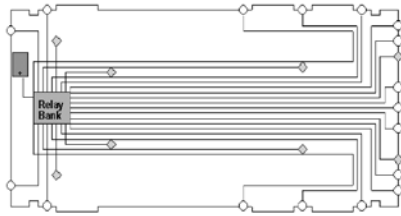
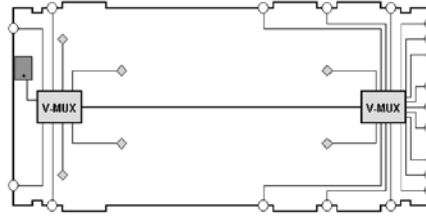


V-MUX ELECTRICAL SYSTEM SOLUTION = HARDWARE, SOFTWARE, AND SUPPORT



Traditional Wiring



V-MUX Wiring

Multiplexing is a means of transmitting multiple signals over one line.

V-MUX ADVANTAGE

Fewer wires. Traditional electrical systems have hundreds of wires running along the frame and through the cab and body. This often makes it difficult to install new components or troubleshoot existing ones. V-MUX will reduce the number of wires, reducing your labor.

Fewer splices and connectors. Fewer wires also means fewer splices and connections. Poor splicing techniques and corroded connections are two of the most common problems with traditional vehicle wiring. V-Mux reduces splices by 75% and reduces connections by 25%.

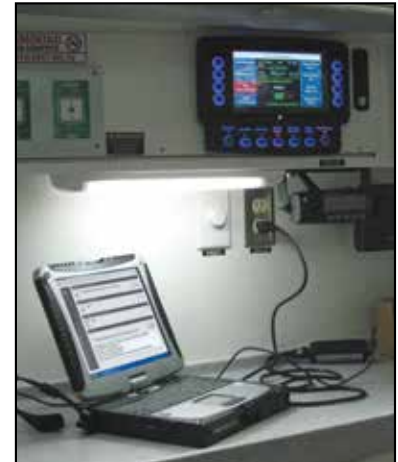
No electromechanical relays. Traditional wiring systems need to use relays for logic and output control. Relays are mechanical devices that will eventually fail. V-MUX uses solid state devices that do not wear out.

Built-in diagnostics. The laborious job of tracing electrical faults with a trouble light and volt-ohm meter is simplified by the built-in diagnostics that can be incorporated into the displays with a V-MUX System.

Dedicated factory support. The V-MUX system is supported by a world-wide, highly trained and specialized engineering group.

An Enabling Technology. V-MUX allows the OEM to add more features and respond to market demands more quickly.

V-MUX integrates all systems and components; empowering the OEM to design their electrical systems using an intuitive suite of software tools.



V-MUX® MULTIPLEXING SYSTEM

V-MUX is a complete electrical control system. The power distribution units (nodes) reduce wire harness bundles and electrical control hardware. Our software introduces advanced control features not available in traditional wiring systems. The combination of hardware and software make up the V-MUX system.

Traditional Wiring



Vs.

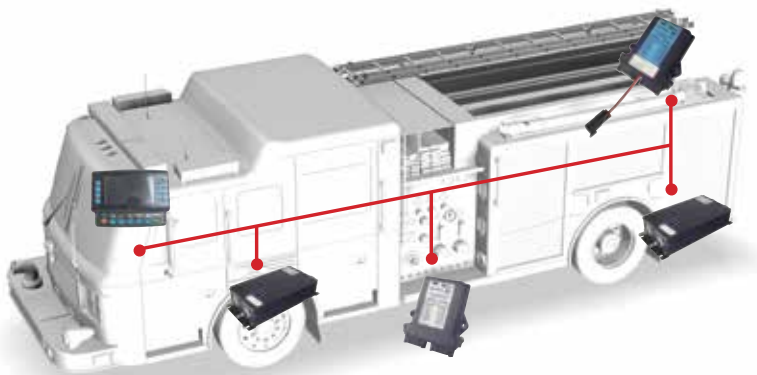
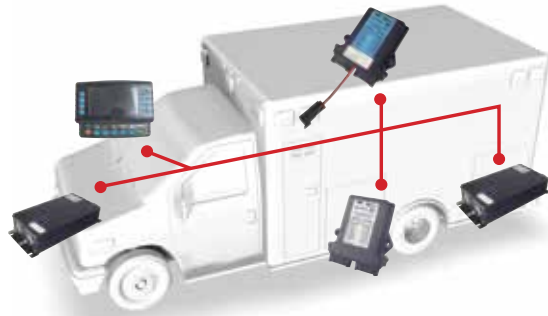
V-MUX Wiring



