is the starting point of the electronic menu tree. This tree contains all the available electronic parameters accessible through the Enhanced Display.*



Main Menu

II. DRIVE DISPLAY

To best understand the Quickie Enhanced Display, please read the following pages describing the primary menu screens.

When the Quickie Enhanced Display is turned on, the first menu screen that appears is the drive display menu. The drive display menu features all the tools necessary to safely drive the chair. Common features found on the drive display include:

A. Drive Profile #:

Indicates the current drive profile (4 total). Each profile provides a different type of driving experience. For example, one profile might be set for slow speeds and gradual acceleration, ideal for confined conditions. Another profile might be set for greater acceleration and maximum speeds, ideal for driving in more wide open spaces. Each profile features its own drive input device.

B. Drive Input Device:

Indicates the type of input device used to drive the chair in that profile.

3, 4 & 5 Button Hand Controls

2 Button Hand Control (Compact Joystick)

Attendant Control Joystick

Specialized Input Devices listed on page 5.

C. Speedometer:

Provides a visual representation of the current speed relative to the maximum available speed.

D. Odometer:

Records the total number miles driven since QR-ED was built.

E. Power Switch:

Turns on and off both the Enhanced Display and the power chair.

F. Trip Odometer:

Records the total number of miles since either last charge or last trip reset.

G. Battery Level Indicator:

Indicates the current battery's state of charge. (See charge levels on page 6.)

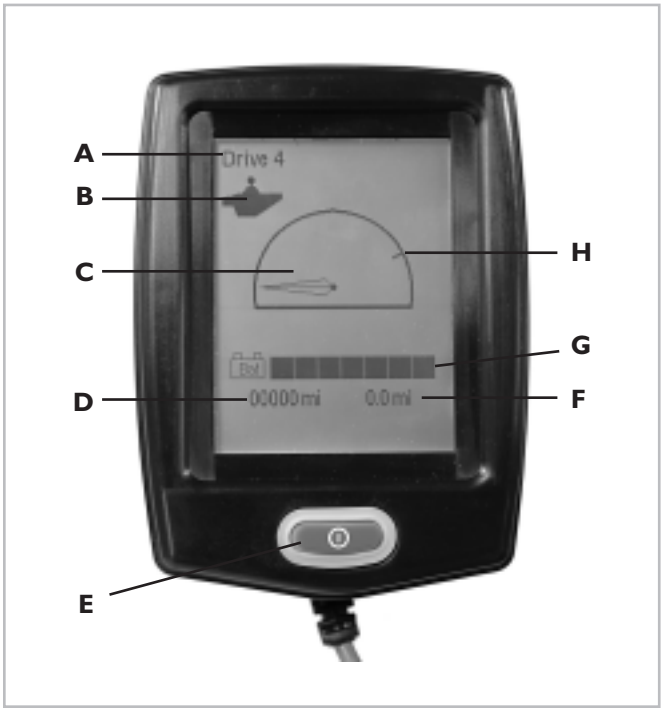
H. Speed Tick Mark:

Indicates the maximum speed available as set by either the potentiometer dial located in back of the handcontrol or programmed in that profile. (Note: not all handcontrols have a potentiometer or speed pot.) As the dial is turned or forward speed is reprogrammed, i.e. the indicator's position changes. The speed tick mark will also change position when the chair is in "creep" mode.

I. IR Transmitter/Receiver:

Transmits and receives Infrared signals used to control audio/visual devices and environmental control devices, such as lights and appliances.

J. Serial Number of the Quickie Enhanced Display.



Front of Enhanced Display (featuring the Drive Display Menu)

Back of Enhanced Display

DISPLAY ICONS

Chairs with specialized input devices and powered seating systems, such as power lift, power tilt, power recline, power elevating legrests, feature a slightly different set of screen icons:

Specialty Input Devices

4-Directional Proportional – provides proportional command with all 4 directions available (e.g. chin control, mini joystick)

3-Directional Proportional – provides proportional control with 3 directions available (e.g. proportional head control)

4-Switch Discrete – Provides non-proportional control with 4 directions available (e.g. star or wafer board)

3-Switch Discrete – Provides non-proportional control with 3 directions available (e.g. proximity Head Array)

2-Switch Discrete – Provides a scheme in which all 4 directions of driving are available with just 2 non-proportional switches.

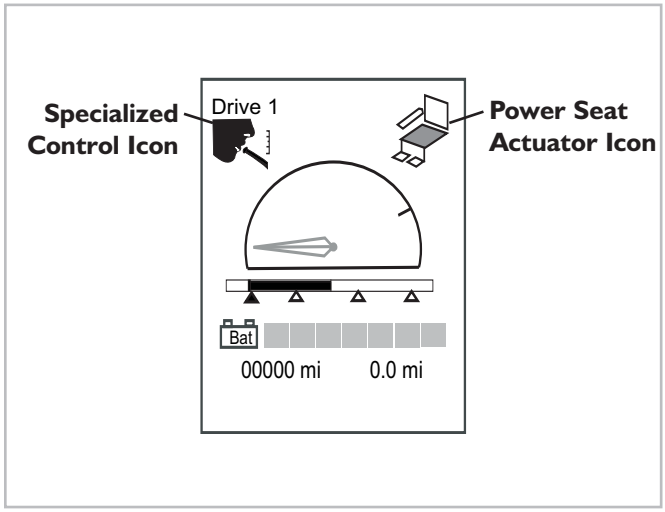
1-Switch Discrete– Provides directional movement in 4 discrete directions. Usually a scanner scrolls between 4 directions.

1-Switch Discrete– Provides directional movement in 8 discrete directions. Usually a scanner scrolls between 8 different directions.

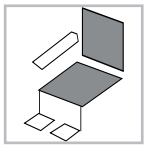
Sip and Puff 4-Pressure Discrete– Uses a sip & puff to provide directional movement in 4 discrete directions using 4 different commands.

Sip and Puff 2-Pressure Discrete– Uses a sip & puff to provide directional movement in 4 discrete directions using 2 commands.

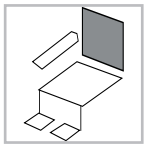
Sip and Puff with 2-Switch Discrete– Uses a sip & puff to provide movement in forward and reverse with 2 switches to provide left and right turning.



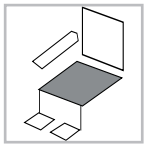
Power Seating Systems



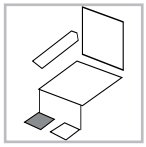
Tilt actuator activated.



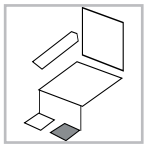
Recline actuator activated.



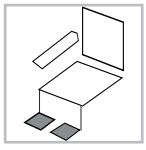
Lift actuator activated.



Right legrest actuator activated.

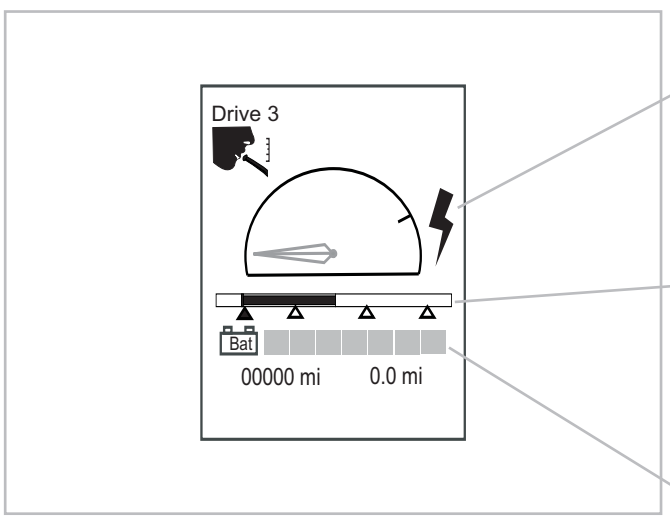


Left legrest actuator activated.

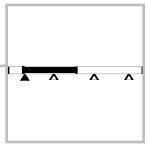


Dual legrest actuators activated.

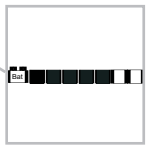
Other icons which may appear are as follows:



The charging icon appears when the chair is charging.



The Sip & Puff pressure gauge icon is used to provide a visual representation of pressures while using Sip & Puff driving. The bar graph represents current pressure. The far left pointer represents a hard sip trigger point. The far right pointer represents a hard puff trigger point. The inner pointers represent soft sip and soft puff trigger points.



The State-of-Charge (SOC) battery indicator key:

Battery State Of Charge	Bar Graph state (left to right)
BSOC ≥ 80%	7 Black
80% > BSOC ≥ 70%	6 Black
70% > BSOC ≥ 60%	5 Black
60% > BSOC ≥ 50%	4 Black
50% > BSOC ≥ 40%	3 Black
40% > BSOC ≥ 30%	2 Black
30% > BSOC ≥ 20%	1Black
BSOC < 20%	1 Black - Flashing (1.5 Hz ± 10%, 50% duty cycle)

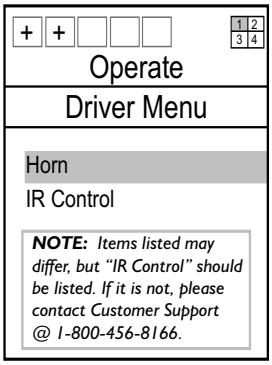
III. DRIVER MENU

This patent pending concept from Quickie allows you to access any menu item through a single menu. These menu items act as shortcuts to save time and easily alternate between driving and the most pertinent non-driving activities.

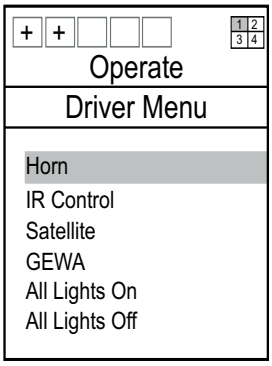
To access the Driver Menu immediately see instructions listed on page 3.

The Driver Menu displays the most common non-driving related menu items (or functions). When leaving the factory, the Driver Menu contains a selection of menu items (varies depending on chair configuration) (#1). Once the supplier receives the chair, these and other menu items can be added or deleted by the supplier using the Quickie PC Set Up Station (PCSS) available Fall 2006. Number 2 is an example of a Driver Menu that was modified by a supplier. To create a custom Driver Menu, please contact the chair's supplier.

1



2

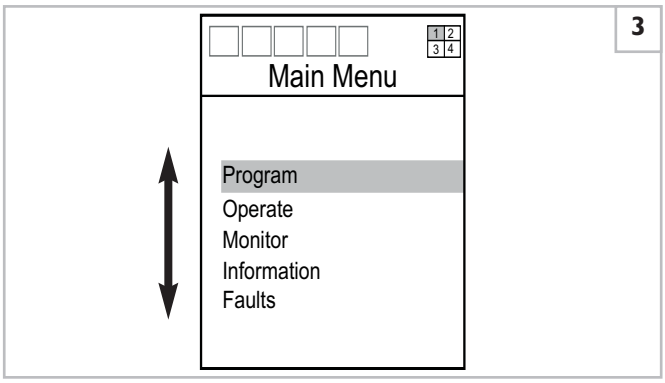


IV. MAIN MENU

If the necessary menu item (or function) is not located in the Driver Menu, it may be located in the Main menu tree (Fig 3). The Main Menu is the top menu in an expansive menu tree (Fig. 4) that includes all the functions and adjustable parameters found on the chair. To access the menu tree, follow the steps on page 3. To move down in the menu tree, toggle right. To move up in the menu tree, toggle left. In most cases, menu levels are indicated by the "+" signs at the top of the screen. Up and down toggle commands scroll through the items listed on each individual menu screen.

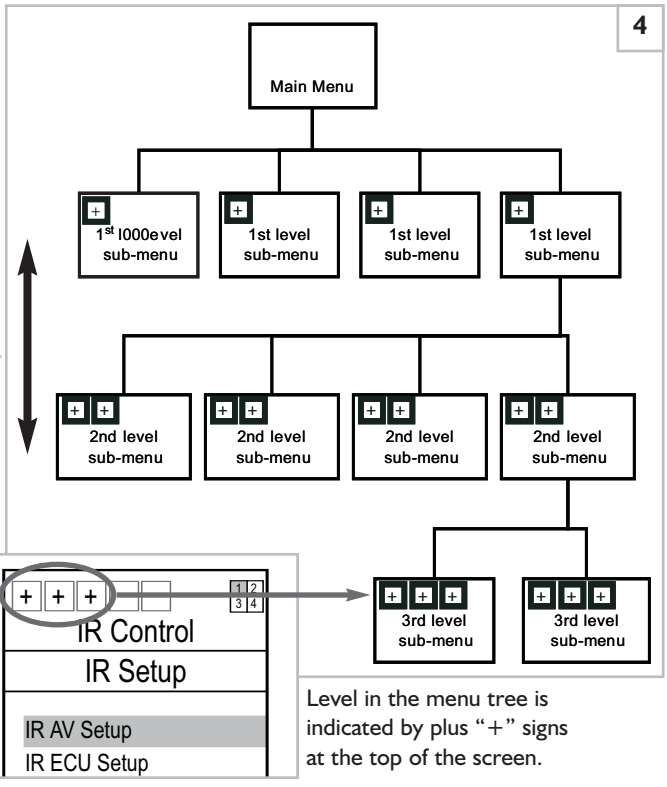
Toggle up (or up command) to move up in a menu screen.

Toggle down (or down command) to move down in a menu screen.



Toggle left (or left command) to move up in the menu tree.

Toggle right (or right command) to move down in the menu tree.



Level in the menu tree is indicated by plus "+" signs at the top of the screen.

V. USER ACCESS LEVELS

There are 5 different user access levels in the Quickie Enhanced Display. For this reason, the main menu may appear different from user to user. User access-levels are as follows:

Level 1 (Fig. 1) allows users to access the Driver Menu and fault codes.

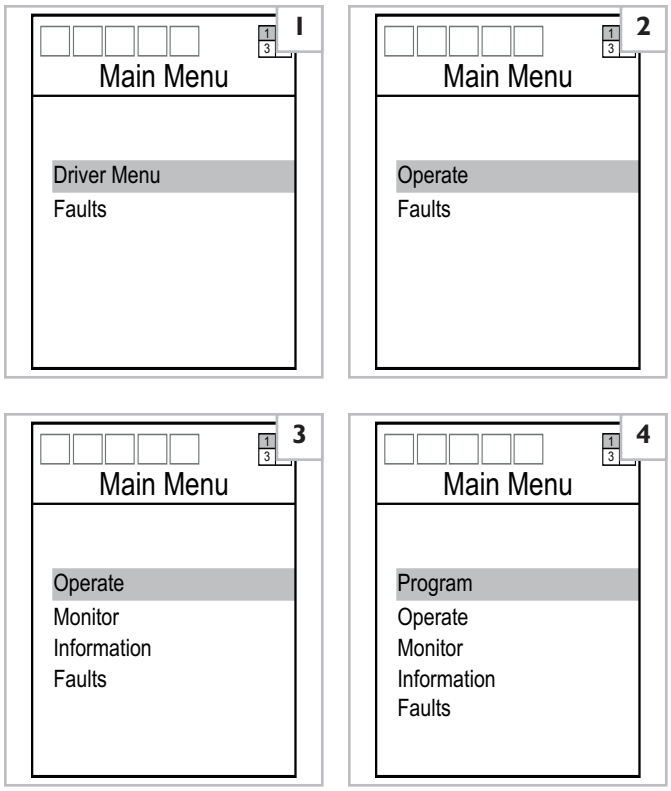
Level 2 (Fig. 2) allows users to operate power seat options (power tilt, power recline, power lift, etc.) as well as specialized control systems (sip & puff, switch driving, proportional head control, etc.).

Level 3 (Fig. 3) includes level 2 access and adds the ability to monitor critical chair functions and access manufacturing information on each power module connected to the chair. All chairs ship from the factory preset to level 3.

Level 4 (Fig. 4) includes level 3 access and adds the ability to program many basic chair functions.

Level 5 (Fig. 4) includes level 4 access and adds the ability to program more advanced chair functions.

This manual covers topics relevant to Level 1 first and progresses on to higher levels of access. If the Main Menu does not appear, there is a chance its access has been has been restricted by the supplier. Please check with your supplier if this is the case or call customer support @ 1-800-456-8166.

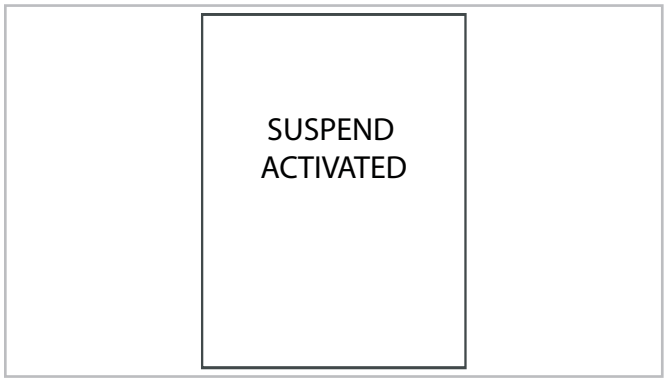


VI. TIMED FUNCTIONS

In cases where accessing a button or switch for the mode command is not desired, then time can be used to navigate between driving and non-driving functions. This time limit is programmed by the supplier and can range between 1 and 60 seconds. If no input is given to the system within the programmed time limit, then it will change screens from the Drive Display to the Driver Menu. Once in the Driver Menu, the chair will not drive. To return to driving, wait the programmed number of seconds or give the system a quick left command.

Additionally, there are features that will put the chair to sleep. This is helpful in cases where it is not convenient to turn power off, but you do not want to accidentally drive.

This sleep mode is indicated by the screen shown at right, "Suspend Activated". Usually a long mode command will send the chair to sleep and wake it up again.



VII. INFRARED (IR) FUNCTIONS

(Accessible to all user levels)

A. DESCRIPTION

The Quickie Enhanced Display is also designed to function as a universal remote control unit by emitting InfraRed (or IR) command signals to infrared receptive devices, such as TVs, stereos, DVD players etc. It is also capable of sending infrared signals to environmental control modules that operate electrical devices throughout the house.

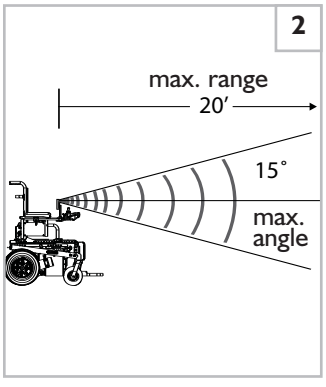
Devices such as TVs, cable boxes, stereos, satellite control systems, VCRs, TiVo boxes, DVD players, radio receivers, and CD players are referred to as **Audio Visual** or "**AV**" devices. Environmental controls, such as remote computer-mouse operation, X10 control systems, IR telephones, Gewa controls, Lutron lights, Hunter Douglas Blinds, and Makita Curtains are referred to as **Environmental Control Units** or "**ECU**" devices.

Both AV and ECU devices are grouped into their own set-up menus (which configure the devices for use) and operate menus (which provide a means of actually controlling each device). Because none of these devices function until they are set up, setup instructions precede operation instructions.

NOTE: *In most cases, Quickie Enhanced Display screen-menus appear identical to the screen-menu illustrations on the following pages. However, the number of "+" signs at the top may vary by one and the number of listed devices may also vary depending on factory or dealer setup preferences.*

B. USAGE

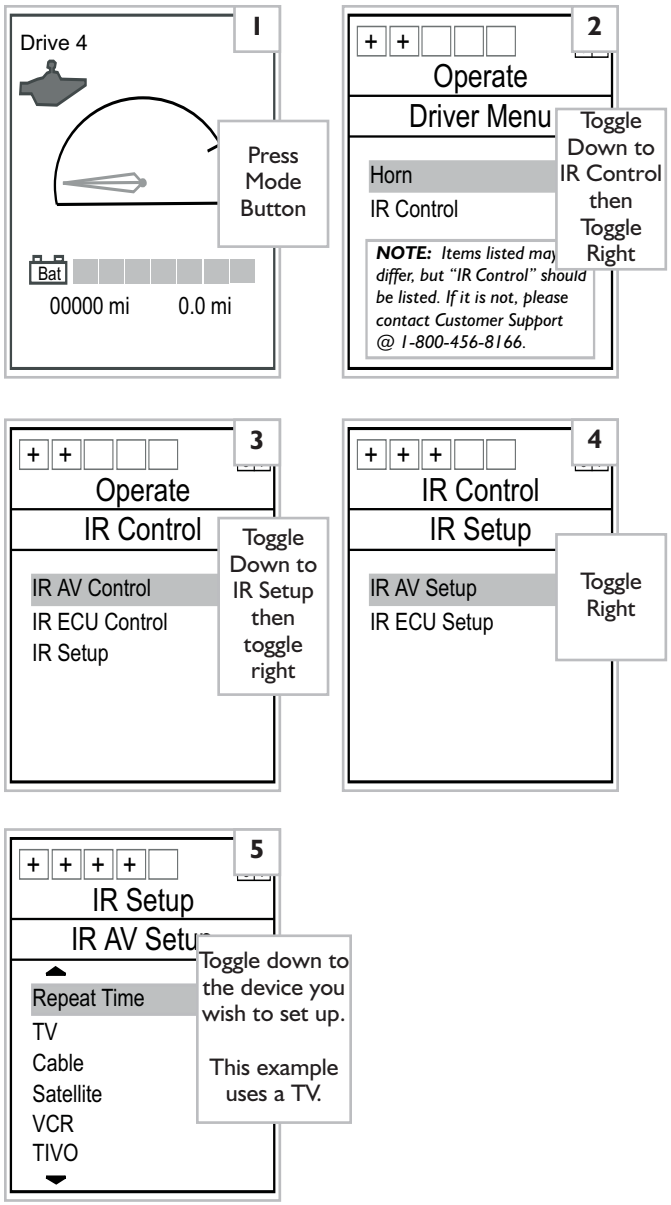
The IR or infrared functions on the Quickie Enhanced Display work by broadcasting infrared light signals to an IR receiver. For IR to work, you must maintain line-of-sight with the device you want to control. Because of this, it is important that the IR transmitter/receiver (Fig. 1-A) on the back of the Enhanced Display is pointed at the IR receiver on the AV or ECU device. The beam emitted from the IR transmitter/receiver spreads out at a 15 degree angle and has strong reception at distances up to 20 feet (see Fig 2). Reception may or may not work at angles greater than 15 degrees or distances greater than 20 feet. Much depends on the reflective surfaces in the area and the type of lighting. Strong florescent lighting or sunlight, for instance, can sometimes impede IR signals. If the intended IR receiver is not picking up the signal, try changing angle and distance. Sometimes if the distance is too close, the beam misses the target. If the signal is too far away, it may not generate sufficient strength to overcome competing light sources.



C. IR AV SETUP

1. Enter Setup Code

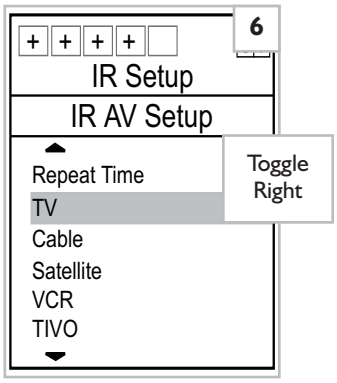
Follow these screen menu instructions to set up any one or all of the following AV devices: TVs, cable boxes, stereos, satellite control systems, VCRs, TiVo boxes, DVD players, radio receivers, and CD players .

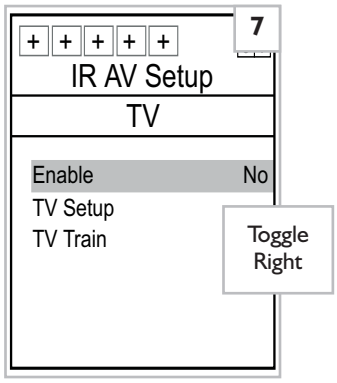


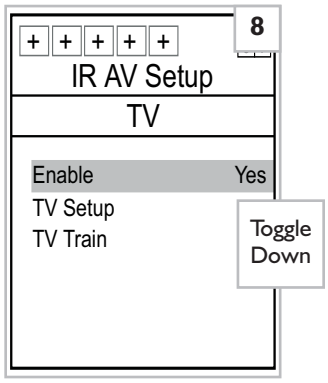
Once in the "IR Setup/IR AV Setup" menu (#6- next page) toggle down to enable the device of your choice. Enable the item by highlighting the device and toggling right. You will also see "Repeat Time". This should only be changed if you encounter issues transmitting a command. It will change how quickly the signal is repeated.

(The example setup below is for a Television set.
Setups for other AV devices are identical.)

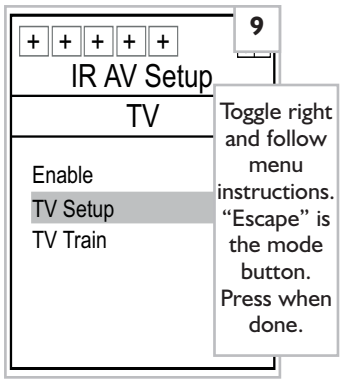
The "Yes" (#8) Enable command activates a device for use in the IR AV Control menu.
To disable remote operation at any time, return Enable to "No".

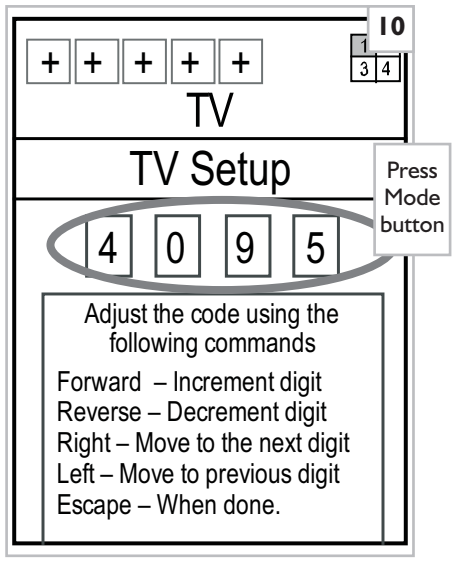


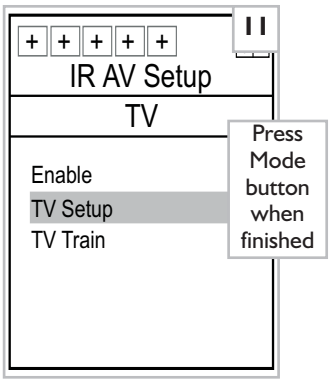




Once a device is enabled, set up the Quickie Enhanced Display for the brand of AV device by using a 4-digit setup code (#10). (See Manufacturer Setup Code Appendix A to find each manufacturer's 4-digit setup code.) If a device setup code (or group of device setup codes) is found for the device, enter the first 4-digit code in the device setup menu (#10) as shown below. If more than one code exists for the device, it may be necessary to test the operation for each code (see IR AV Control on page 3). If none of the codes work, contact Customer Support @ 1-800-456-8166.

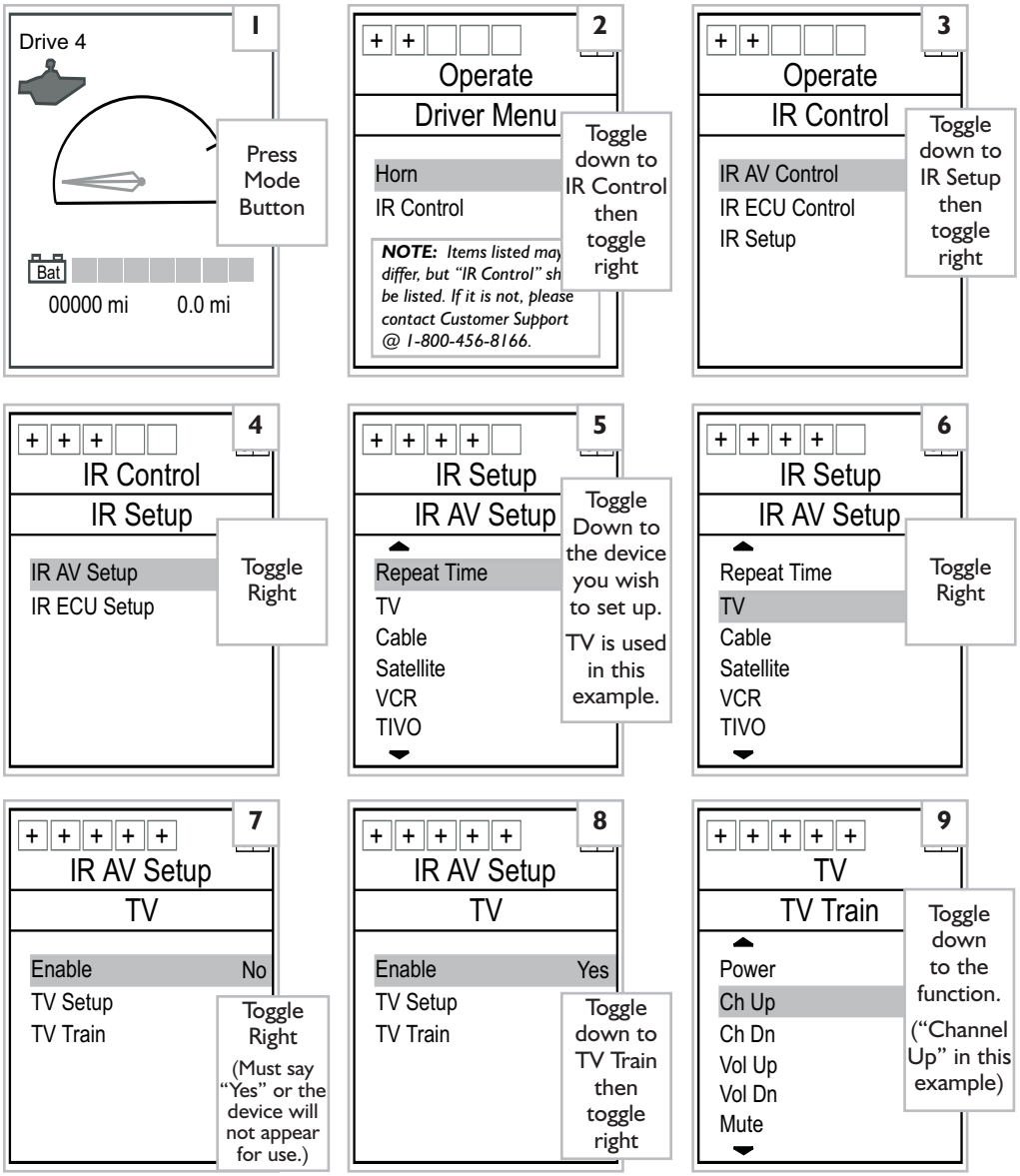






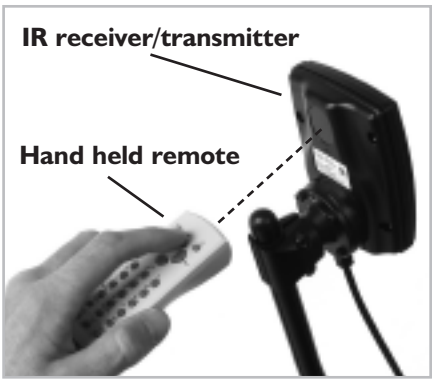
2. Train Function

If the IR setup codes do not work (after going through IR AV Control – page 13) or the device does not have a code, the Quickie Enhanced Display can still be "trained" to operate the device. Training essentially programs the Quickie Enhanced Display to mimic the IR transmitter codes that are sent out by the device's remote. (See photograph on the next page.) Most audio-visual devices with IR capability ship with a hand held IR remote control.



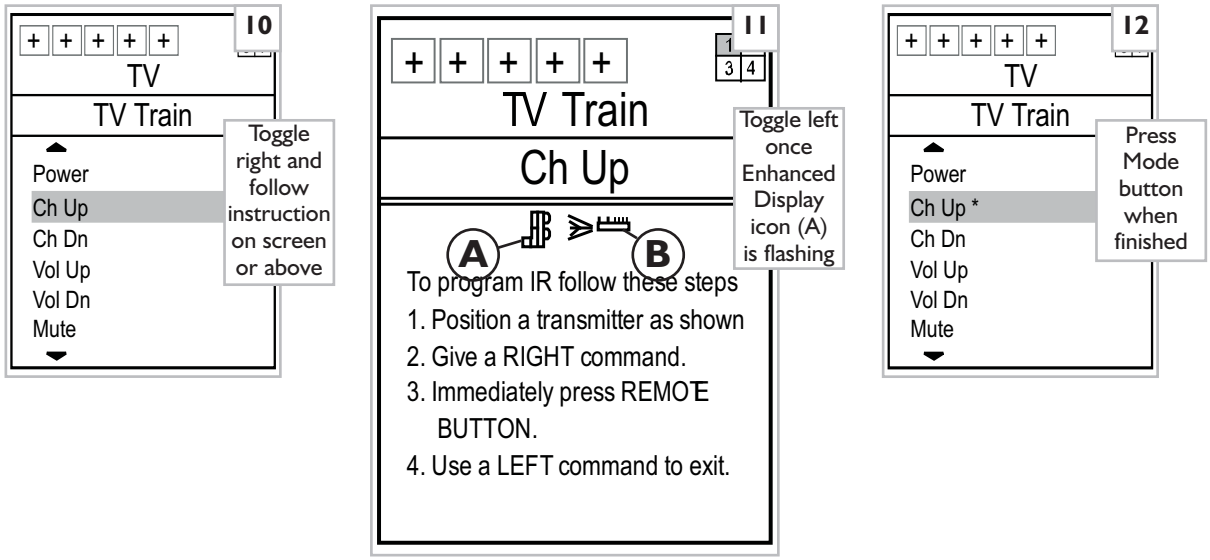
Theory Behind Training the Enhanced Display

Whenever a button on a remote controller is pressed, the controller emits an infrared code for that button's function. On the backside of the Quickie Enhanced Display is an IR sensor that both sends and receives infrared coded signals. Aiming a hand held remote at the backside of the Quickie Enhanced Display and pressing the button for a particular function (such as "Channel Up") beams that function's infrared code into the Quickie Enhanced Display IR receiver. Using the steps outlined on the next page, this code is logged as the function displayed on the Quickie Enhanced Display "Train" menu (#11). Once logged, any time this function ("Channel Up" in this example) is selected in the Quickie Enhanced Display user menu, it automatically broadcasts from the Enhanced Display.



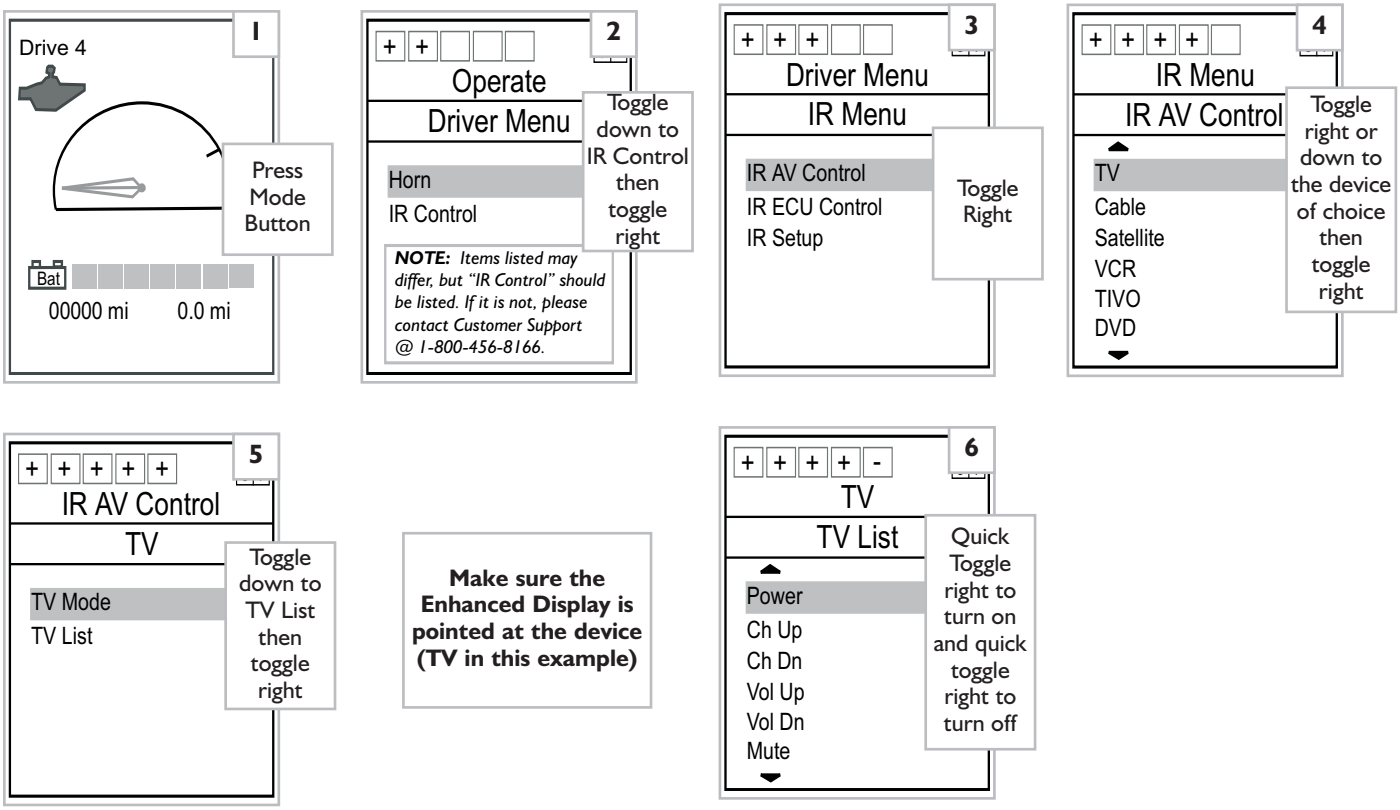
To Program:

a. Toggle right from the highlighted function to open the train menu (#11).
b. Position the hand held remote directly in front of the IR sensor about 8" – 12" from the backside of the Enhanced Display (see figure above). Make sure the remote control LED (looks like a small flashlight bulb located in front of the hand held remote) is pointed at the Enhanced Display IR Receiver/Transmitter (see photo).
c. Execute a quick toggle right. The remote icon (#11-B) will start flashing. Immediately press the function button on the remote control. If the signal was successfully received, the remote icon will stop flashing and the Enhanced Display icon (#11-A) will start flashing. If unsuccessful, an "X" will appear over the remote icon. In this case, toggle left to exit the train screen and then toggle right to re-enter the train screen. Repeat steps a, b & c.
d. Once the Enhanced Display icon flashes (#11-A) toggle left to exit. An asterisk (*) (#12) will appear next to the function to indicate that is is now "trained".



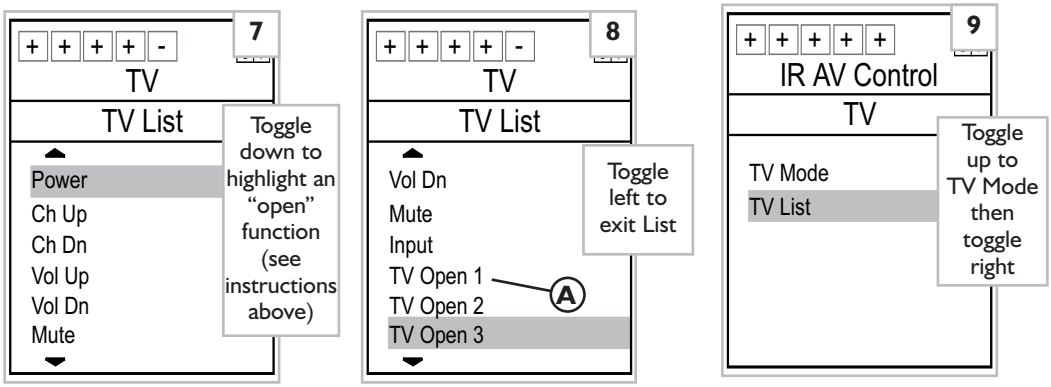
D.IR AV CONTROL

Once an IR Audio Visual device has been setup for use, operation is simply a matter of toggling to the appropriate screen menu. Follow the screen-menu illustrations below to locate the device's control functions. The roadmap starts from the main drive menu (#1), which appears when the chair is turned on.

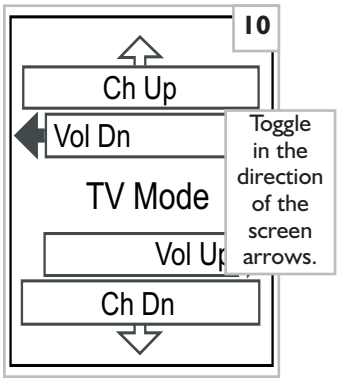


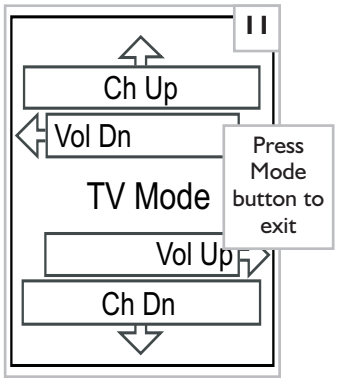
A device's "List" (#6-8) always contains the "power on/off" command. The device's "Mode" (#5) does in some cases and not in others. This "List" contains all the available commands for the device. The "Mode" only contains the 4 most common commands, such as volume, channel, play, stop, etc. To activate any of the list commands, toggle right as demonstrated in #6.

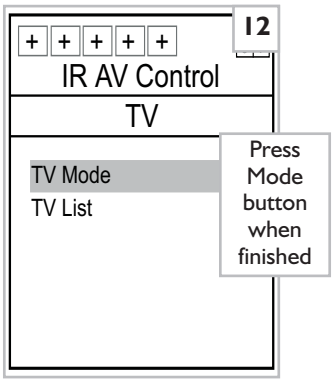
List commands are named with their appropriate function. The "Open" list commands can be reprogrammed for additional funcitons (see #8-A) not found on the list. For example, the TV remote might have a button that switches between TV and Video. If this remote button-function is not found on the list, "TV Open 1, 2, or 3" can be "trained" to duplicate this function (see "train" setup on page 11).

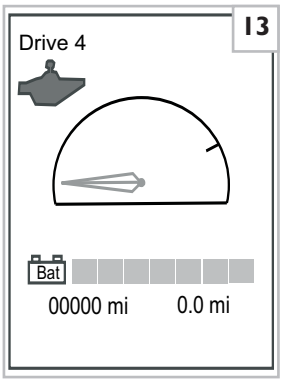


The mode menu (#11) provides 4 of the most common commands. Toggle in the direction of the screen arrows to activate any of the displayed commands. Press (or activate) the mode button (or command) to exit the Mode menu when finished (#11). (4-choice menu screens can only be exited by pressing the mode button (or command).)





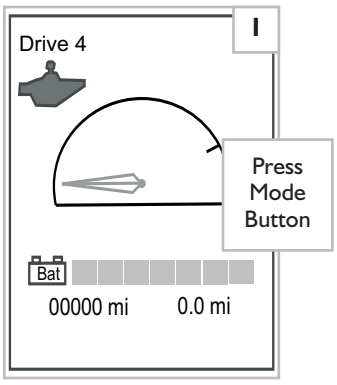


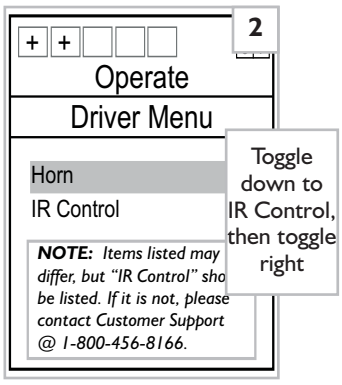


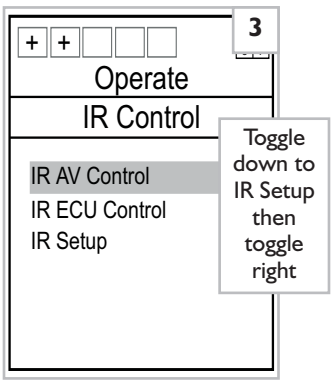
E. IR ECU SETUP

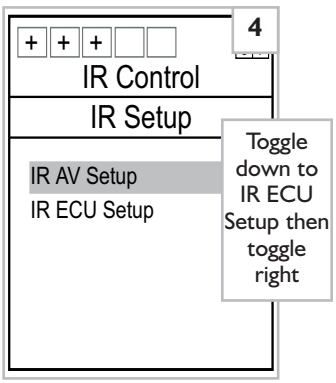
Environmental Control Unit (ECU) devices include: remote computer-mouse operation, X10 control systems, IR telephones, Gewa controls, Lutron lights, Hunter Douglas Blinds, and Makita Curtains. Each device can be controlled using infrared signals.

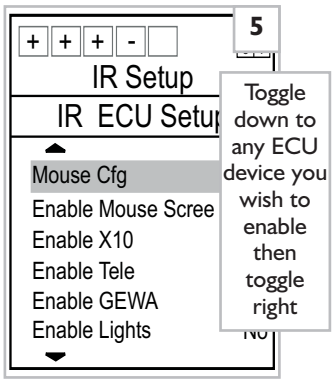
All IR Environmental Control Units require the function be enabled before it appears in the IR ECU Control menu (#5). Follow the menu illustrations below to locate the device's (or system's) control functions. Some additional setups may be required in the IR ECU Control menu. (This will be covered in the individual function explanations later in this section.) "IR Mouse Cfg" is covered on the next page of this manual.

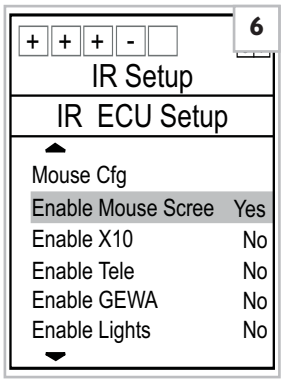




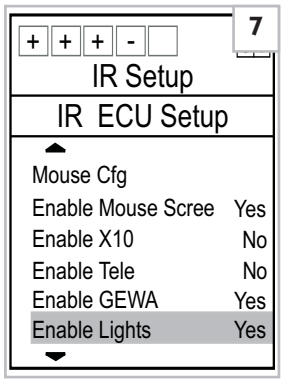








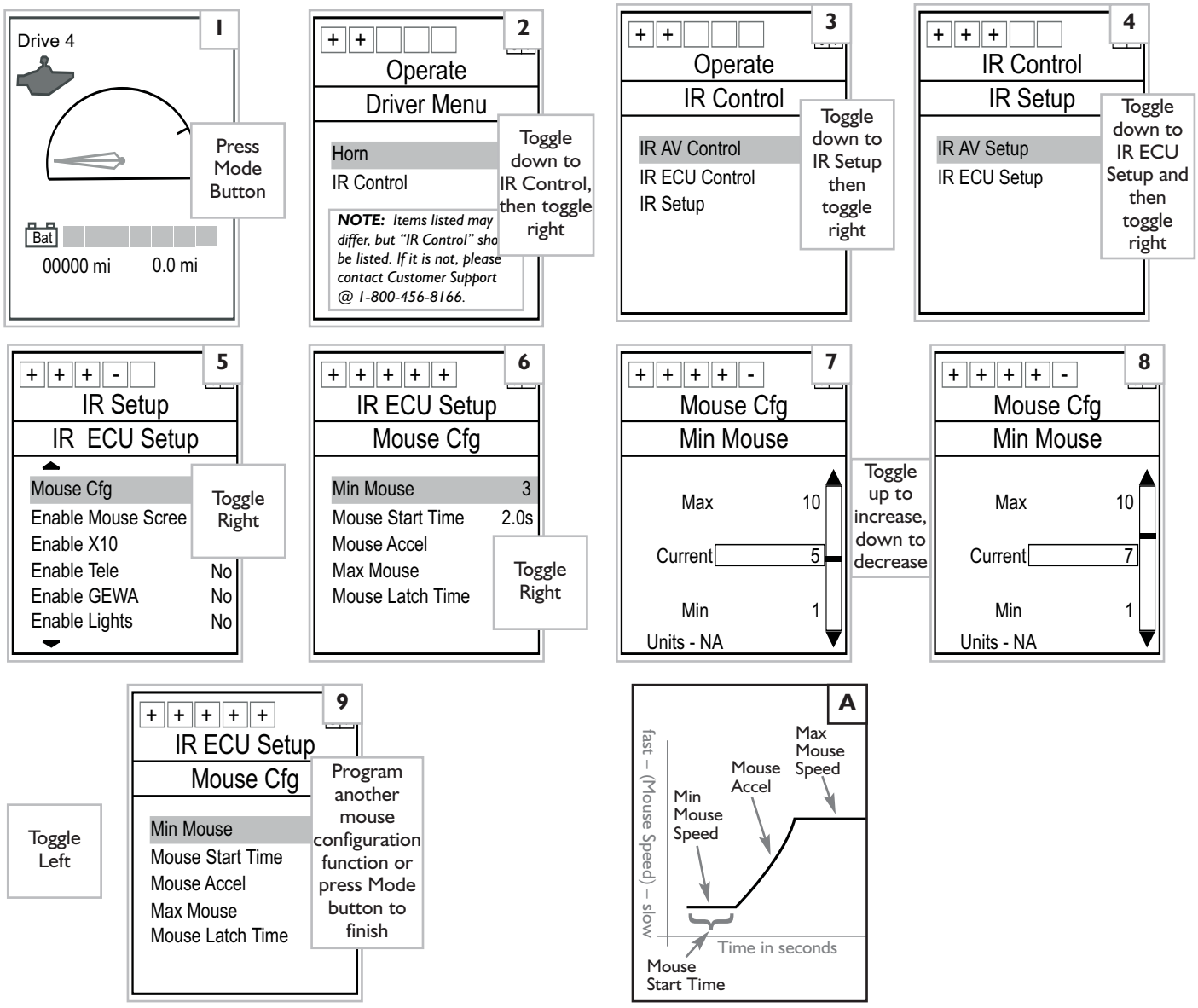
Continue to toggle down and right to open all necessary ECU devices.