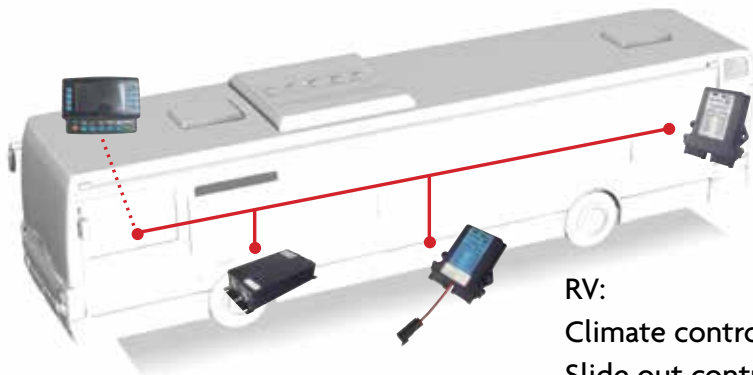


MULTIPLEXING FOR SPECIALTY VEHICLE MARKETS

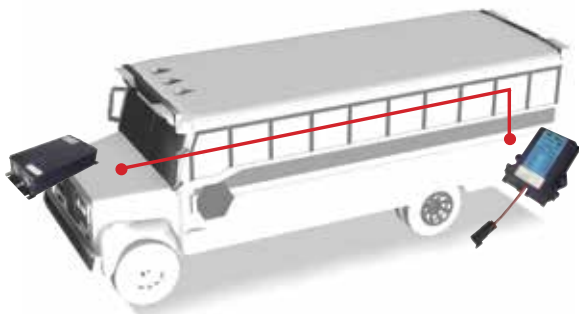
Ambulance:
 Flashers
 Climate control
 Oxygen/suction
 Dim lighting
 Cameras



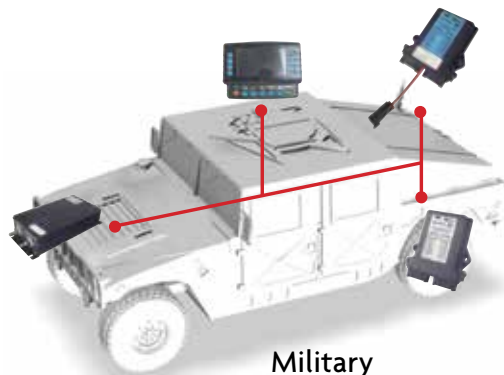
Fire:
 Load shedding
 Warning light control
 Pump controls
 Real-time diagnostics
 Vehicle data recorder