Press Mode button when finished

IR Mouse Configuration Setup

Unlike the other ECU functions, IR Mouse configuration setup is located in its own section of the IR ECU Setup menu. An IR Mouse allows you to control the cursor on the computer screen using the joystick or a specialized input control. Follow the screen menu illustrations below to access the "Mouse Cfg" menu.



Each function within the Mouse Cfg menu provides a detailed adjustment of the IR Mouse operation on the computer screen. Above is an example of how one of the operation parameters is modified. For more information on the operation parameters, contact Customer Service @ 1-800-456-8166. Also, see graph "A" above. The operation parameters (#6) are defined as follows:

Min Mouse sets the minimum mouse tracking speed across the screen.

Mouse Start Time determines the amount of time in seconds the command must be held before the minimum mouse tracking-speed accelerates to the maximum mouse tracking-speed.

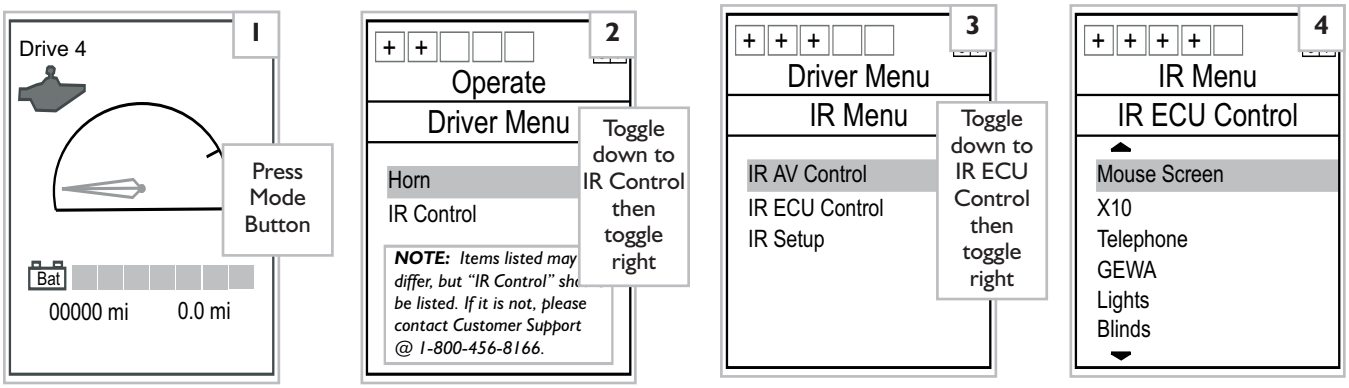
Mouse Accel determines the acceleration rate the cursor accelerates from the minimum mouse tracking-speed to the maximum mouse tracking-speed once the mouse start-time ends.

Max Mouse sets the maximum mouse tracking speed.

Mouse Latch Time is the amount of time required for a sustained right or left mouse-button command to engage latch mode. Latch mode, from a functional standpoint, is the same as continuously holding your finger down on a computer mouse button. This makes it easy for individuals with minimal hand control to perform latched mouse functions, such as highlighting a block of text. When the same mouse button is engaged again the button is released.

F. IR ECU CONTROL

Because each IR ECU device functions in its own unique way, a separate section is devoted to the control operation of each individual ECU device. To navigate to the device-selection starting point, follow the menu illustration instructions listed below.



1. Mouse Screen

The IR Mouse Screen is designed to work in conjunction with the Remote Point ™ (Interlink Electronics) IR mouse receiver (See IR device list appendix C). This receiver must be installed and plugged into the computer before the Mouse Screen control functions will work. Please follow all Remote Point instructions when installing.

Mouse screen movement operates in 4 directions for discrete (straight line) input devices and in proportional (380°) for proportional devices. Right and left mouse button control will vary depending on the input device used (handcontrol, mini-joystick, Sip & Puff, Proportional head array, etc). Once in the Mouse Screen, move the joystick (or input device) in the direction of the screen arrows (#2-below). The mouse will move in a similar proportional or discrete direction. To adjust movement speed, refer to page 15.

The right and left mouse button can be emulated using the bottom left and bottom right buttons ONLY on a Quickie 7-Button hand controller. If the hand controller is a 2-Button, 3-Button, or specialized input device, you can purchase the following screen software to provide mouse button control:

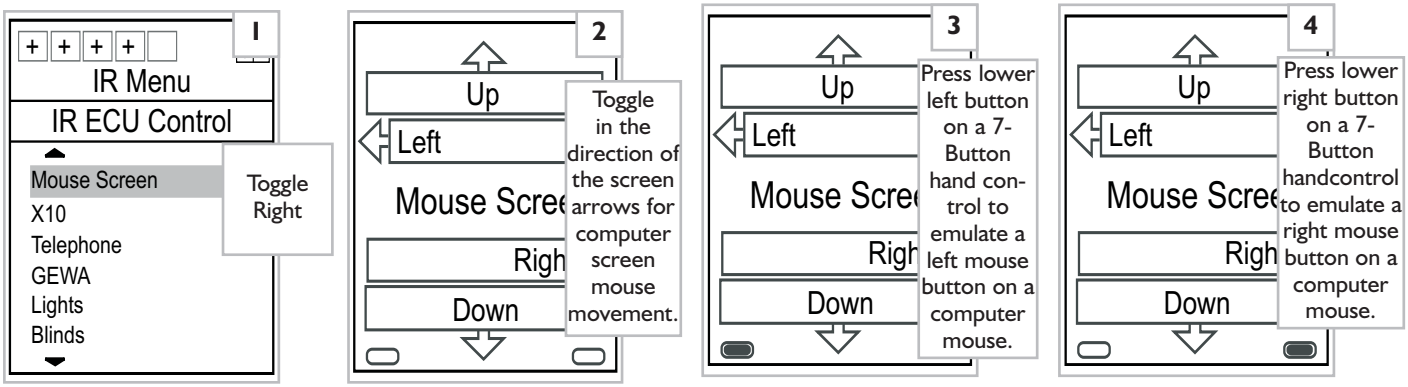
Dragger 32

http://www.orin.com/chi-bin/miva?Merchang2/merchant.mv+Screen=PROD&Store_Code=O&Product_Code=AC-0841-32&Category_Code=B

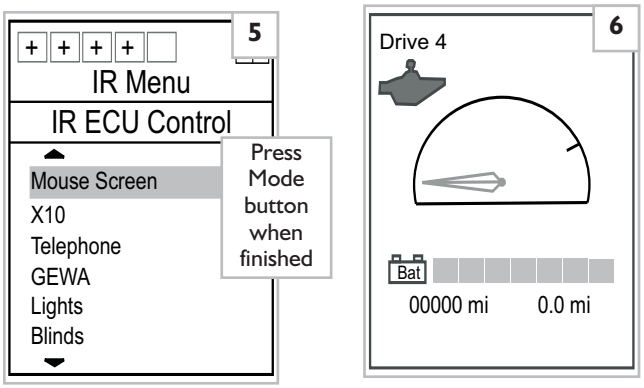
Dwell

http://www.gusinc.com/dwell.html

Operation instructions are included with both software packages. Software is easily downloaded from the internet.



If using a 7-Button handcontroller, press the bottom left-hand button to execute a left mouse click (#3) or the bottom right-hand button to execute a right mouse click (#4– previous page). Holding either the right or left mouse button down for more than "X" seconds (determined by the Mouse Latch Time setting; see page 15) latches the mouse button down. (This is the same as continuously holding a computer mouse button down with your finger.) When the button is pressed again, the mouse button is released. This function is helpful in highlighting text or moving (dragging) objects on the screen.



2. X10

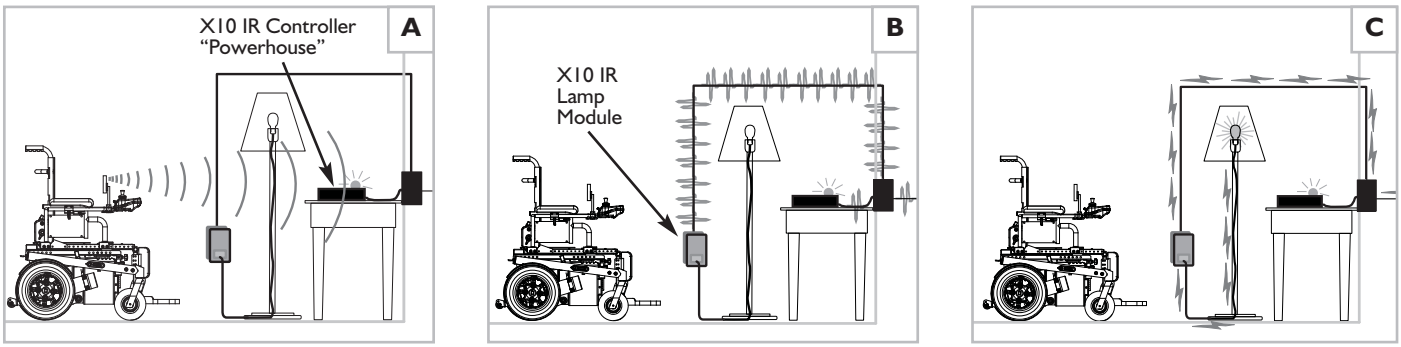
X10® devices are used to control home, office, and business environmental systems, such as lights and appliances. (See IR Device List Appendix C.) Entire households can be set up with X10 systems so that every light and most appliances can be controlled from the Quickie Enhanced Display.

Here is how X10 works:

The Quickie Enhanced Display broadcasts an infrared beam to an X10 IR Controller "Powerhouse". (The controller must be in the sight line of the Quickie Enhanced Display.) (Figure A)

The controller converts the infrared signal into a coded electrical pulse that travels through the house wiring. (Figure B)

When an X10 module or switch receives the coded pulse, it either opens or closes the circuit to the lamp or appliance. (Figure C)

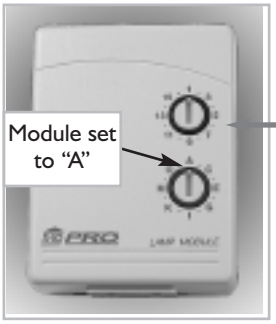


Each X10 IR controller "Powerhouse" is assigned an alphabetical (A-P) "house code". Usually, each room in a house has its own X10 controller set to a specific numerical house code that operates the lights/appliances in that room. To operate, they must be within line-of-sight of the Quickie Enhanced Display. Each Powerhouse controller can add up to 10 new associated modules. All 10 modules must use the same house code. Up to 16 "house code" letters are available (one for each Powerhouse controller), which means up to 160 modules are available for any given house or building. For this reason, the same "Unit 1", "Unit 2", "Unit 3", etc. on the Quickie Enhanced Display screen may operate light/appliances in more than one room. If more than 10 modules are required for a given house or installation, additional controllers and modules must be added.

X10 Powerhouse IR Controller

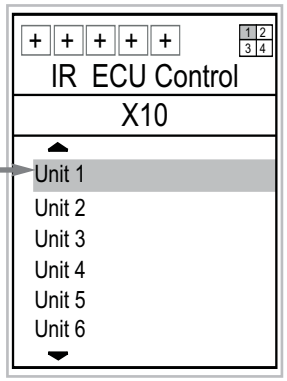
Controller "house code" set to "A". Setting to a different letter on another controller provides control of a different set of Unit #'s 1-10.

X10 Module



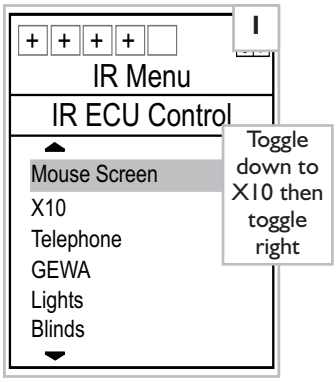
Module set to "A"

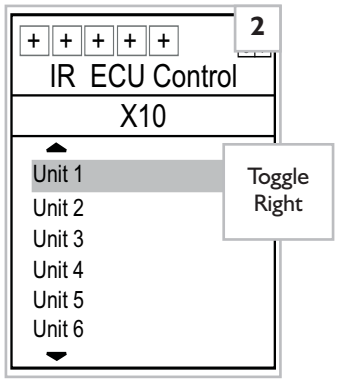
These "unit codes" correspond to the unit numbers on the Enhanced Display.



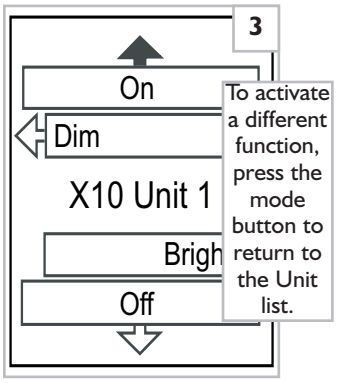
To operate an X10 device, toggle down and highlight "X-10" in the IR ECU Control list; then toggle right. (NOTE: The X10 system must be properly set up before using. Refer to page 17 for setup hints. Consult X10 instructions for full setup details.) A list of available units is posted on the next page.

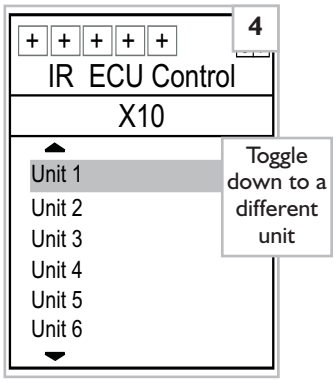
(See page 16 to navigate to #1.)

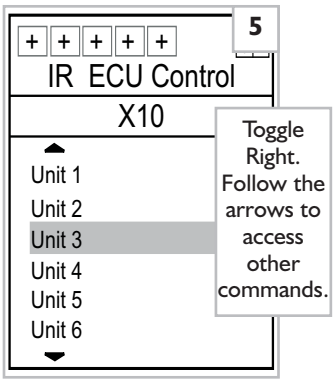


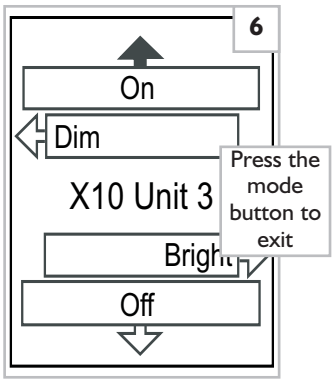


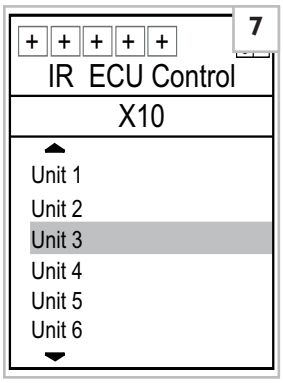
Toggle right (#2) and then up to turn on the device (#3– next page). Follow screen arrows for other commands. If the commands do not work, then press the mode button to go back to the unit screen (#2) and try again. The problem may be that the unit selected did not signal the X10 receiver that it is now in a new unit. Following each IR transmission, a red light will illuminate on the Powerhouse controller.



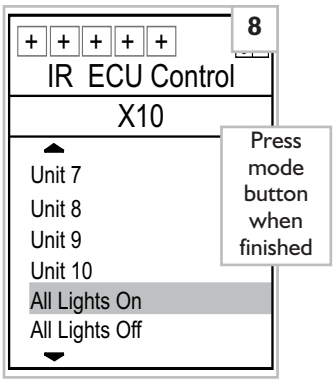


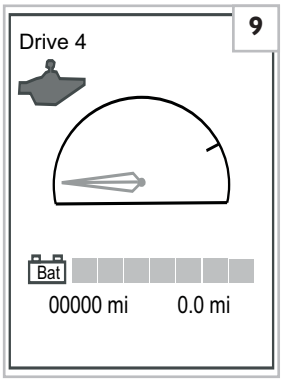






If there is a need to turn all lights on or off, toggle down to either "All Light On" or "All Lights Off" command and then right toggle to activate these functions.





Control of X10 devices requires an X10 IR controller "Powerhouse" (see previous page) and any of the following components (see page 18 for photos). These items listed below are available in most electronics stores. They can also be found on the web at www.x10.com – click on the automation tab.

- Wall Switch
  - Wall Switch w/ Dim and 3-Way
  - Decorator Style Wall Switch
- Wall Switch Module
  - Wall Switch Module - 3-way
  - Appliance Module - 2-way, 2-pin
  - Appliance Module 2-Pin Polarized
  - Appliance Module 3-Pin Grounded
  - Heavy Duty 220V 15A Appliance Module
  - Heavy Duty 220V 20A Appliance Module
- Lamp Module
- Lamp Module - 2-way
- Remote Chime
- Socket Rocket Screw-in Lamp Module
- Universal Module
- Wall Receptacle Module

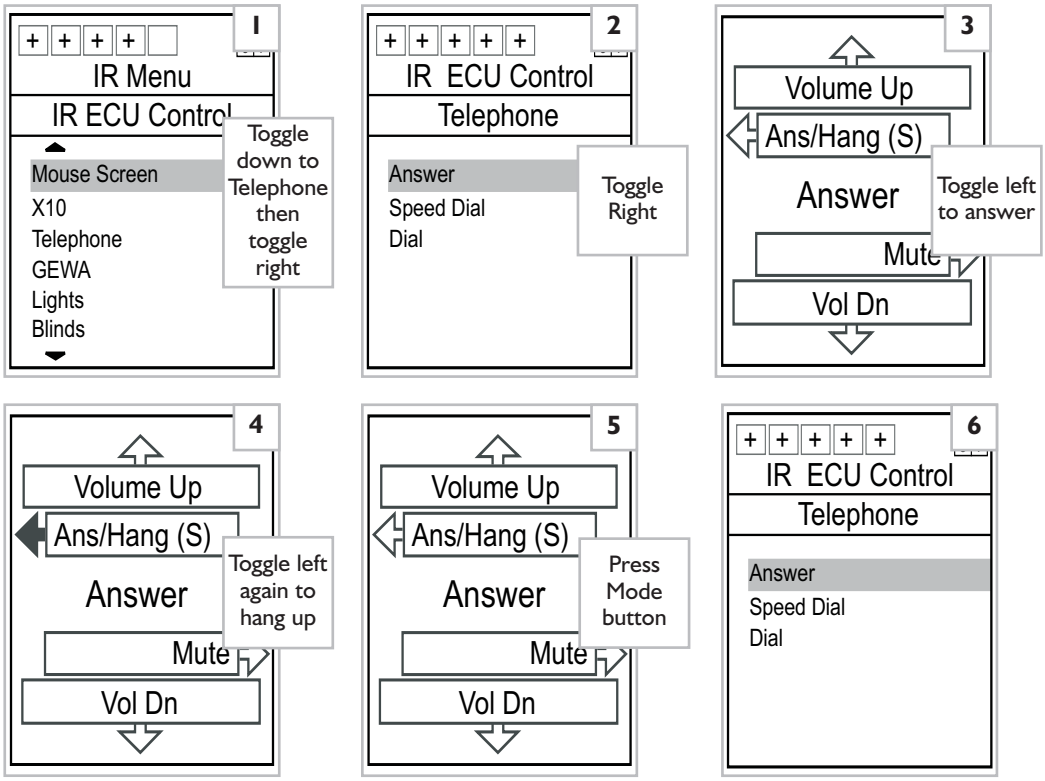
3. Telephone– Answer

The telephone function is designed to work in conjunction with the Gewa® Jupiter IR telephone. All the necessary telephone options are already pre-programmed, with the exception of the speed dial functions, to interface with the Gewa Jupiter IR telephone. (See IR Device Appendix C.) To program the speed dial functions, refer to page 6 of the GEWA Jupiter phone instruction manual. In addition, the Jupiter phone is designed to work only with analogue phone lines. To answer an in-coming call, follow the 6 screen menus below.

To test the answer function, dial the Gewa telephone from a phone with a different number. When the Gewa phone rings, right toggle (#2). Once in the 4-selection box (#3), toggle left to answer the phone.

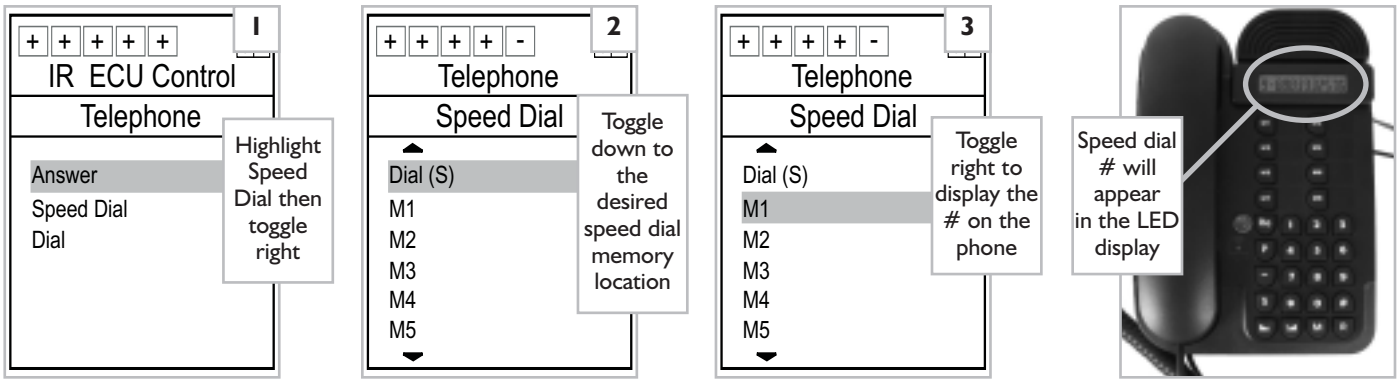
To increase, decrease the volume, or mute the phone, toggle in the direction of the arrow on the display (#3). Toggle left to hang up. Once the line is disconnected, press the mode button to return to the telephone menu.

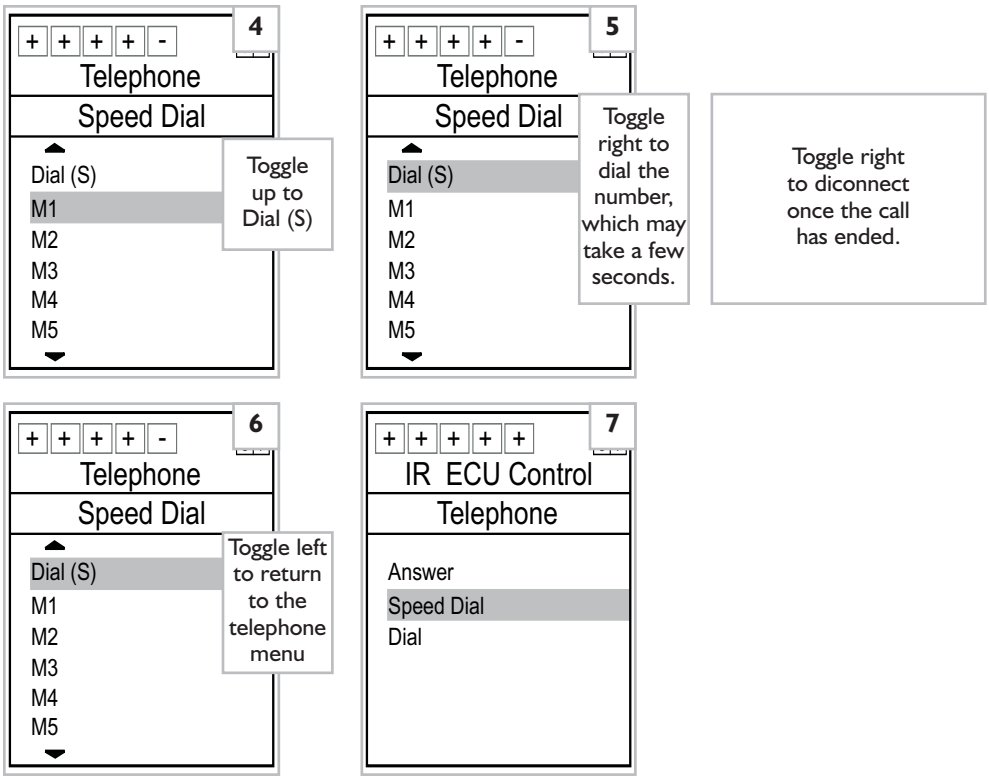
(See page 16 to navigate to #1)



Telephone – Speed Dial

To access the speed dial function, highlight "Speed Dial" and toggle right. See Gewa phone instructions (page 6) to program memory slots M1-K11.



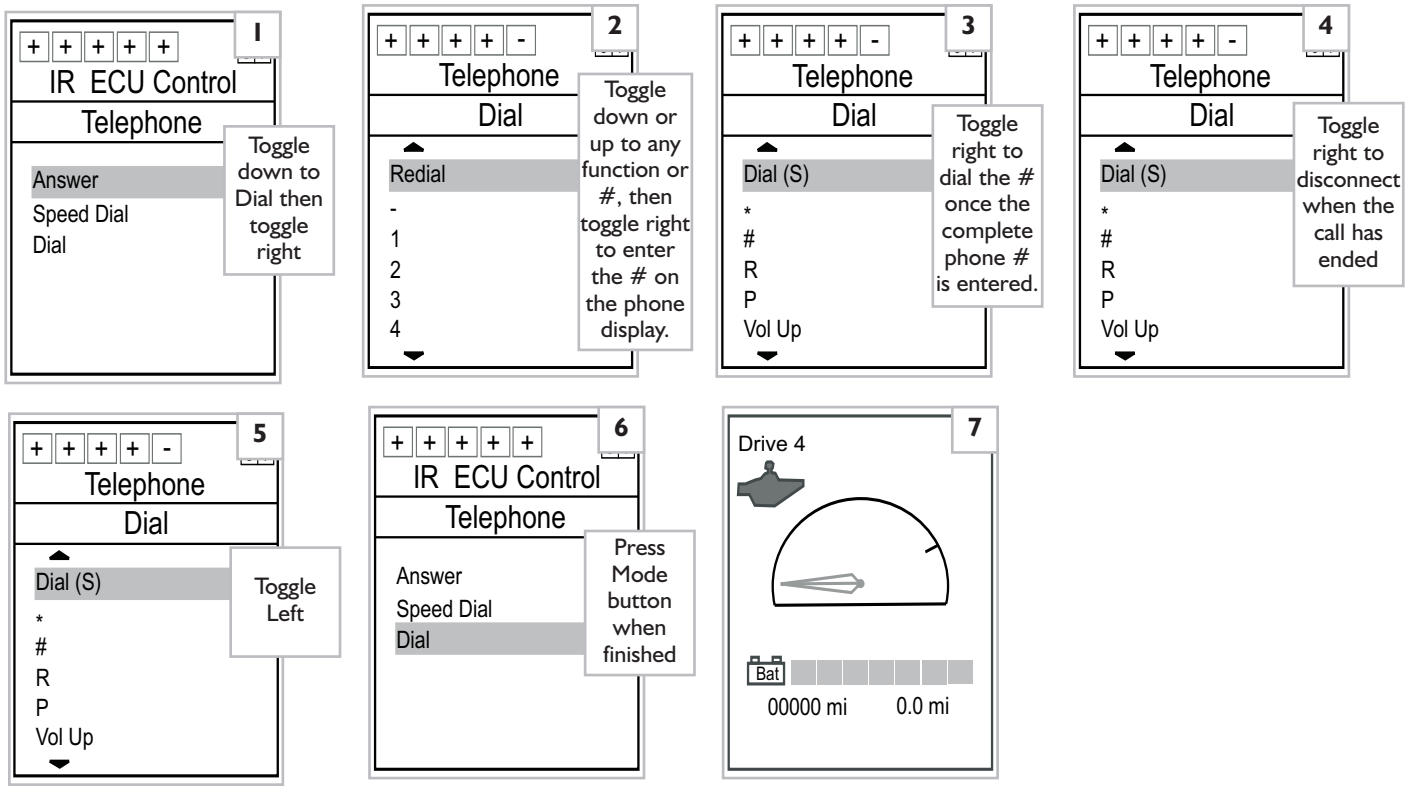


Telephone – Dial

To access the dial function from the telephone menu, highlight "Dial" then toggle right (#1).

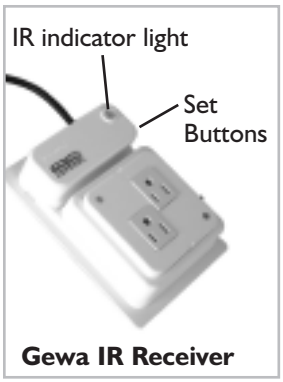
To enter a phone number, toggle down to the first digit of the number and toggle right to display it on the phone's LED screen. The "-" sign indicates a slight pause in dialling, which is helpful for numbers that require reaching an outside access line first. Once the full phone number is displayed on the phone LED, highlight "Dial (S)" and then right toggle to dial the #. Toggle right on "Dial (S)" to disconnect when the call has ended.

NOTE: *The letters "R" and "P" are not currently active.*



4. GEWA

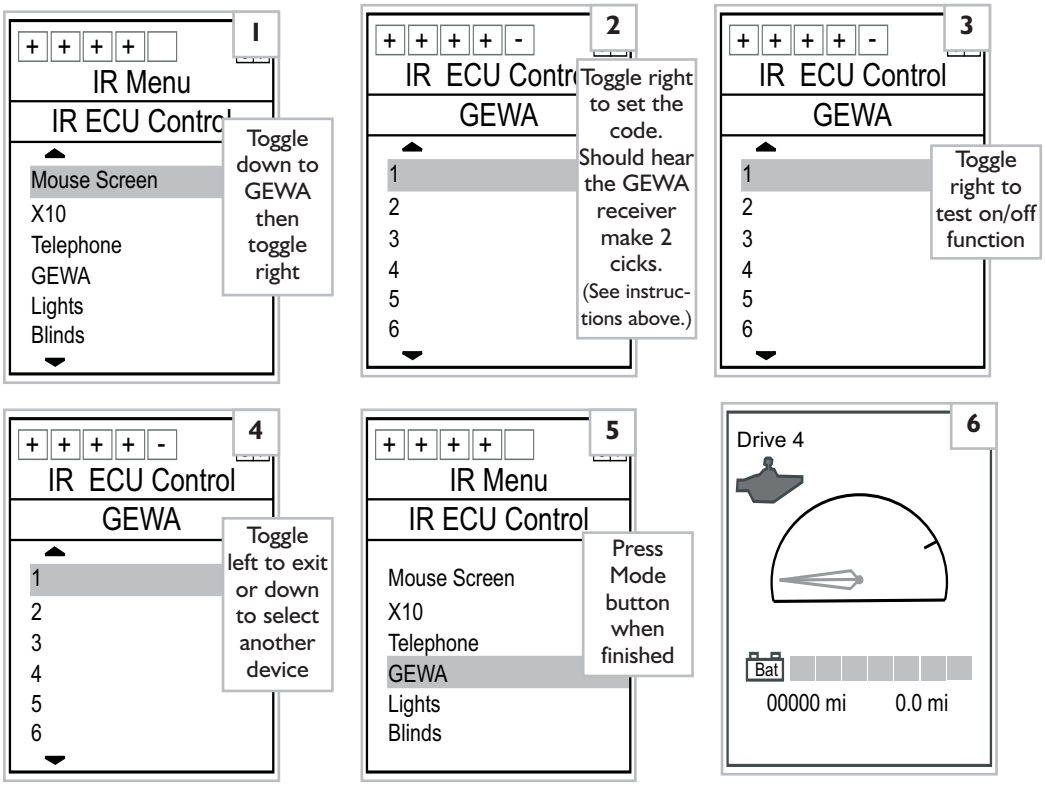
Gewa AB, located in Sweden, manufactures a large selection of IR environmental receiving devices. Unlike X10, which uses a central IR receiver to broadcast electrical pulses to remote receivers through the house wiring, each Gewa module contains its own IR receiver. Visit http://www.zygo-usa.com/envctrl.htm for a more complete listing of Gewa products. (See IR Device Appendix C.)



Gewa IR Receiver

To activate a Gewa device, the outgoing IR code must be first "trained" (or programmed) into the Gewa IR receiver. This process is easier to accomplish with two people. Point the Quickie Enhanced Display directly at a Gewa receiver (see photo). Push and hold one of the small set-buttons on the side of the receiver. Broadcast the IR command by quick-toggling right while continuing to maintain pressure on the set-button on the side of the Gewa receiver. Two clicks should sound signalling that the receiver has been set. Let go of the set button. Similar instructions are located in the Gewa receiver instruction manual. Make sure the electrical device (lamp, door opener, etc) is plugged into the Gewa receiver. Right toggle again. If the receiver was properly trained, the device should turn on or off with each right toggle. The IR indicator light will also blink when an IR signal is received. Please contact customer support if this procedure fails 1-800-456-8166.

(See page 16 to navigate to #1)

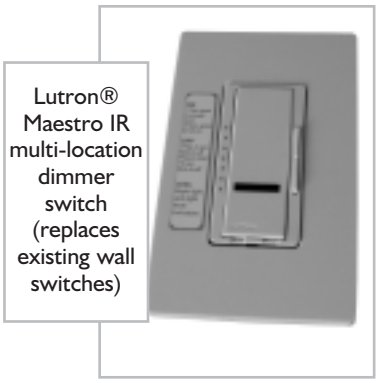


5. Lights

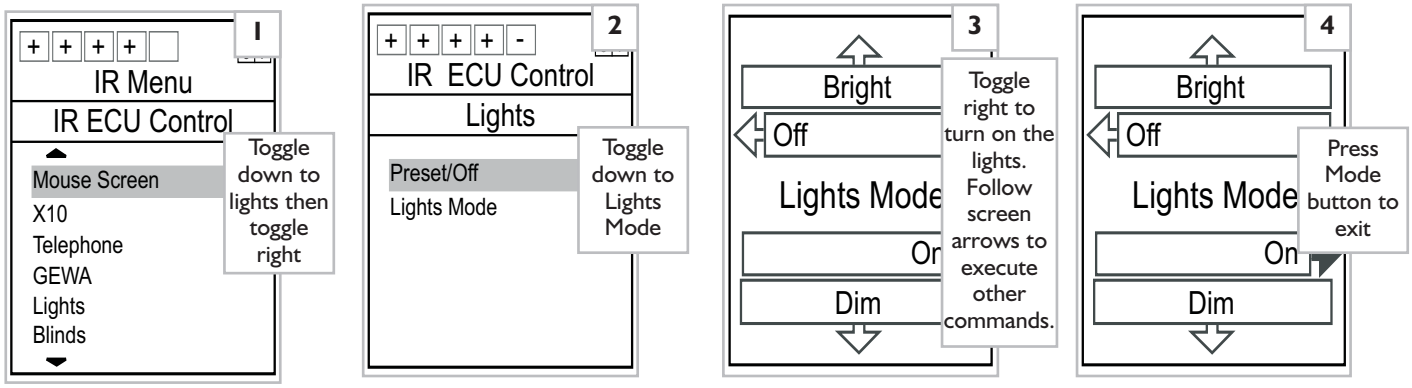
"Lights" refers to programmable Lutron® Maestro IR multi-location dimmer switch. The Maestro IR switch is pre-programmed to interface with the "Lights" option on the IR ECU Control menu. Ensure you are using this designated Lutron equipment or the "Lights" function will not work. (See IR Device Appendix C.)

NOTE: *Lutron lights may be used only with filament/incandescent lights not florescent lights.*

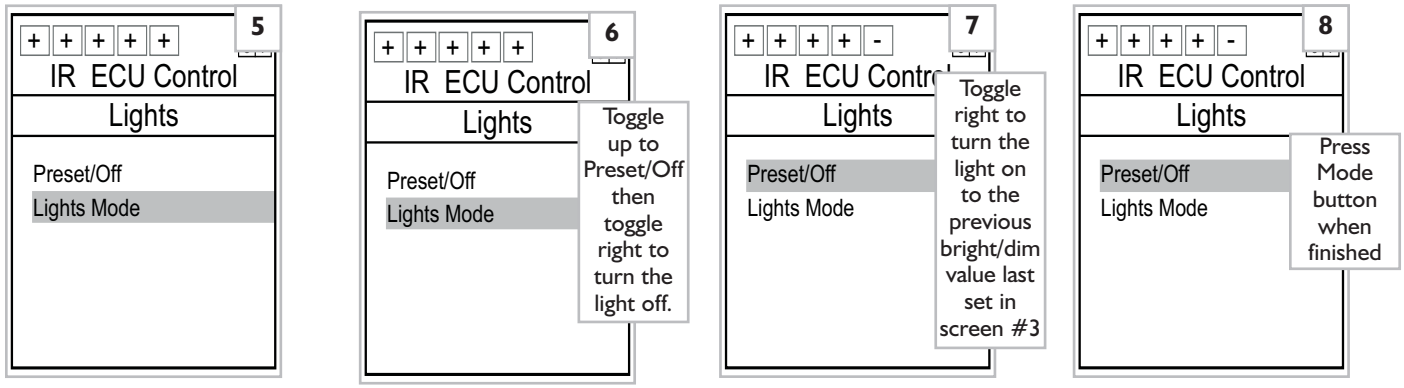
To turn on a light fixture using the Maestro switch, toggle into the "Lights Mode" menu (#1-3). In this menu, the boxed arrows indicate the toggle direction for each command.



(See page 16 to navigate to #1)



The "Preset/Off" value turns the light off or on to the previous bright or dim value last established in the "Light Mode" screen (#7).

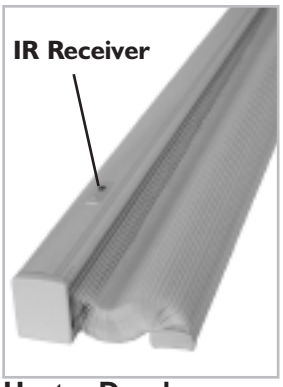


6. Blinds

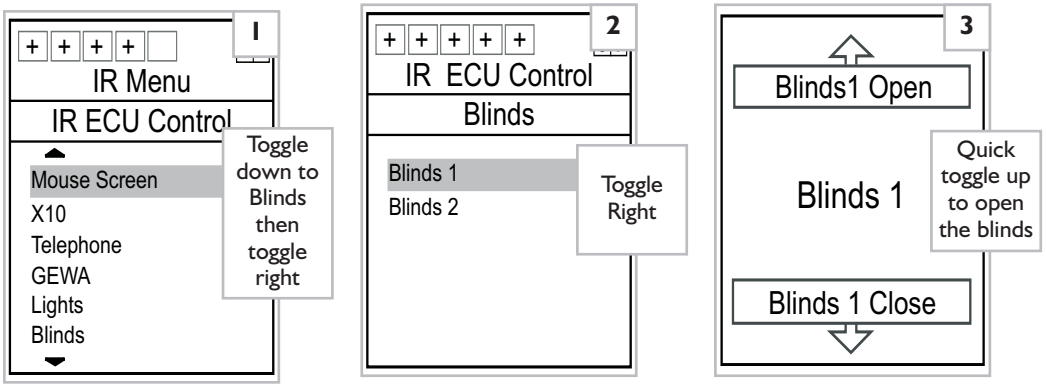
The blinds function is designed to work in conjunction with Hunter Douglas® remote controlled Alustra Duette Honeycomb Shades. These shades feature an IR receiver for remote control operation.

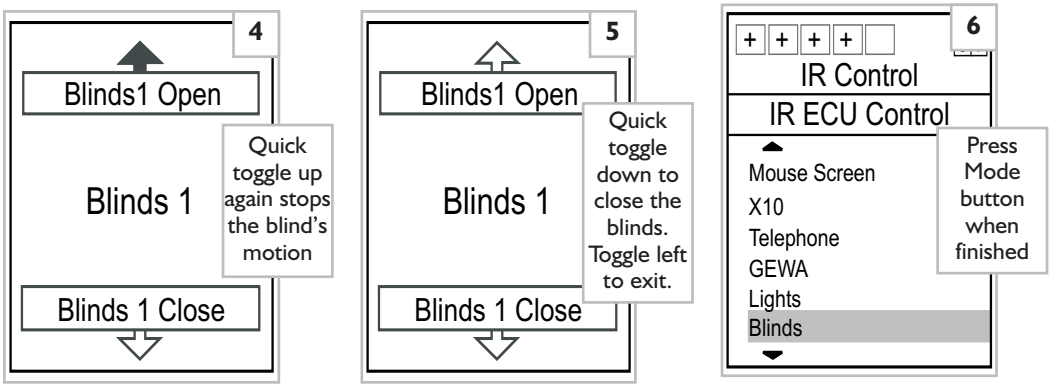
The "Blinds" menu (#3) features two options: Blinds 1 and Blinds 2. These options correspond to two channels built into the blind's motor. The "Channel Selection" section of the Blind's Owner's Guide details how the blinds can be programmed to respond to either channel 1 (Blinds 1) or channel 2 (Blinds 2) commands. (Note: Blinds ship from the factory set to channel 1 (Blinds 1) by default.)

NOTE: *The blinds require only a quick toggle command in the direction indicated by the arrow boxes. A second toggle command in the same direction stops the blind's motion.*



Hunter Douglas Remote Controlled Alustra Honeycomb Shades

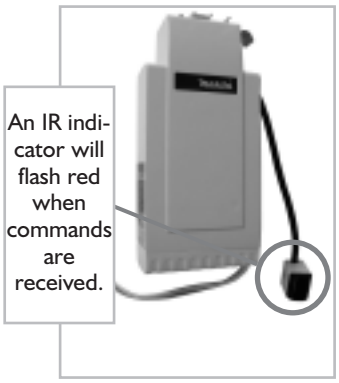




7. Curtains

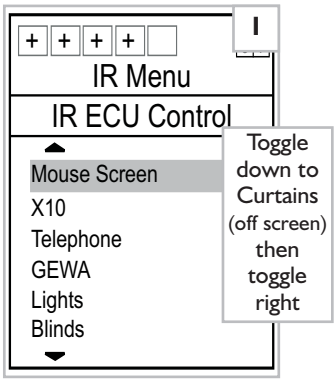
The "Curtains" function is programmed for use with the CM101 Makita® Automatic Drapery Opener System. Setup instructions are included with the packaging.

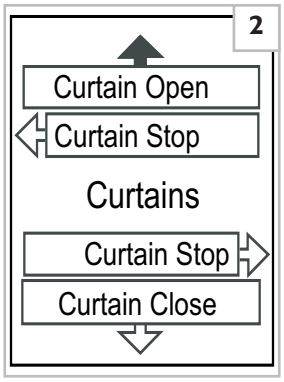
Once the system is installed, toggle down and right to the "Curtains" menu (#2). The boxed arrows indicate the toggle direction for each command. Unlike the blinds, each direction features its own independent stop command. Make sure the Enhanced Display is pointing at the black IR remote receiver connected to the motor housing (see photo below).



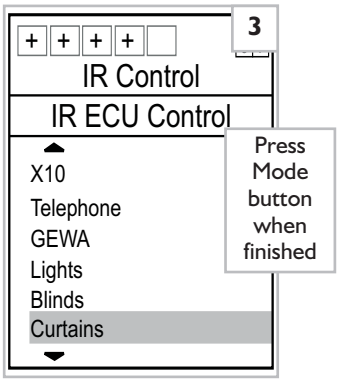
CM101 Makita® Automatic Drapery Opener System

(See page 16 to navigate to #1)





Toggle up to open.
Toggle left to stop.
Toggle down to close.
Toggle right to stop.
Press Mode Button to exit.



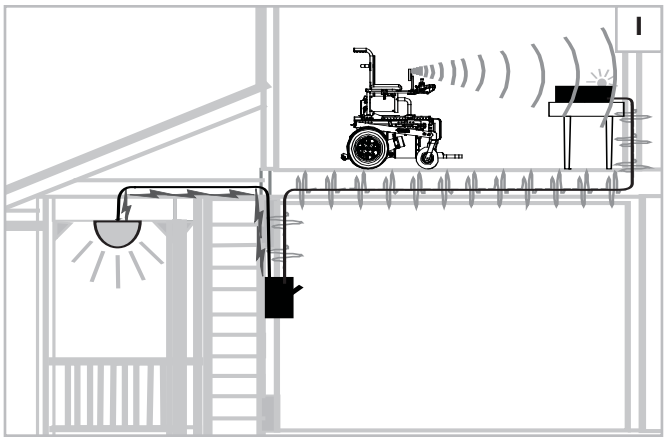
G. OTHER REMOTE-LOCATION CONTROL OPTIONS

Both IR and X10 devices require line-of-sight access to the IR signal receivers. In some cases, this presents a problem for individuals who need to access electronic devices that are not within their visual field. There are three ways to accomplish this:

1. X10 wire transmission to a remote location
2. Infrared (IR) to Radio Frequency (RF) to Infrared (IR) transmission
3. Infrared (IR) to Radio Frequency (RF) to Infrared (IR) to X-10 transmission

1. X10 Wire Transition to a Remote Location

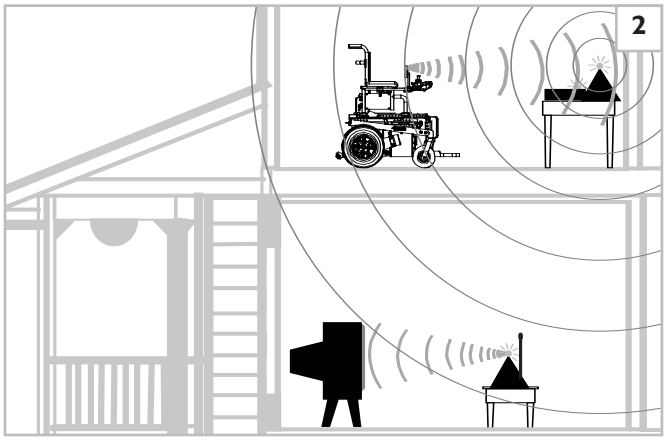
As mentioned in a previous section, the X10 system broadcasts through the house wiring. As long as the IR controller (Powerhouse) is set to the same letter code as the X10 receiver, the signal can be broadcast to any location that connects to the house wiring. For example, the X10 receiver for "Unit 1" on the Enhanced Display X10 menu could be located inside the switch controlling the outside porch lights. If the upstairs bedroom controller and this porch light receiver are set to the same letter code, a user could turn on the outside porch lights from the upstairs bedroom.