RV:
 Climate control
 Slide out control
 Chassis integration
 Lighting
 Cameras



Bus:
 Flash warning lights
 Child reminder
 Vehicle data recorder

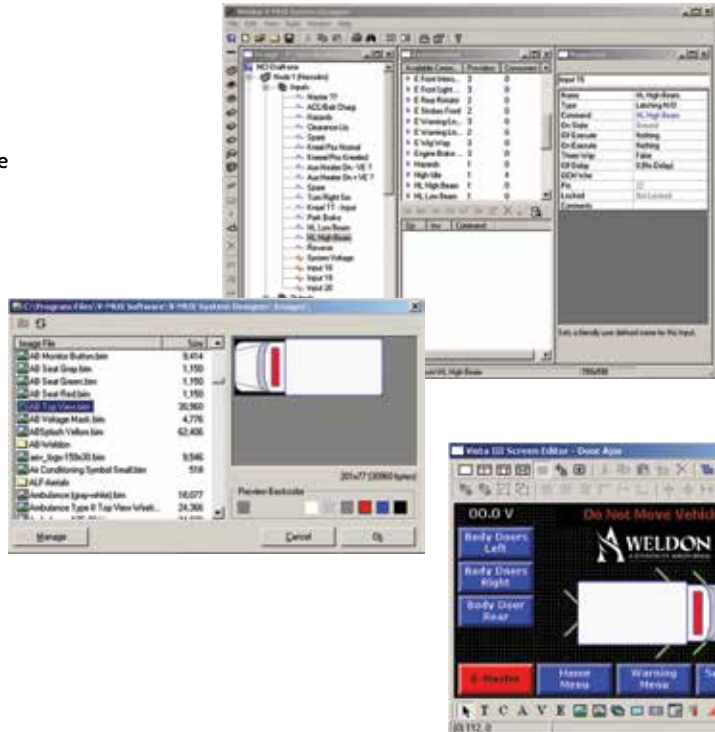


Military
 Real-time diagnostics
 Climate control
 Black out mode
 Rugged high quality

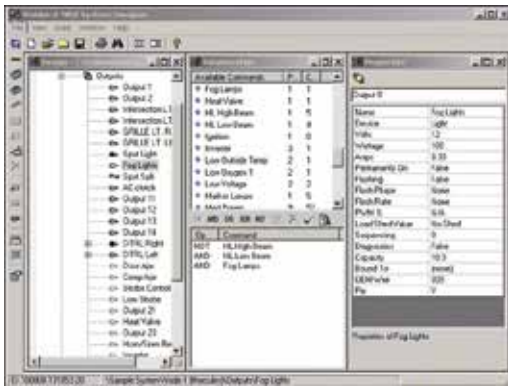
SystemDesigner® Software

The V-MUX® SystemDesigner software is an all encompassing tool that allows you to configure your electrical system from the ground up. Whether it is assigning commands to inputs, then assigning those commands to turn on outputs, then configuring the climate control, or designing attractive graphics for your application... SystemDesigner does it all!

- Allows the OEM to configure the vehicle
- User friendly Windows® based software
- Self reliant programming in the hands of the OEM
- Archive all custom designs for future use
- No need to have programmers on staff



Configure your application with our SystemDesigner software.



Compile information

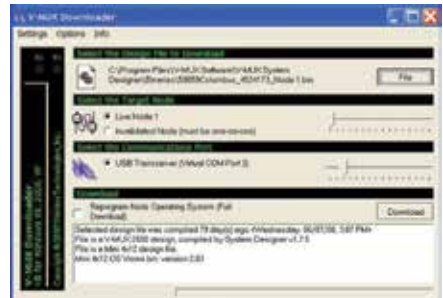


Then, flash the node

V-MUX Downloader Software

V-MUX's free Download Software provides a solution for the dealer or end user to re-flash or update the vehicle.

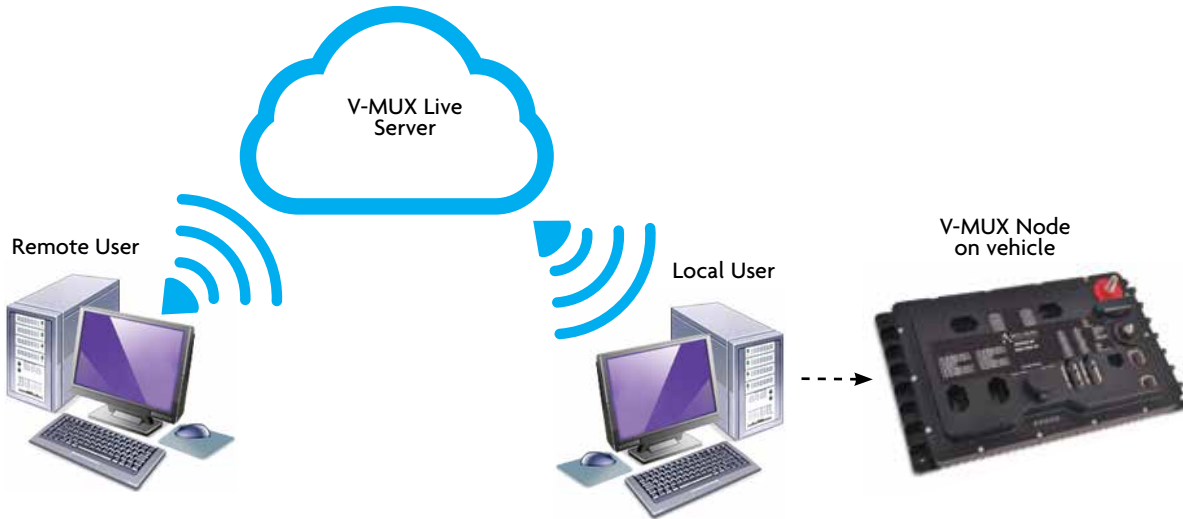
- Download changes or program a replacement node
- User friendly Windows® based software
- Software runs on any Windows® system