2. Infrared (IR) to Radio Frequency (RF) to Infrared (IR) Transmission

A second way to access a remote location is to convert the infrared (IR) signal into a radio frequency (RF) signal and then back into an infrared (IR) signal. In this example, a TV in the living room is turned off from the upstairs bedroom.

This transmission is accomplished by transforming the IR signal into an RF signal using an **RF Powermid® pyramid transmitter** and then back into an IR signal using a **Powermid® pyramid receiver**. Other products, such as the Leapfrog® transmitter accomplish the same end. Local electronics specialty stores and the internet feature lists of available products.

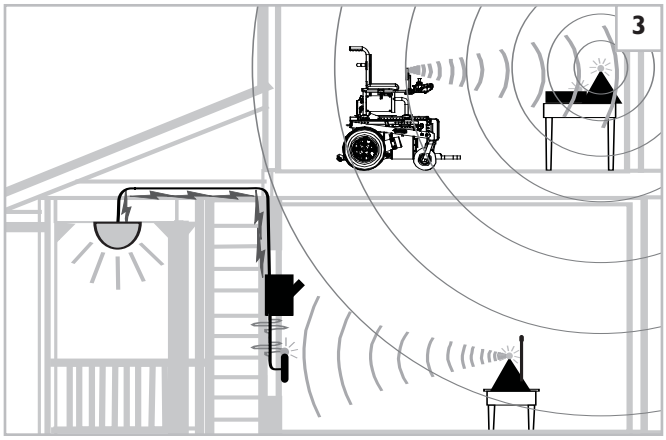


Powermid® Transmitter

Powermid® Receiver

3. Infrared (IR) to Radio Frequency (RF) to Infrared (IR) to X-10 Transmission

A third way to access a remote location is to convert the IR signal into an RF signal and then back into the IR signal using Powermid® pyramids. The receiver pyramid then broadcasts the IR signal to an X10 controller (powerhouse), which converts it into an electronic pulse that travels through the house wiring to an X10 receiver switch. This switch opens the circuit of the electric light or appliance. This setup is often used to open garage doors using an IR transmitter.



VIII. FAULTS MENU

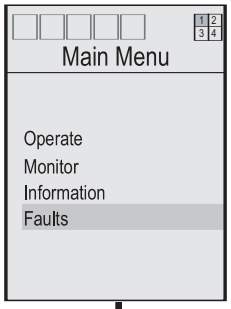
(Accessible to all user levels)

DESCRIPTION

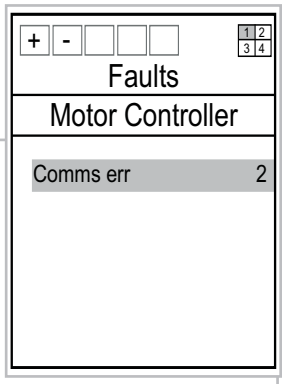
"Faults" in general describe error messages for any electro/mechanical problems a chair may have. For example, let's say the chair is intermittently turning off due to a loose connection between the handcontrol and the controller. Navigating to the Handcontrol fault menu provides information on any possible faults with the handcontrol. In this case, a "Communication Error" message will appear. When this fault code is reported to a supplier or wheelchair technician, it allows them to quickly diagnose the problem. Like a warning light on the dashboard of a car, the fault code pinpoints the problem with speed and accuracy.

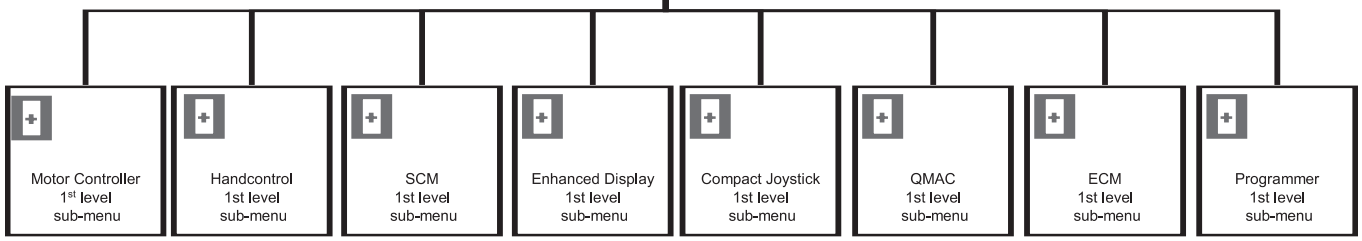
If you encounter a fault, contact your wheelchair supplier.

Sample menu breakdown for the Handcontrol fault menu. All fault codes are listed in the Menu Item Appendix of this manual.



Sample Faults menu





IX. OPERATE MENU

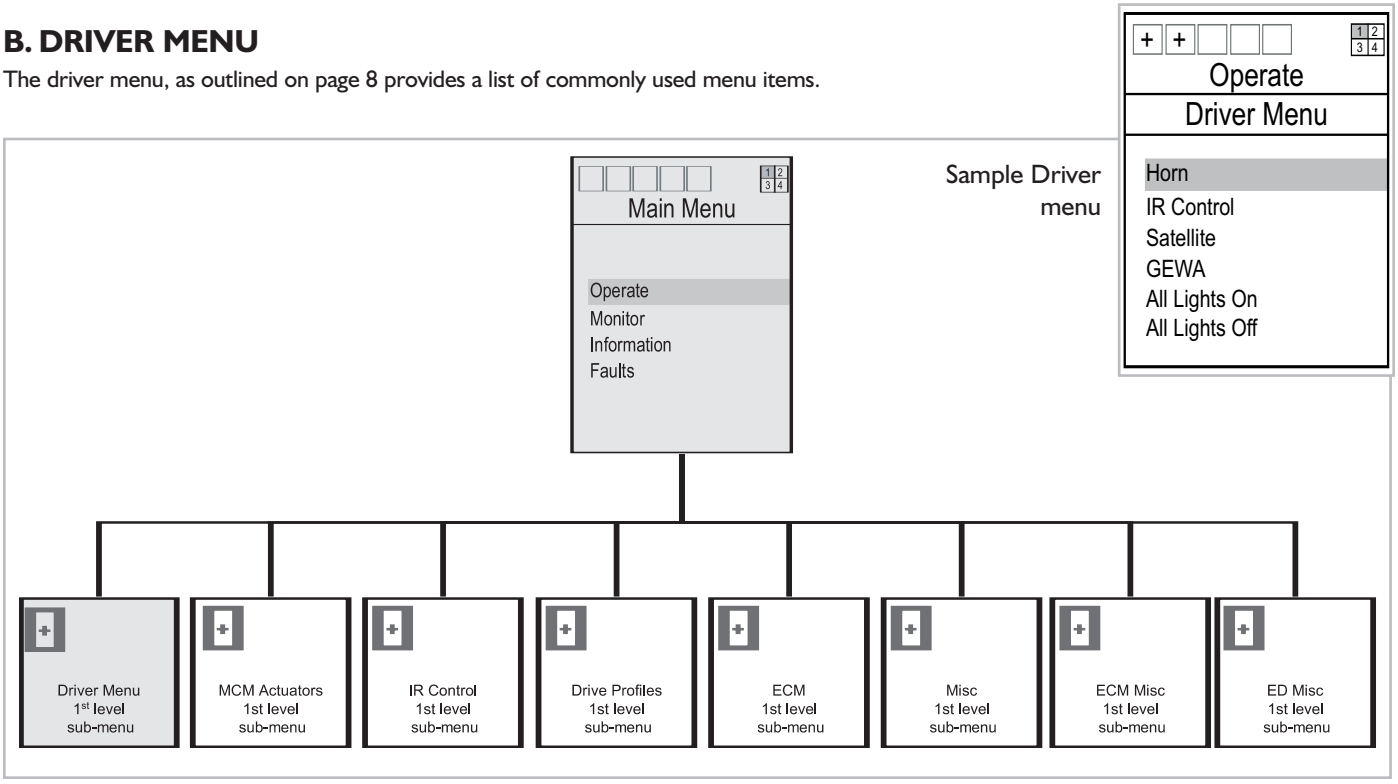
(Accessible to user levels 2-5)

A. DESCRIPTION

The Operation Menu is designed to provide a user with the ability to operate, test, and control various aspects of the chair through means other than the handcontrol.

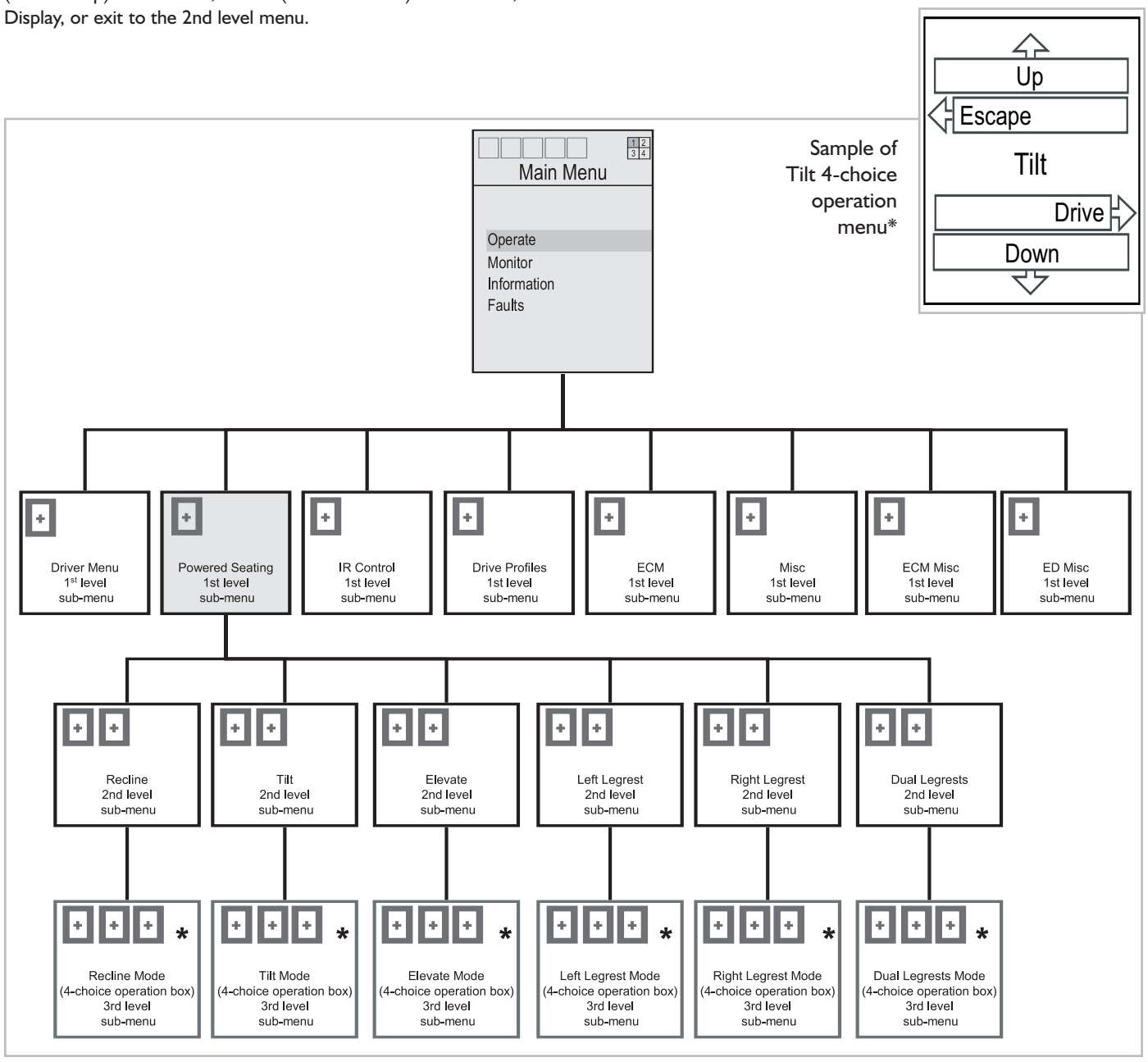
B. DRIVER MENU

The driver menu, as outlined on page 8 provides a list of commonly used menu items.



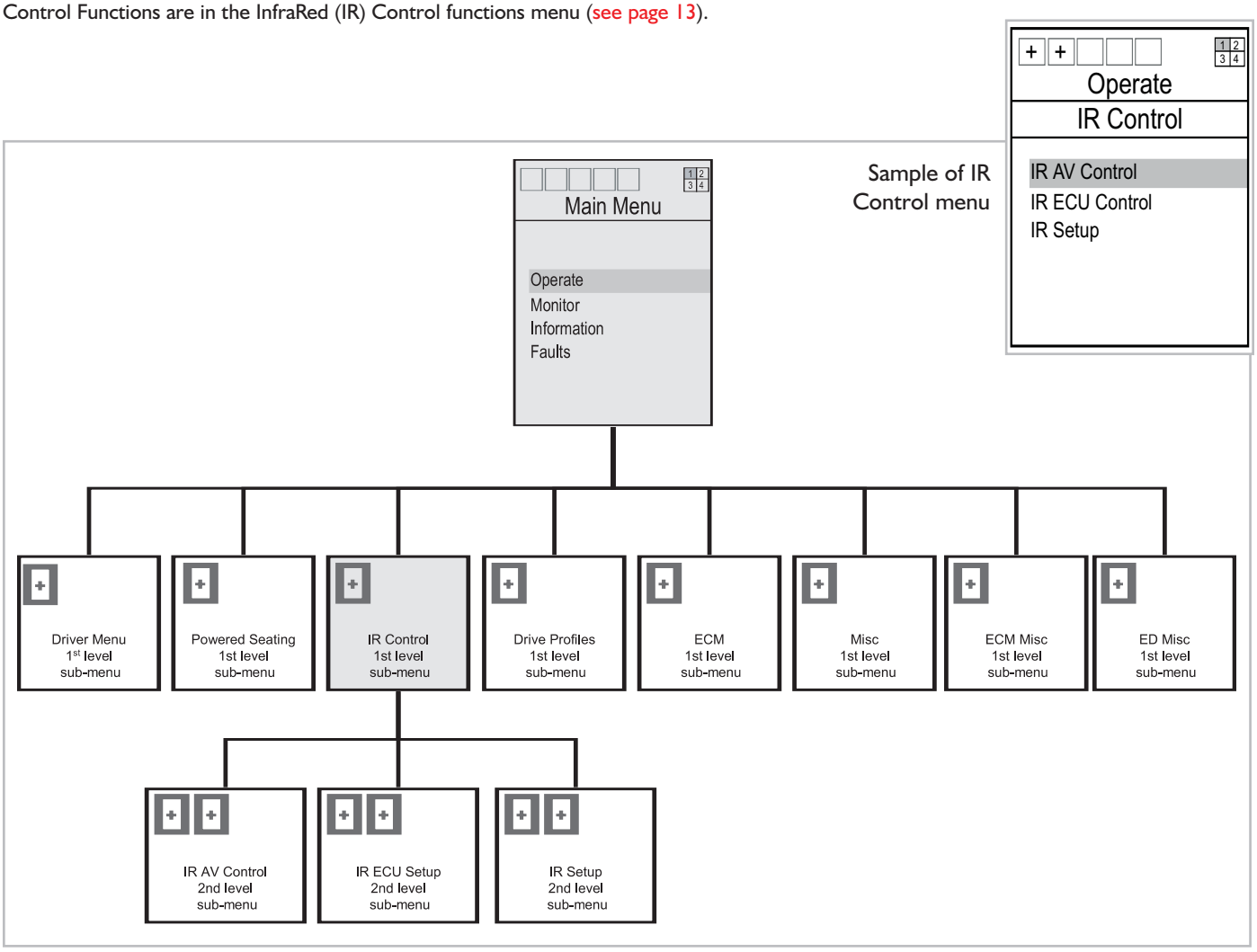
C. POWERED SEATING

The Powered Seating menu controls the various user-powered seating functions. The 1st level sub-menus list all the powered seating functions provided on the chair. These may be one or up to six depending on the chair. Operation of each function is found on the third level in the form of a 4-choice operation box. These boxes provide the option to extend (or move up) the actuator, retract (or move down) the actuator, return to the Drive Display, or exit to the 2nd level menu.



D. IR CONTROL

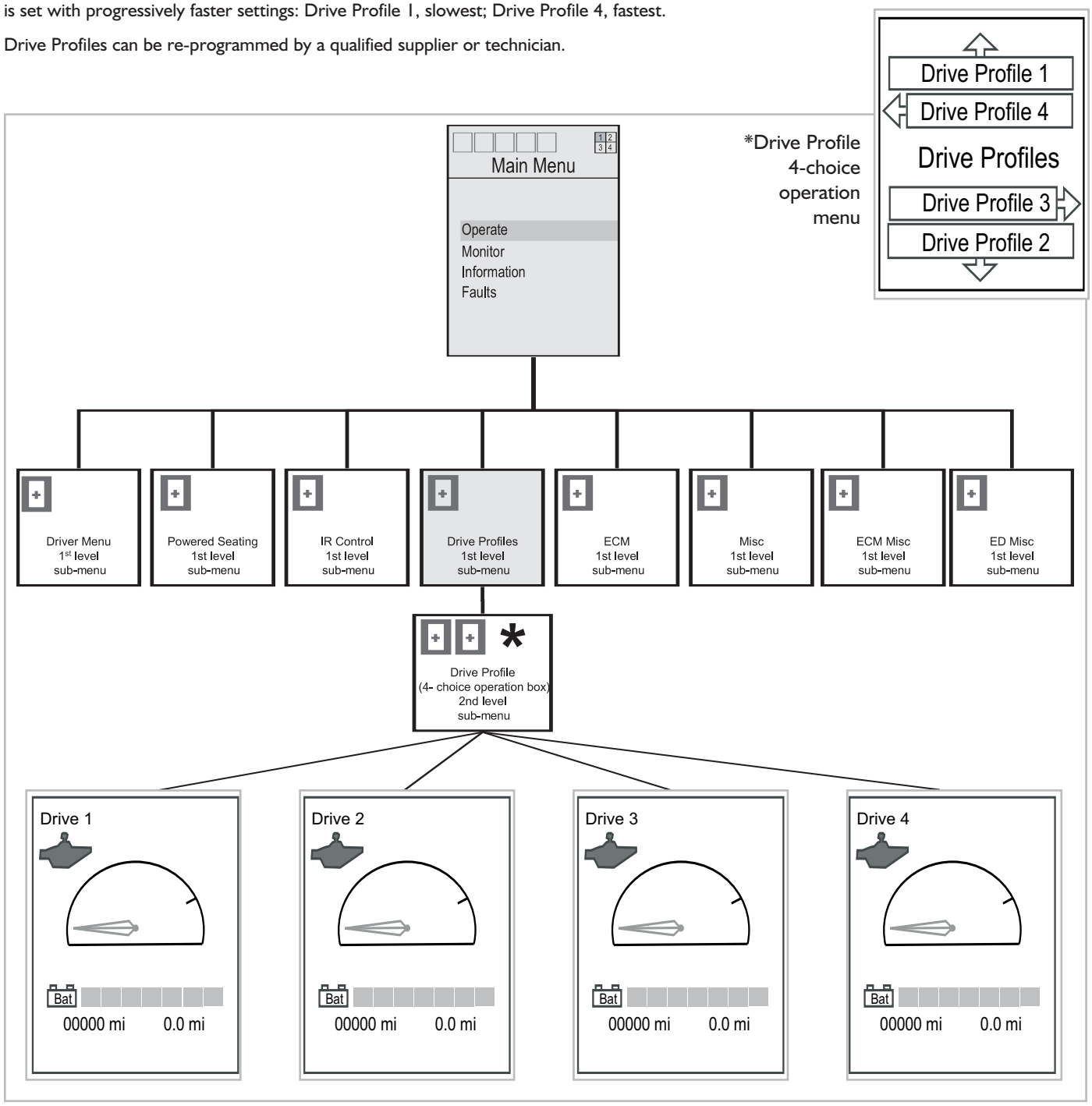
IR controls are accessible through either the Drive Menu or through the Main Menu. IR Control Functions are in the InfraRed (IR) Control functions menu (see page 13).



E. DRIVE PROFILES

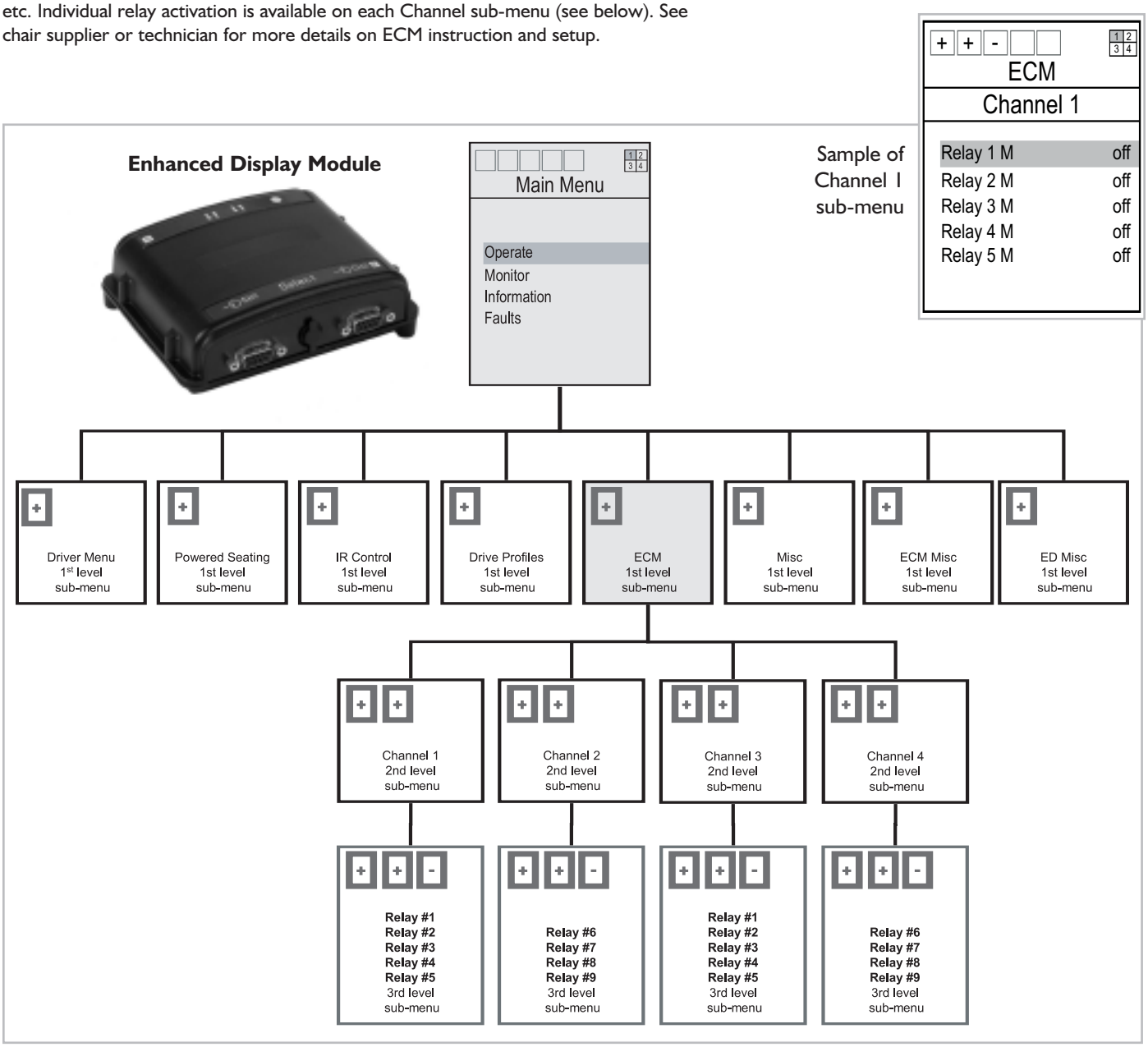
The Drive Profiles sub-menu provides a user the option of switching from the current drive profile to a new drive profile. Each drive profile contains operational settings, such as max speed, min speed, turning speed, acceleration values, etc. The Drive profile also specifies the input device used to drive the chair. A user often switches drive profiles when transitioning from one type of input device to another. From the factory, each drive profile is set with progressively faster settings: Drive Profile 1, slowest; Drive Profile 4, fastest.