V-MUX® Live

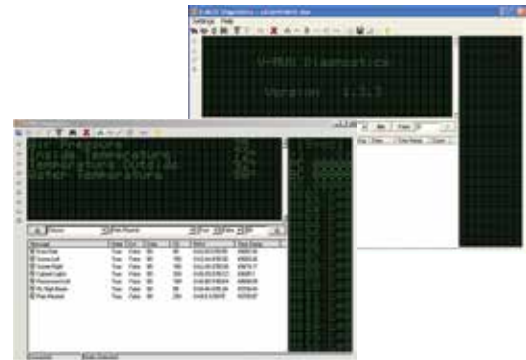
The free V-MUX Live capability is included with the latest version of V-MUX Diagnostic Software and V-MUX Downloader Software. Utilization of V-MUX Live requires the local user to connect a web enabled PC/Laptop to the vehicle just as they would to make a local connection, ensure the PC/Laptop is connected to the internet and the V-MUX software is open. The remote user can then easily initiate an V-MUX Live session with the local user through an authenticated connection. The local user must grant the remote user access to complete the connection. V-MUX Live features a “chat” window so the local and remote users can communicate while the session is active. V-MUX Live allows users to take advantage of all features of the Diagnostic and Downloader software.



V-MUX® Diagnostic Software

The free V-MUX Diagnostics Software will aid you in troubleshooting your vehicle. The software will run on all Windows® based systems. We utilize USB to interface between your PC and V-MUX.

V-MUX software utilities, drivers, manuals, and guides are supported 24/7 at v-mux.com



6131 Series, Field Service Kit

6131-0000-00

The V-MUX® Diagnostics kit will aid you in troubleshooting your vehicle, downloading changes or programming a replacement node and includes remote diagnostics. The software will run on Windows 2000, XP, 7, 8, 10 Vista. Software updates can be obtained on our website. For assistance with remote diagnostics, download the manual from the website at v-mux.com.

Kit Includes:

- Carrying case
- One-on-one cables for nodes
- Deutsch wire removal tool, 14-16 gauge wire (blue)
- Deutsch wire removal tool, 18-20 gauge wire (red)
- Cable, RS232 9 pin serial PC to transceiver
- Cable, RS485 transceiver to V-MUX
- Cable, troubleshoot Hercules outputs, (red)
- Cable, troubleshoot mini node outputs (black)
- Downloader manual, PDF
- Diagnostics manual, PDF



Order Nos.	Description
6131-0000-00	V-MUX Kit, Diagnostics, USB/Downloader

Vista IV Display

Control your lighting and HVAC with the full color Vista IV display. Now offering new features including: optional touch screen with buttons, 800 x 480 resolution, Four Video Ports, Firmware update by USB. This display has a wide operating temperature range, automatic screen switching in response to current conditions and sleep mode option to eliminate night glare. Available in panel mount or 6" arm mount.