Drive Profiles can be re-programmed by a qualified supplier or technician.



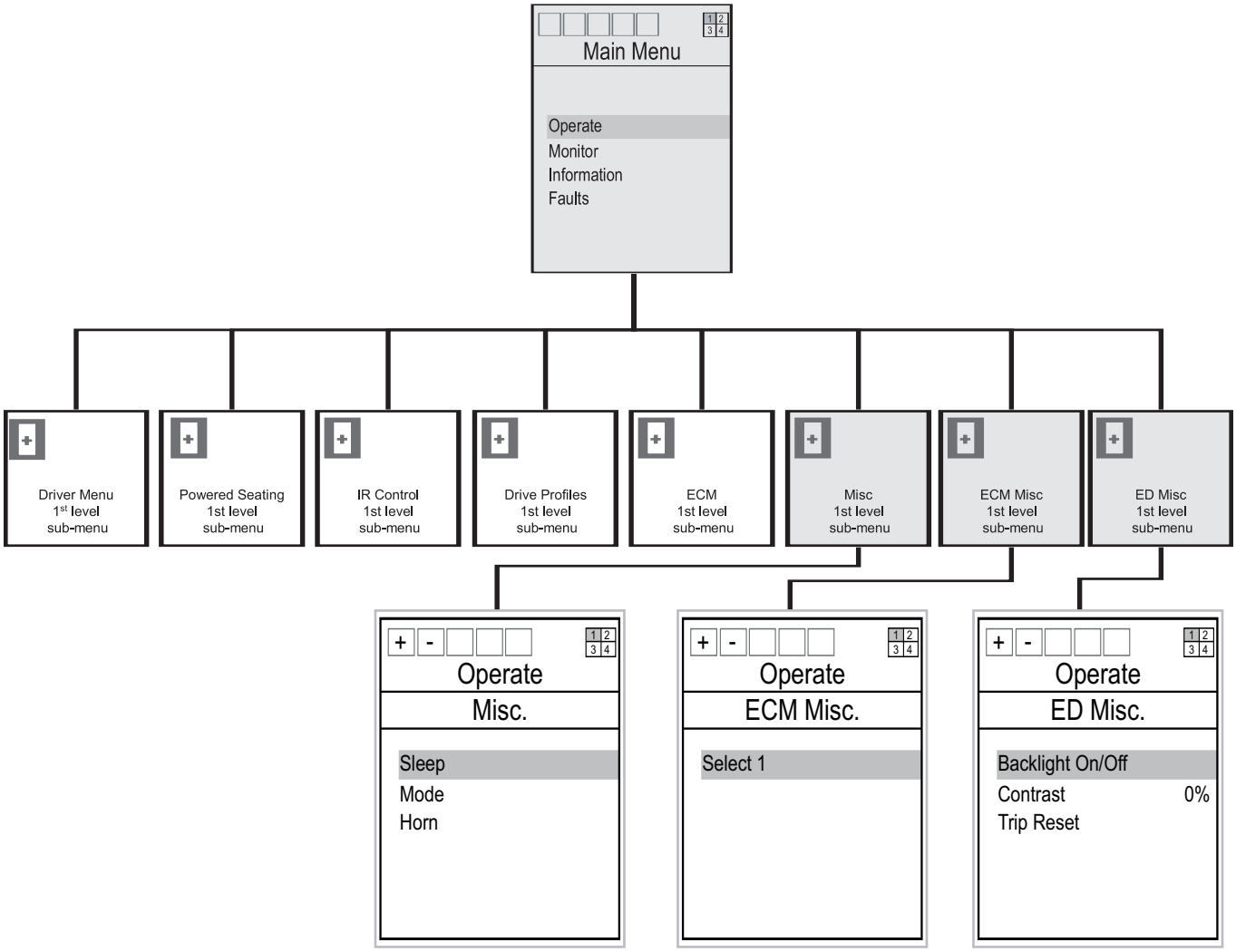
F. QR-ECM

The QR-ECM (Environmental Control Module) module is used to interface with environmental controls, such as a computer or communication device. Each module contains one channel with 5 relays and a second channel with 4 relays. These relays are used to translate input commands into output operations on an external device, such as a computer. For example, a relay might move a computer cursor in a specific direction on the computer screen: activating relay 1 moves the cursor up, relay 2 moves the cursor to the right, etc. Individual relay activation is available on each Channel sub-menu (see below). See chair supplier or technician for more details on ECM instruction and setup.



G. MISC. MENUS

There are three "misc." sub-menus. The functions of each are listed below.



Definitions

Sleep: Places the chair in a sleep (or suspended) state that is designed to conserve power. Hold the mode command for 6 seconds to re-awaken the chair.

Mode: Duplicates a mode command input.

Horn: Sounds the horn.

Definitions

Select 1: Activates the select relay in port 1 (relay 5).

Definitions

Backlight On/Off: Turns on and off the Enhanced Display backlight.

Contrast: Increases or decreases the screen contrast.

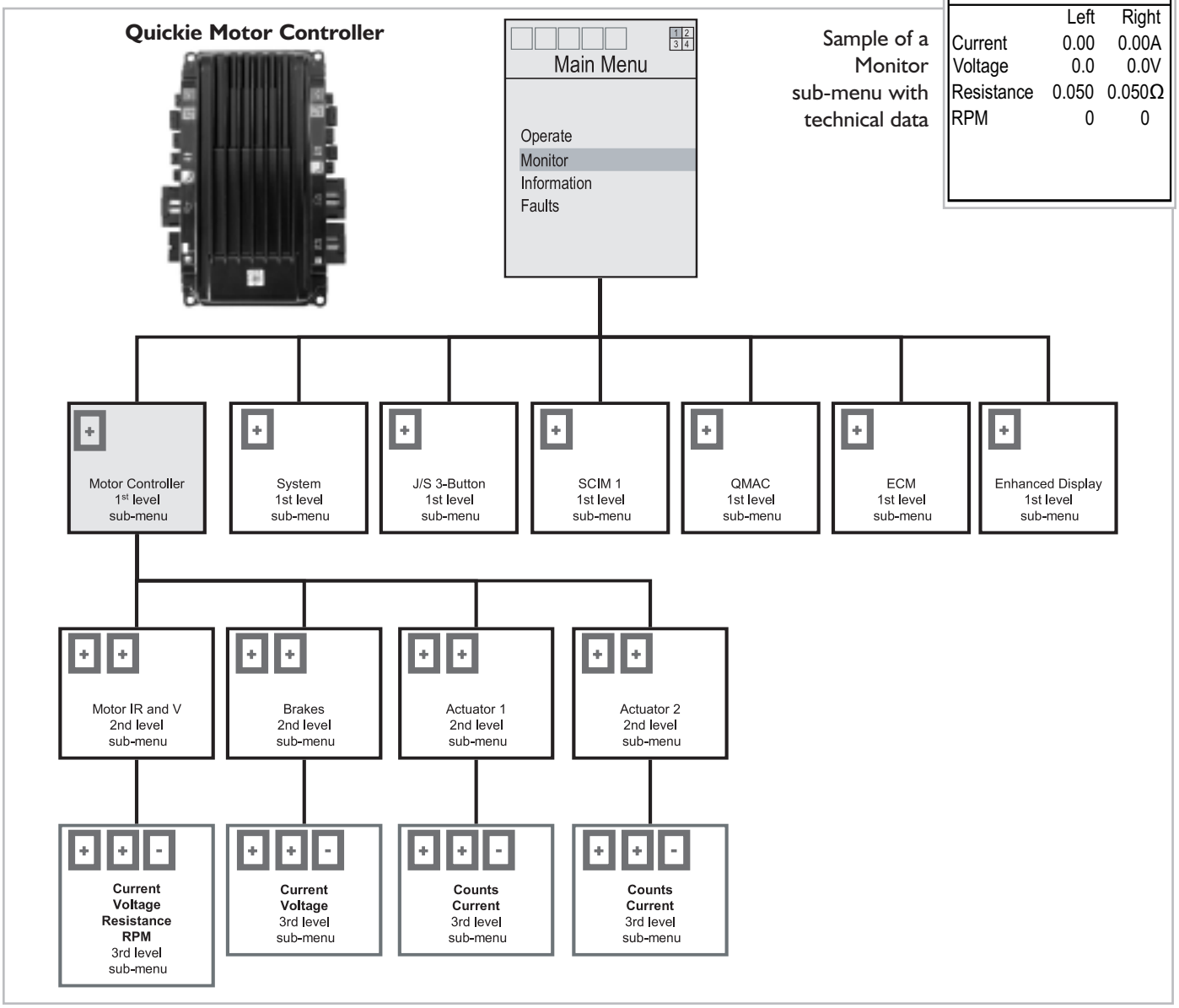
Trip Reset: Resets the "trip" odometer.

X. MONITOR MENU

(Accessible to user levels 3-5)

A. MOTOR CONTROLLER

The Monitor Menu is designed to monitor real-time electrical systems without actually physically accessing these systems with testing equipment. For example, if a supplier needs to know how many ohms of resistance the left break is producing, a user can view this information in the monitor menu and relay it to the supplier/technician. The following pages contain various menu trees that outline where this information resides. More technical definitions of specific menu items, such as Actuator 1/counts, can be found in the Menu-Item Appendix B.

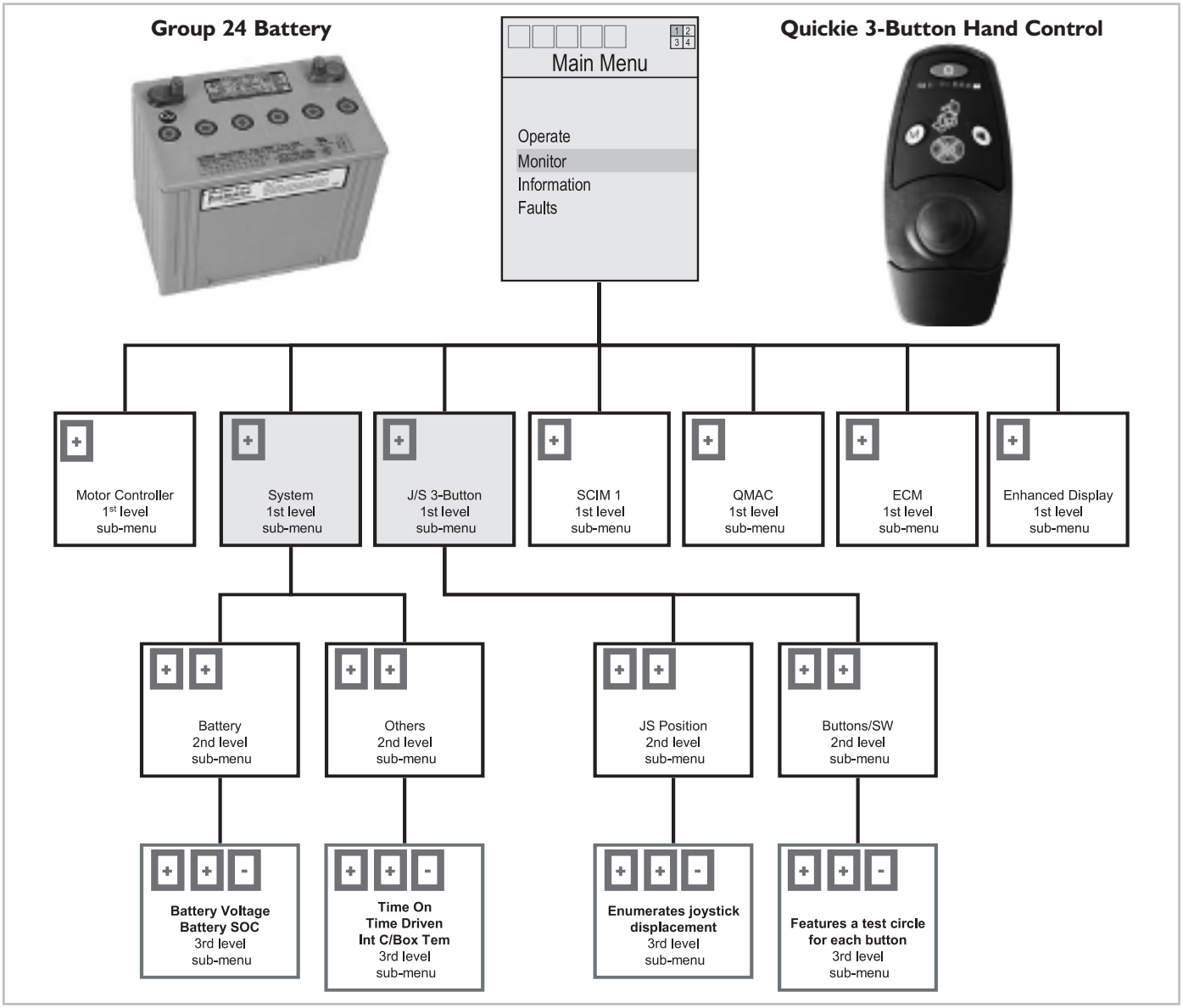


B. SYSTEM AND J/S 3-BUTTON

System is an excellent way to determine the actual state of the batteries.

J/S 3-Button helps technicians to determine whether a handcontrol button is functional or if the problem is somewhere else. This sub-menu also helps quantify joystick displacement.

Specific menu items are defined in the Menu-Item Appendix B.

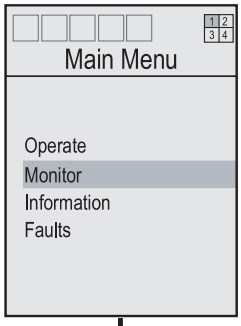


C. QR-SCM

The QR-SCM (Specialty Control Module #1) is used to interface with specialized input devices. The sub-menu is designed to monitor specialized input functions and Sip & Puff pressure levels. These menus are excellent ways to test input signals from a wide variety of specialized control devices, including the built-in Sip & Puff port.

Quickie electronics is designed to accommodate up to two SCIM modules. The second module will appear as “SCIM 2”.

QR-Specialty Control Module



Motor Controller
1st level
sub-menu

System
1st level
sub-menu

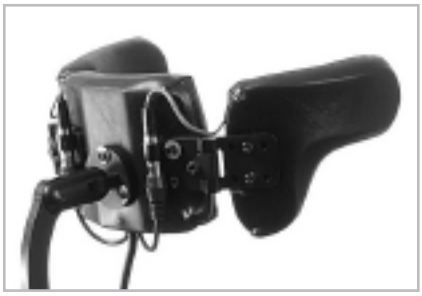
J/S 3-Button
1st level
sub-menu

SCIM 1
1st level
sub-menu

QMAC
1st level
sub-menu

ECM
1st level
sub-menu

Enhanced Display
1st level
sub-menu



Example of a proportional head array

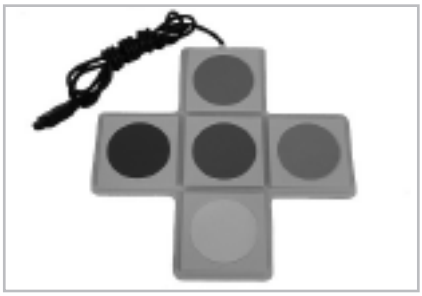
Switches
2nd level
sub-menu

S&P Pressure
2nd level
sub-menu

Forward
Reverse
Left
Right
Mode
SJ1a
SJ1b
SJ1c
SJ1d
3rd level
sub-menu

Soft Sip
Hard Sip
Soft Puff
Hard Puff
3rd level
sub-menu

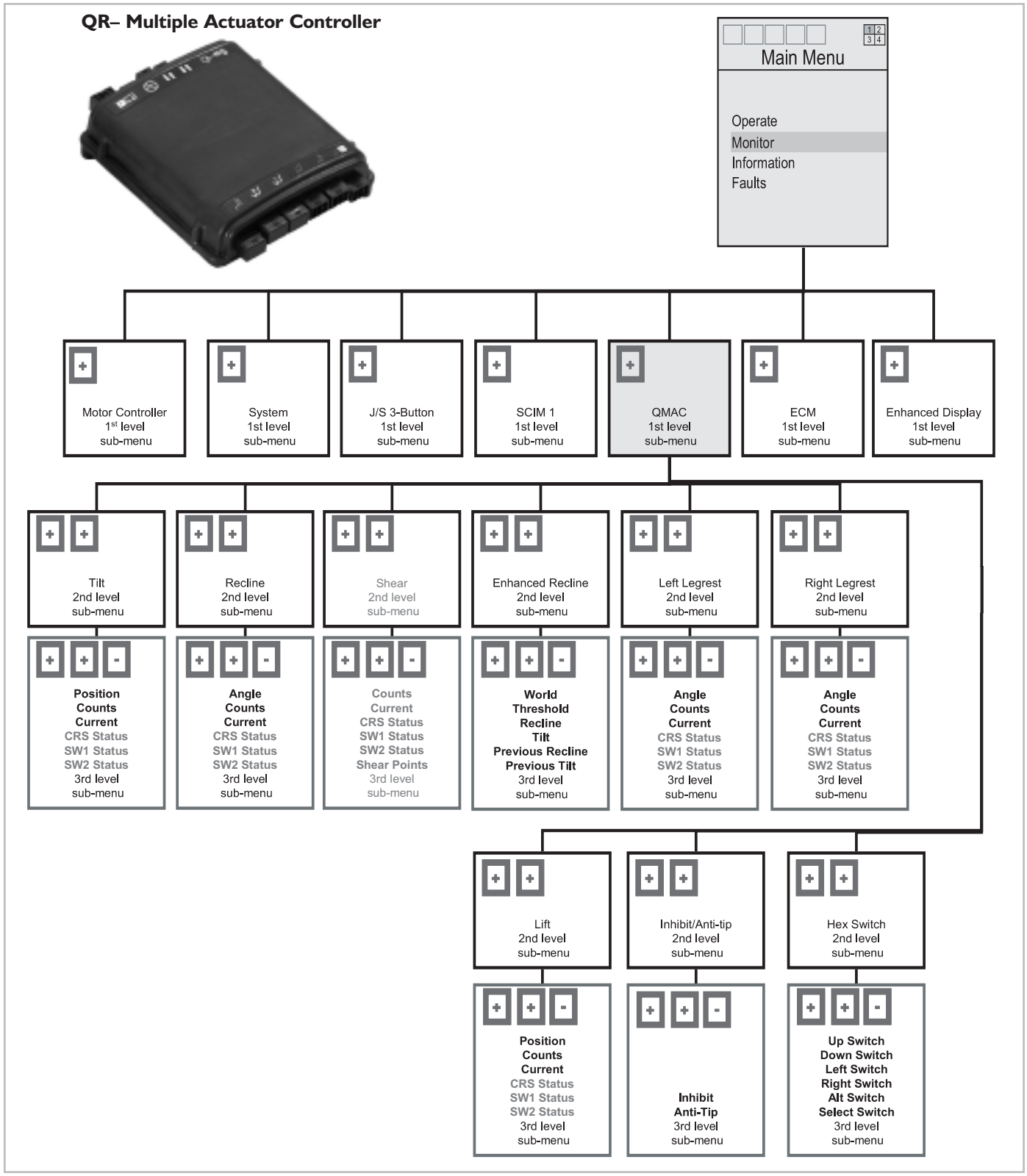
Example of a Sip & Puff system



Example of a starboard

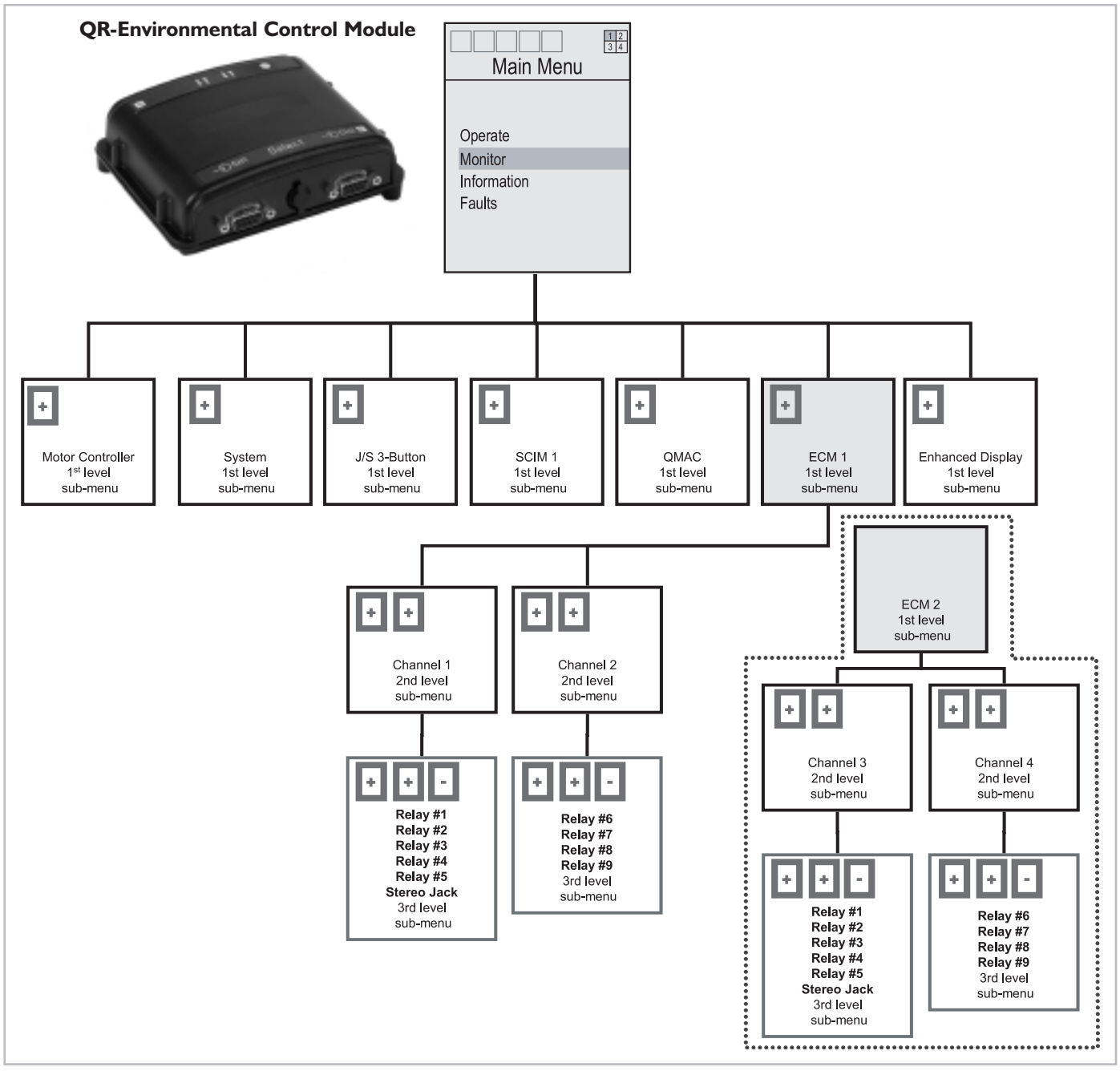
D. QR-MAC

The QR-MAC (Quickie Multiple Actuator Controller) is designed to accommodate more than two power seating actuators. It can handle up to 6 actuators. Each one is fully programmable. The recline system features Quickie Enhanced Recline™. (See supplier for more details.) Specific menu items are defined in the Menu-Item Appendix B.



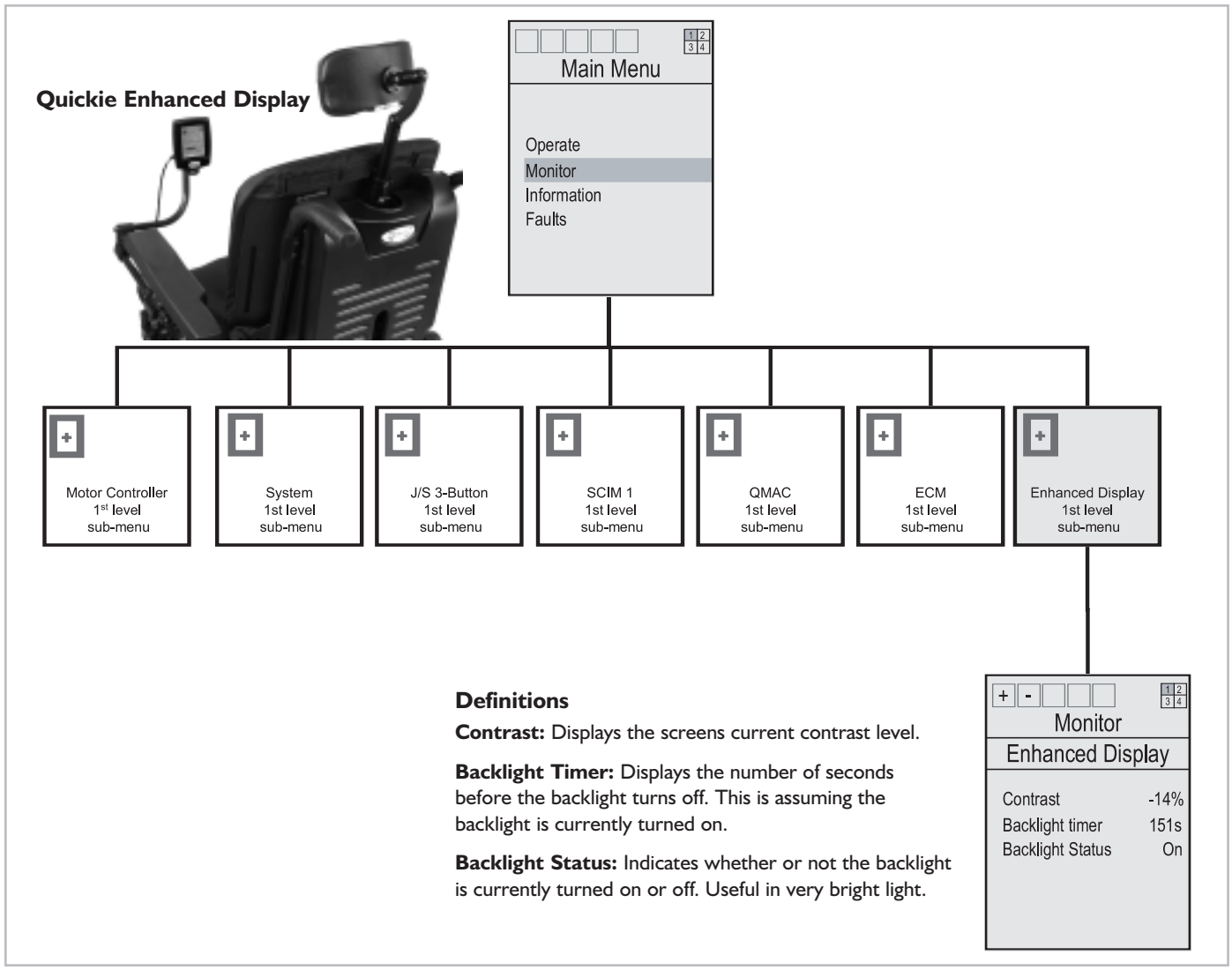
E. QR-ECM

The QR-ECM (Environmental Control Module) sub-menus contain basic relay status information. Each relay is set for either momentary activation (M), latched activation (L), or Latched and Hold activation (H), as well as “on” or “off”. The QR-ECM channel sub-menus provide status information on each relay as well as the stereo jack. If only one ECM is present, only Channel 1 and Channel 2 will appear. If 2 ECMs are present, ECM2 and Channel 3 and Channel 4 will appear. For more information on the ECM usage, contact the chair’s supplier or technician.



F. QR-ED

The QR-ED (Quickie Enhanced Display) monitor sub-menu provides information on the Enhanced Display's current screen settings. These include contrast, backlight timer, and backlight status. Definitions of each are listed below.



Definitions

Contrast: Displays the screens current contrast level.

Backlight Timer: Displays the number of seconds before the backlight turns off. This is assuming the backlight is currently turned on.

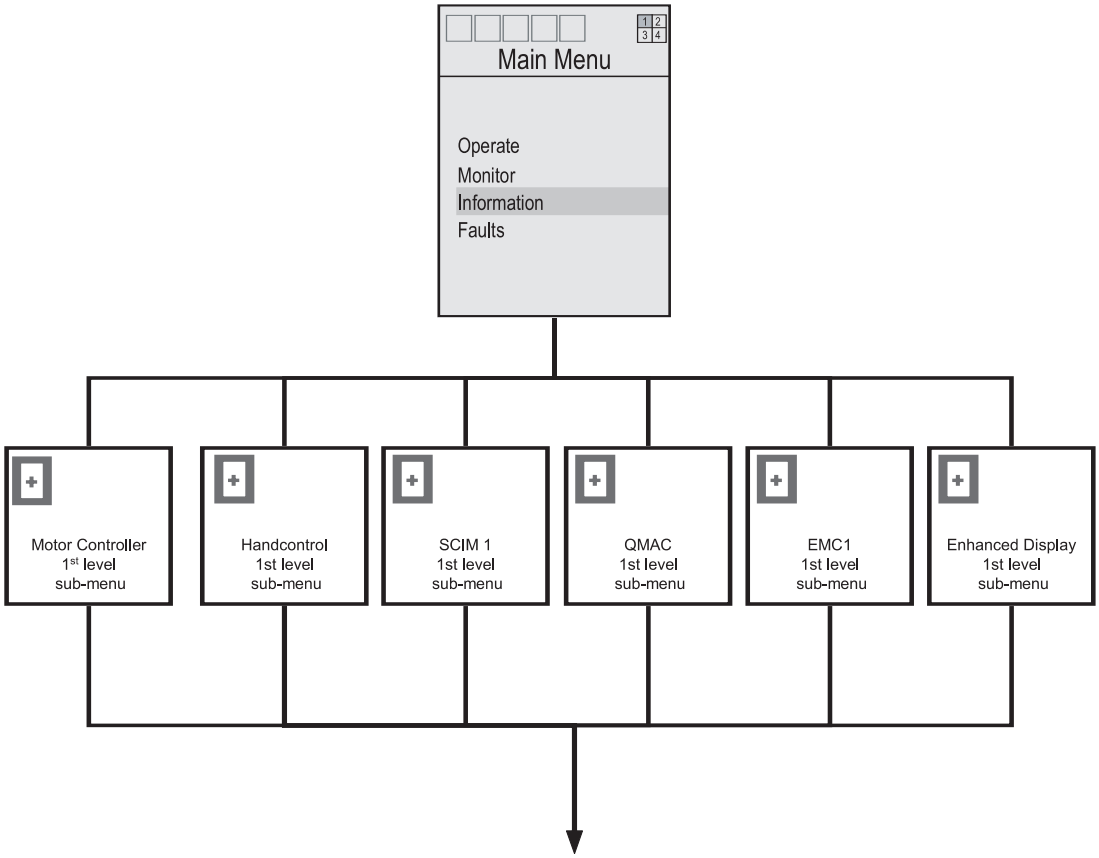
Backlight Status: Indicates whether or not the backlight is currently turned on or off. Useful in very bright light.

XI. INFORMATION MENU

(Accessible to user levels 3-5)

DESCRIPTION

The Information for each 1st-level menu is identical in the Information sub-menu. It provides important registration information that suppliers and technicians may need to access to update software and firmware or to troubleshoot a module. A listing of the information contained on these menus is provided below:



Each 2nd level menu screen contains the following information:

OEM Information: Displays Sunrise Medical manufacturer setup information

Reconfigured: Indicates whether or not the Motor Control Module has been reconfigured.

Model Number: Displays Motor Control Module model number

Serial Number: Displays Motor Control Module serial number

Manufacturing date: Displays Motor Control Module manufacture date

Software Version: Displays Motor Control Module software version

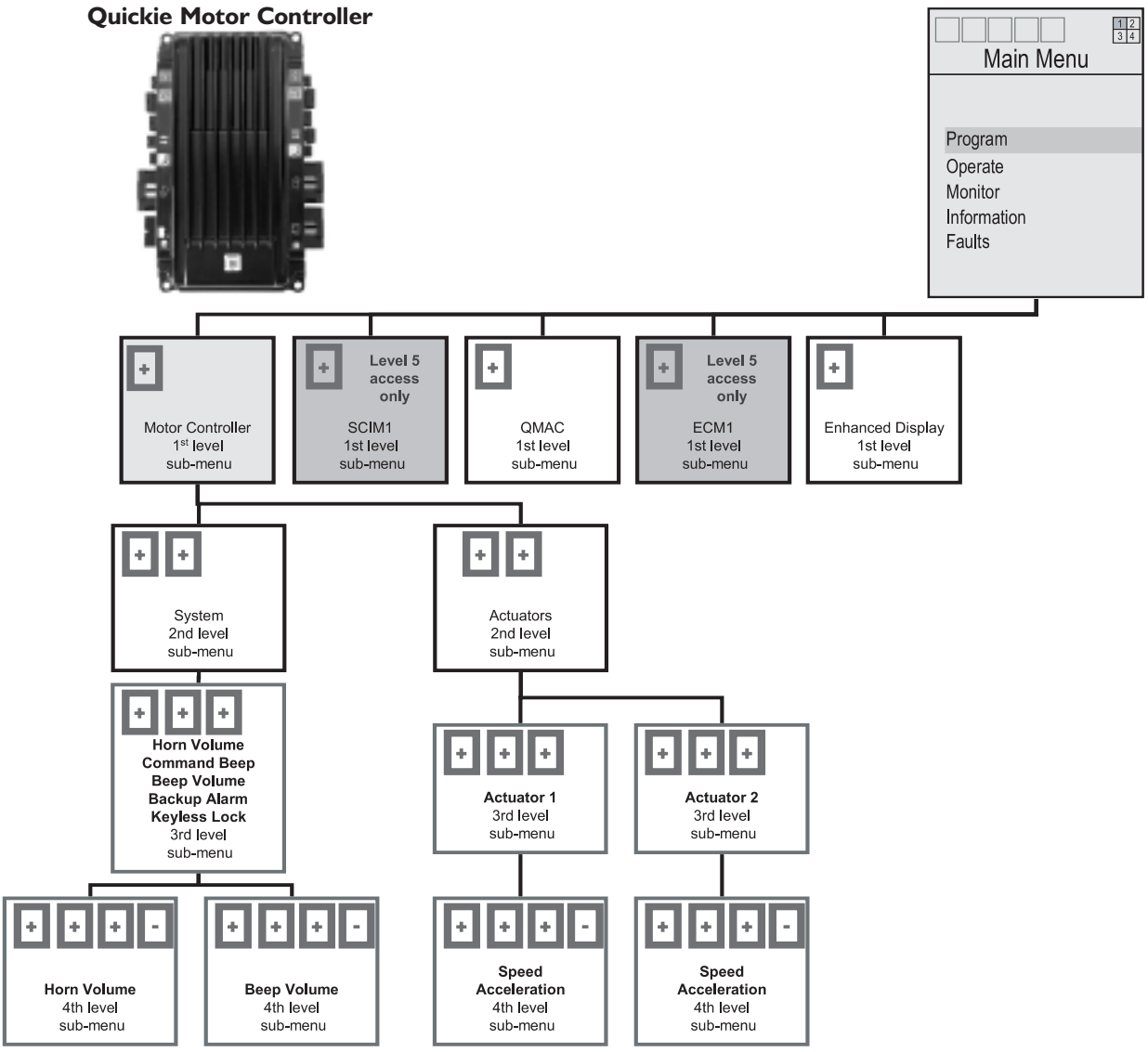
Hardware Version: Displays Motor Control Module hardware version

XII. PRIMARY PROGRAMMING MENU

(Accessible to user levels 4-5)

A. MOTOR CONTROLLER

The Primary Programming Menu provides access to many basic chair functions, such as volume levels, actuator speed & acceleration, and Quickie Enhanced Display fine tuning. The motor controller programming sub-menu provides programming access to the following functions:



Definitions

Horn Volume: Sets the volume of the horn as a % of maximum volume.

Command and Beep: Enables an audio backup "beep" for all commands.

Beep Volume: Sets the volume of the command beep.

Backup Alarm: Enables an audio "beep" when the chair is in reverse.

Keyless Lock: Allows the user to "lock" the power chair when not in use by holding the mode button and pushing the joystick forward for more than 5 seconds. This prevents the chair from being turned on until it is unlocked with the same command.

Speed: Sets the percent of maximum actuator speed.

Acceleration: Sets the percent of maximum actuator acceleration.

B. QR-MAC AND QR-ED

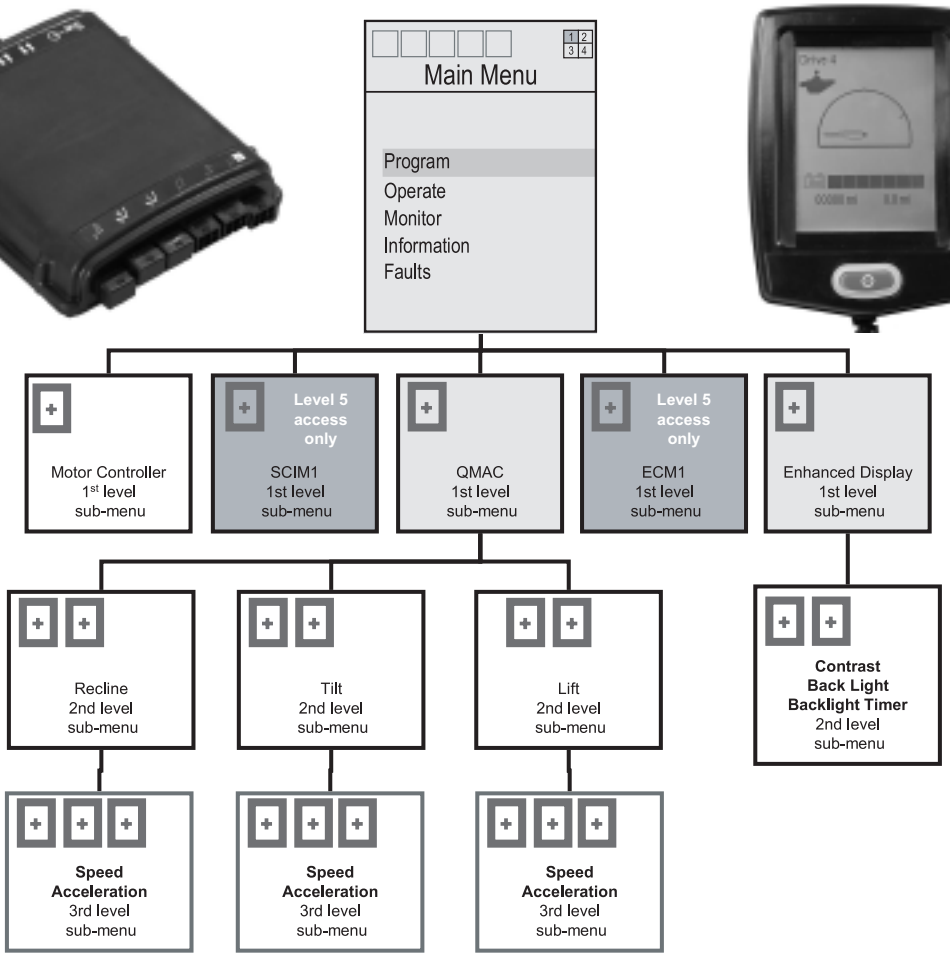
The **QR-MAC** sub-menus provide the ability to program the speed and acceleration of the recline, tilt, and lift actuators.

The **QR-ED (Quickie Enhanced Display)** provides adjustment of the contrast and back-light.

See definitions below.

QR– Multiple Actuator Controller

Quickie Enhanced Display



Definitions

Speed: Sets the percent of maximum actuator speed.

Acceleration: Sets the percent of maximum actuator acceleration.

Contrast: sets the contrast level of the enhanced display screen.

Backlight: Enables the backlight feature on the enhanced display screen.

Backlight Tier: Sets the amount of time the backlight remains illuminated after the last input command.

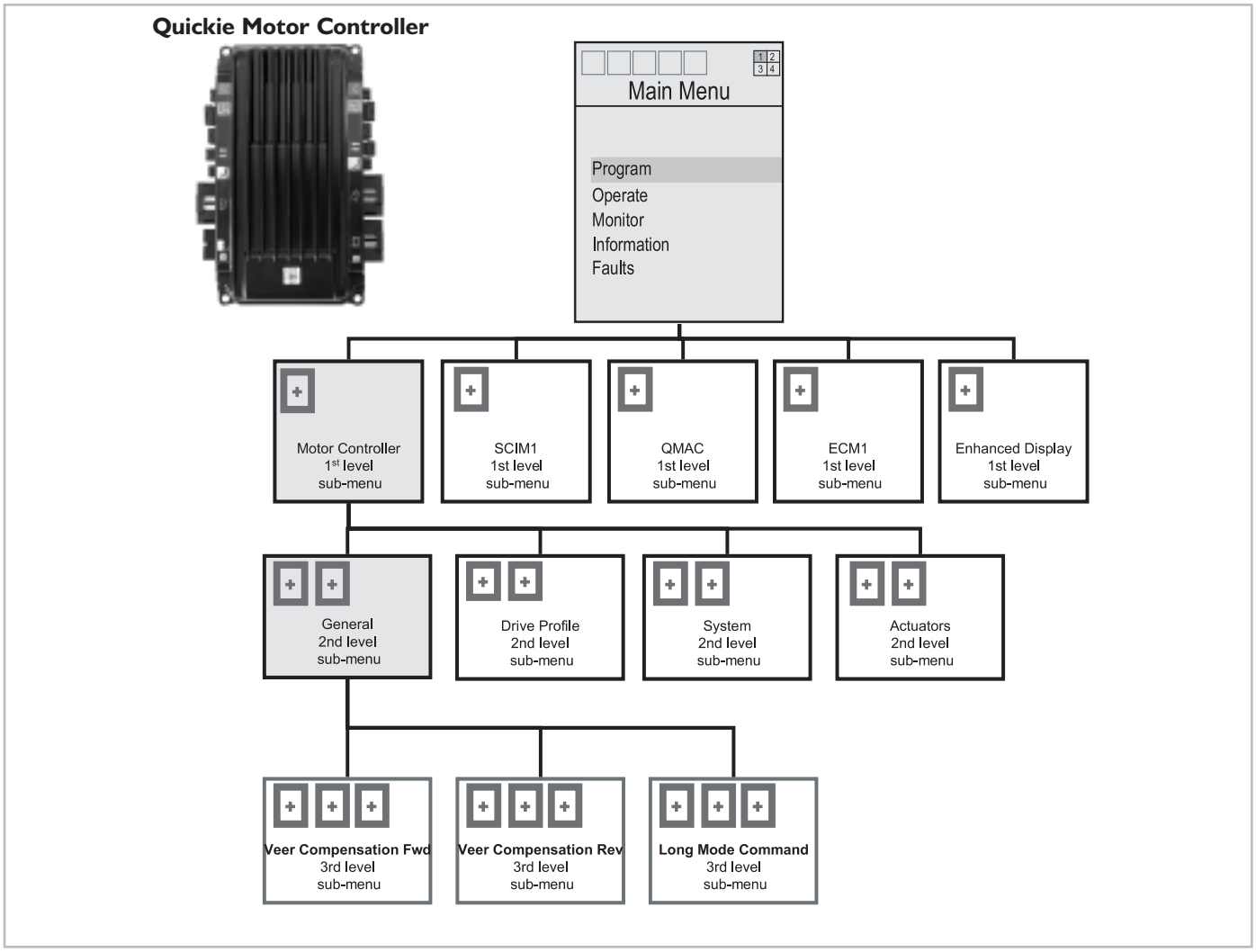
XIII. ADVANCED PROGRAMMING MENU

(Accessible to user level 5)

A. MOTOR CONTROLLER

1. General

The Advanced Programming sub-menu structure features many of the same menu screens as the primary programming menu with a few extras. The General sub-menu, for example, features more sensitive driving parameters. Please contact your chair's supplier or technician for more detailed instructions on how to set General sub-menu structure menu items.

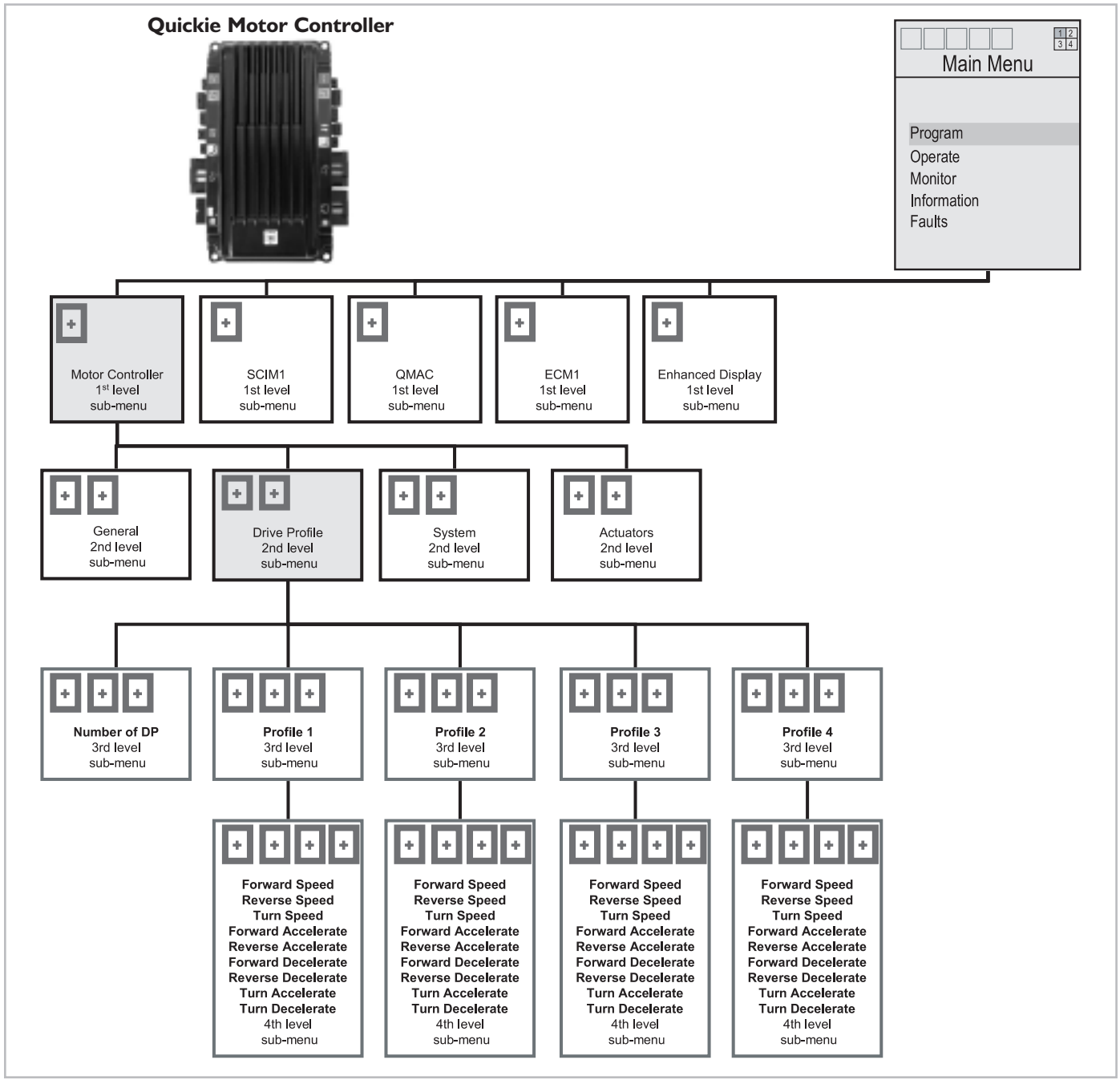


2. Drive Profile

The Drive Profile sub-menu allows users to custom program the chair's performance for each drive profile. Specific menu items, such as forward speed, reverse speed, turn speed, etc. are defined in the Menu-Item Appendix B.

Because Quickie controlled wheelchairs are designed to meet a wide range of needs and conditions, it may be possible to program its operating characteristics beyond the user's ability to control the chair. We recommend starting with settings below the desired performance and work up. We also recommend that users disengage the motors (place in freewheel) while programming. When programming is complete, the motors should be re-engaged to test the new profiles. We recommend seeking assistance from the chair's supplier or technician when first learning how to program the drive profiles.

NOTE: *It is important to remember, when adjusting individual parameters, speed (forward or turning) is independent of acceleration, and acceleration (forward or turning) is independent of deceleration.*

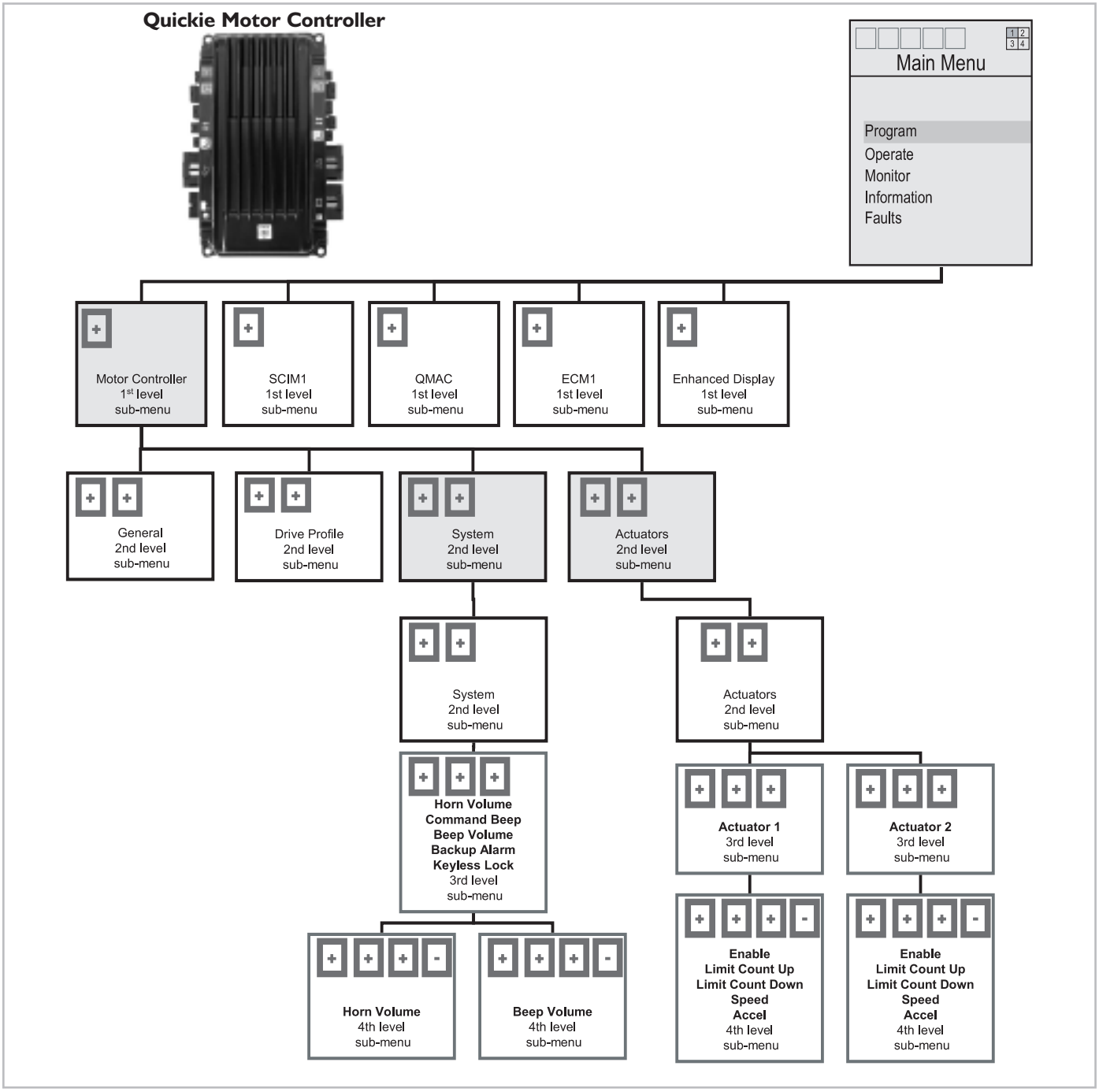


3. System & Actuators

Primary programming menu-item definitions for the System and Actuator sub-menus are listed on page 41. Advanced programming menu items not included in the primary programming menu are:

Enable: Ability to turn on or off actuator.

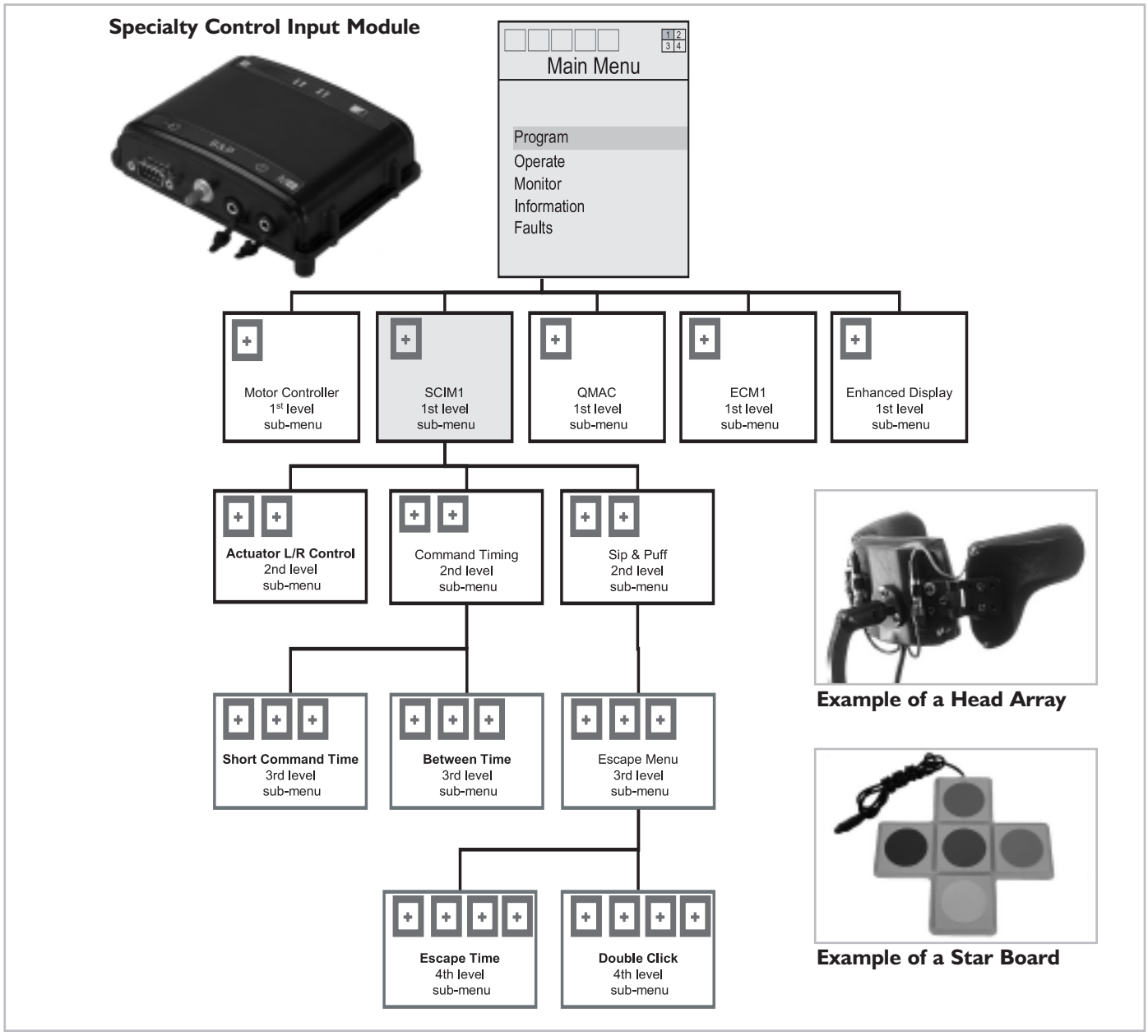
Limit Count Up & Limit Count Down: Please contact your chair's supplier or technician for instructions on setting the Limit Count Up and the Limit Count Down.



B. QR-SCM 1

The QR-SCM sub-menu structure provides menu options to fine-tune the control of specialized control devices (such as proportional head controls, Sip & Puff controls, touch-pad controls, etc) so these systems are more user friendly. Please contact your chair's supplier or technician for more detailed instructions on how to program SCIM 1 sub-menu structure menu items.

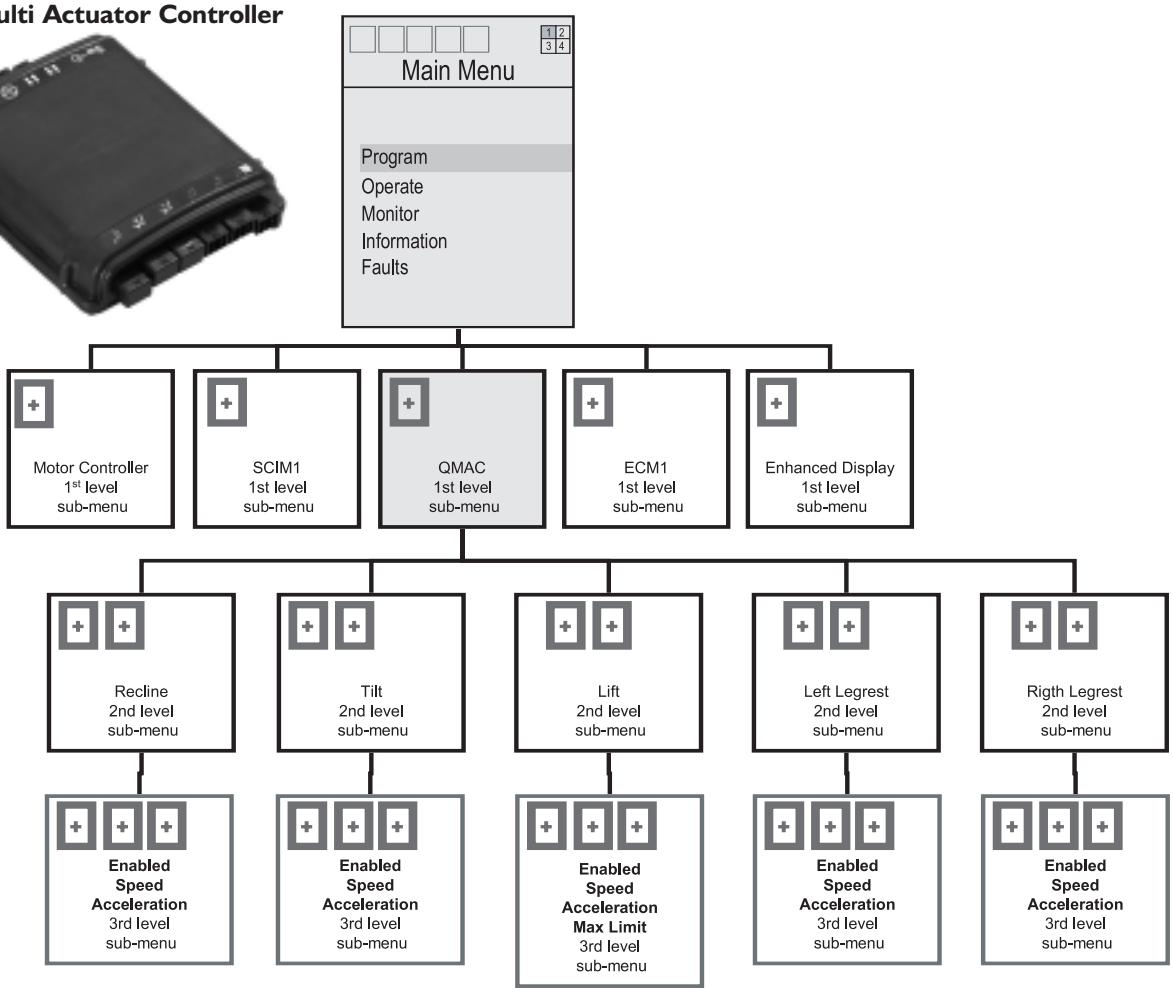
NOTE: *If two SCIMs are present, SCIM 2 will also appear. The menu structure is identical.*



C. QR-MAC

The QR-MAC sub-menu structure allows a user to fine tune the function of the chair's power actuators (power tilt, power recline, power lift, power elevating footrests, etc.). Using the QR-MAC controls, a user can turn the power seating actuators on and off, set the actuators speed, acceleration, and (in the case of the lift) maximum actuator extension. See definitions below.

QR– Multi Actuator Controller



Definitions

Enabled: Enables the actuator function.

Speed: Sets the percent of maximum actuator speed.

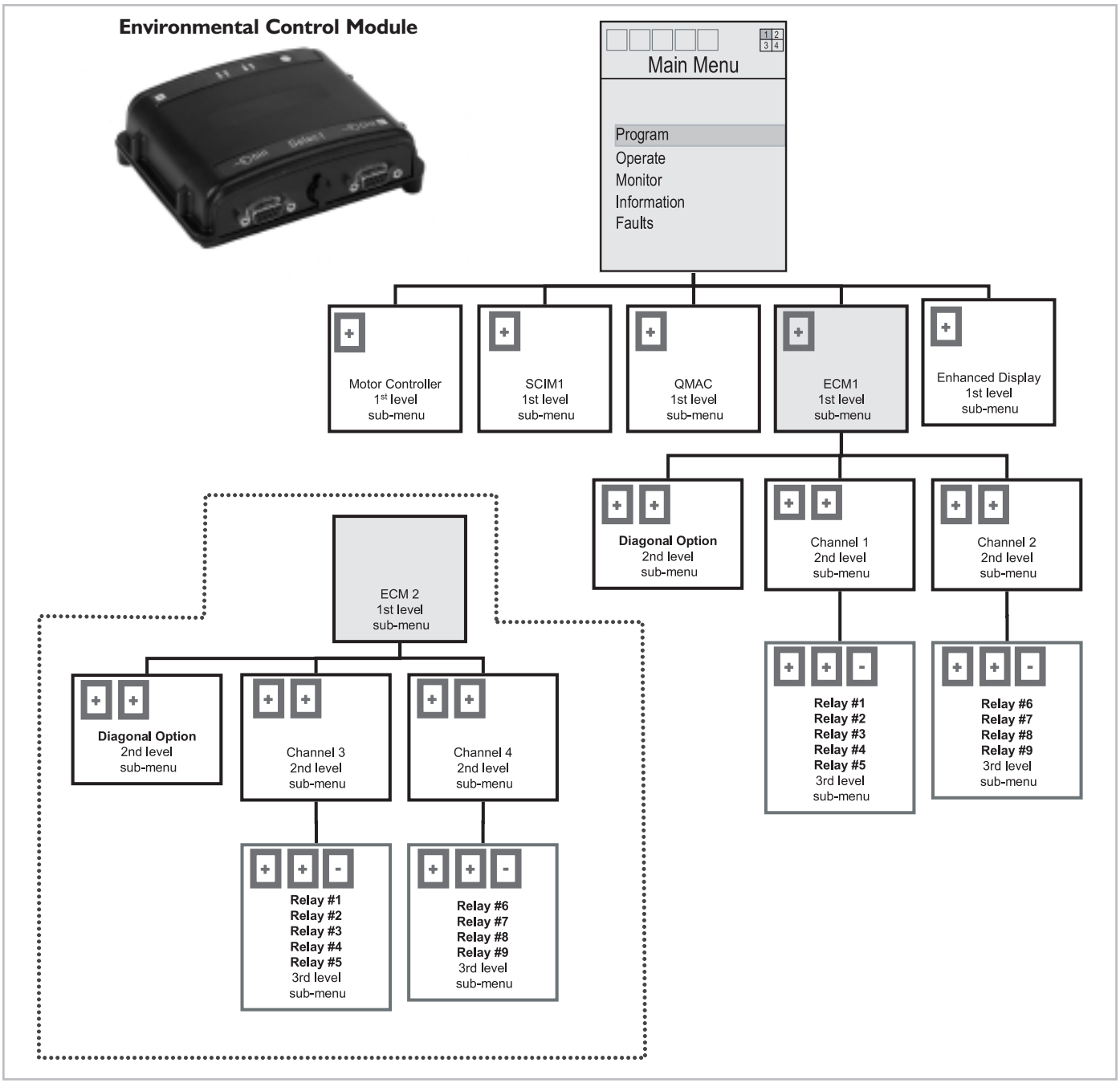
Acceleration: Sets the percent of maximum actuator acceleration.

Max Limit: Determines the maximum extension of the actuator (or height of the lift).

D. QR-ECM

The QR-ECM sub-menu structure provides greater control of the channel relay functions used in operating environmental controls, such as a Dynavox communication system. Relay switches can be set for momentary, latched, and latched & hold modes. Please contact your chair's supplier or technician for more detailed instructions on how to program ECM 1 sub-menu items.

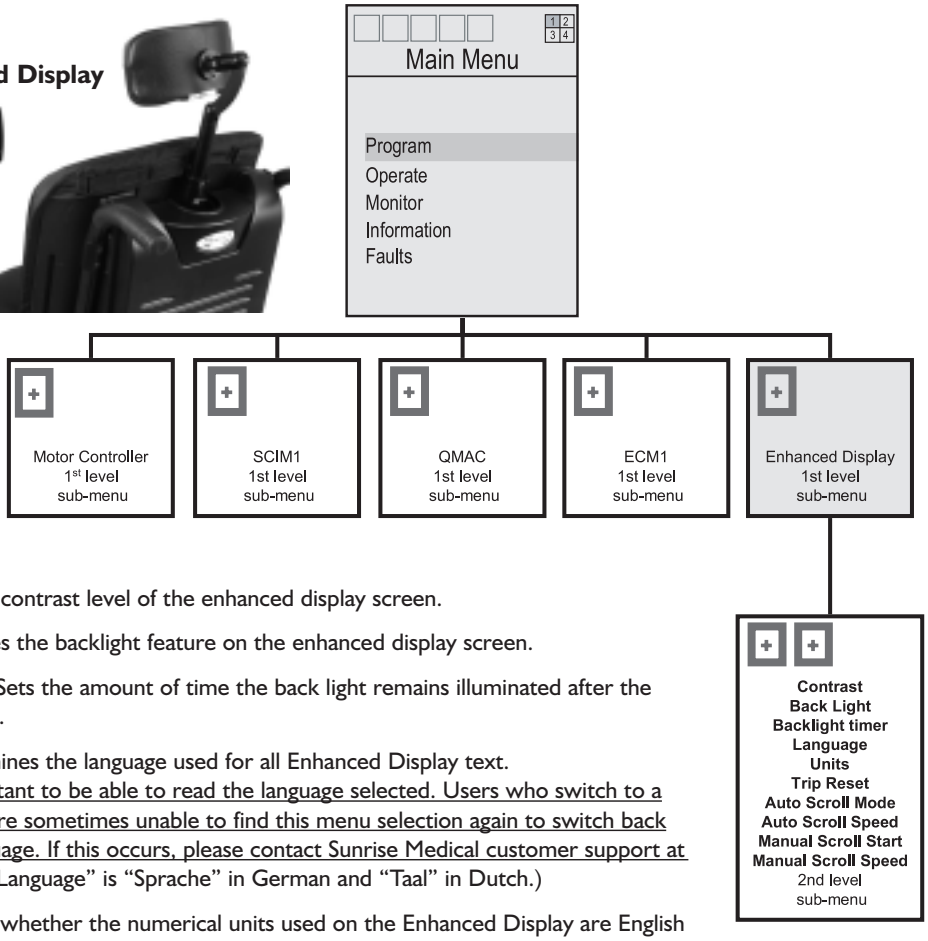
NOTE: *If two ECMs are present, ECM 2 will also appear. The menu structure is identical.*



E. QR-ED

The QR-ED (Quickie Enhanced Display) advanced programming sub-menu provides almost complete control over every facet of the Enhanced Display. It allows a user to customize scroll speeds, display language and display lighting. See definitions below.

Quickie Enhanced Display



Definitions

Contrast: Sets the contrast level of the enhanced display screen.

Back Light: Enables the backlight feature on the enhanced display screen.

Backlight Timer: Sets the amount of time the back light remains illuminated after the last input command.

Language: Determines the language used for all Enhanced Display text.
Caution: It is important to be able to read the language selected. Users who switch to a different language are sometimes unable to find this menu selection again to switch back to their native language. If this occurs, please contact Sunrise Medical customer support at 1-800-456-8166. ("Language" is "Sprache" in German and "Taal" in Dutch.)

Units: Determines whether the numerical units used on the Enhanced Display are English or Metric.

Trip Reset: Determines whether the trip odometer resets when the chair is charged or is manually reset.

Auto Scroll Mode: Signals the highlight bar to automatically start scrolling down any list of menu options on the Enhanced Display. When an option appears that the user wants to select, the right command must be executed.

Auto Scroll Speed: Sets the speed the auto-scroll highlight bar moves from one item to the next.

Manual Scroll Start: If the up or down input command is maintained for a length of time specified by this menu item, the highlight bar will start scrolling through the menu automatically. The minute this command is released, the highlight bar stops scrolling. Manual scroll is often used to increase scrolling speed.

Manual Scroll Speed: Sets the speed the highlight bar moves from one item to the next when the up or down input command is held in place.

XIV. MAINTENANCE AND CARE

Clean the screen and case as needed using a soft, dry cloth. A small amount of isopropyl alcohol on the cloth dampened with water may also be used if dirt and smudges are resistant. Do not use abrasive cleaning agents or dirty fabric as they may scratch the screen. Avoid using ammonia or other harsh chemicals.

XV. WARRANTY

1. TWO YEAR WARRANTY

Sunrise Medical warrants the QR-ED (Quickie Enhanced Display) against defects in materials and workmanship for 2 years from the date of first consumer purchase.

2. LIMITATIONS

a. We do not warranty damage due to:
   - Neglect, misuse, or improper installation of repair.
   - Use of parts or changes not authorized by Sunrise.

b. This warranty is void if the original Enhanced Display serial number tag is removed or altered.

c. This warranty applies to the USA only. Check with your supplier to find out if international warranties apply.

3. WHAT WE WILL DO

Our sole liability is to repair or replace covered parts. This is your only remedy for consequential damages.

4. WHAT YOU MUST DO

a. Return the warranty card.

b. Obtain from us, while this warranty is in effect, prior approval for return or repair of covered parts.

c. Return the QR-ED, freight pre-paid, to Sunrise Mobility Products Division at: 2842 Business Park Ave., Fresno, CA 93727-1328.

d. Pay the cost of labor to install or repair parts.

5. NOTICE TO CONSUMER

There are no other express warranties. To the extend permitted by law, any implied warranty (including a warranty of merchantability or fitness for a particular purpose) is limited too:

a. One (1) year from the first consumer purchase, and

b. Repair or replacement of the defective part only.

This warranty gives you certain legal rights. You may also have other rights that may vary from state to state.

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