Features:

- Touch screen optional
- 800 x 480 resolution
- Four video ports
- Flash updates with USB flash drive
- Operates in 12V and 24V applications
- Virtual switches
- Display inside and outside temperature
- Automatic climate control
- 100% configurable (OEM level)
- Field re-programmable
- Peer to peer network
- On-board diagnostics / service information
- Colors change to indicate button status
- Improved sunlight readability
- Video ready for:
 - Backup camera / Thermal cameras
 - DVD
 - GPS



*Touch Screen Option
Now Available!*



6241-0130-00 Panel Mount with Bezel

Powered USB Plug



6241-0115-00



Flash Updates with USB Flash Drive

Vista IV w/ Buttons	
6241-0110-XX	Red/Blue Green Buttons, Panel Mount
6241-1110-XX	Green/Blue/Green Buttons, Panel Mount
6241-0111-XX	Red/Blue Green Buttons, Arm Mount
6241-1111-XX	Green/Blue/Green Buttons, Arm Mount
Vista IV Touch Only	
6241-0115-00	Panel Mount Rear
6241-0130-00	Panel Mount with Bezel
Vista IV Accessories	
XX= Legend – Contact your Akron Brass Sales Rep for a current list of available legends	
0J50-1505-01	6" Swivel Mounting Bracket
0K90-2310-00	Vista IV Connector Kit
0L40-2806-02	16" Video Pigtail

Technical Specifications:

Operating Voltage	9-32v (12 or 24V)
Operating Temperature	-40°C to +85°C
Electrical Protection	Load dump, jump start, reverse polarity, ESD, EMI/RFI
Real-time Clock	Ten year retention
Mating Connector:	1: Comm. Hi, 2: Comm. Lo, 3: Ground, 4: Power
Startup Time	< 3 seconds





6310 Series, PODS

Programmable On Demand Switches (PODS) are self contained, fully multiplexed switch modules. Program the controller and plug in each individual 3-Key or 4-Key Smart Switch Module. Use the OL40-2020-00 cable assembly to daisy chain up to 16 modules. Create custom legends using the OQ20-1736-00 die cut nylon sheet on your laser printer.

Order Nos.	Description
6310-0000-12	V-MUX Programmable Switch Controller, 12V PODS
6310-0000-24	V-MUX Programmable Switch Controller, 24V PODS
6311-0300-00	3-Key Smart Switch Module
6311-0400-00	4-Key Smart Switch Module
OQ20-1736-00	Legend Sheet, 88 per sheet
OL40-2088-00	Controller Cable Assembly for PODS 10 feet
OL40-2020-00	Module to Module Cable Assembly 10 inches
OK90-2311-00	Connector Kit PODS - kit includes all cables



Two 6311-0400-00 connected with OL40-2020-00 cable assembly

6300 Series, Blue Touch Switch Panels

The Blue Touch Switch Panels can be used with a V-MUX system or with non multiplexed electrical systems. Create custom legends using the OQ20-1736-00 die cut nylon sheet on your laser printer.

Order Nos.	Description
6300-0400-00	V-MUX Panel, four position
6300-0800-00	V-MUX Panel, eight position
OQ20-1736-00	Legend Sheet, 88 per sheet



6300-0400-00



Hercules HC

The 6060 series Hercules HC builds upon the proven performance and reliability of the current Hercules 6000 series V-MUX® multiplex node by providing more robust I/O, increased connectivity options, and a lower price than the current Hercules node. V-MUX is a vehicle multiplex system that offers tremendous flexibility to the OEM builder. Integrate standalone vehicle sub systems such as door interlocks, high idle control, voltage monitoring, and vehicle diagnostic troubleshooting. The Weldon SystemDesigner® software allows for easy configuration and programming of Hercules HC node, giving users flexibility and control to use any input or output the way they need.

The Hercules HC node offers more functionality and connectivity at an affordable price, allowing OEM builders to streamline their V-MUX designed vehicles to meet the customer's requirements for multiplex vehicle designs.

- (2) built-in CAN gateway connections
- PODS buttons serial port connection
- VFD port connection
- USB programmable
- Sealed enclosure designed to meet IP67
- Aluminum heat sink designed for 120 amps of current
- Operating temperature of -40°C to +85°C
- 12V and 24V capable
- 32 outputs
- 20 inputs

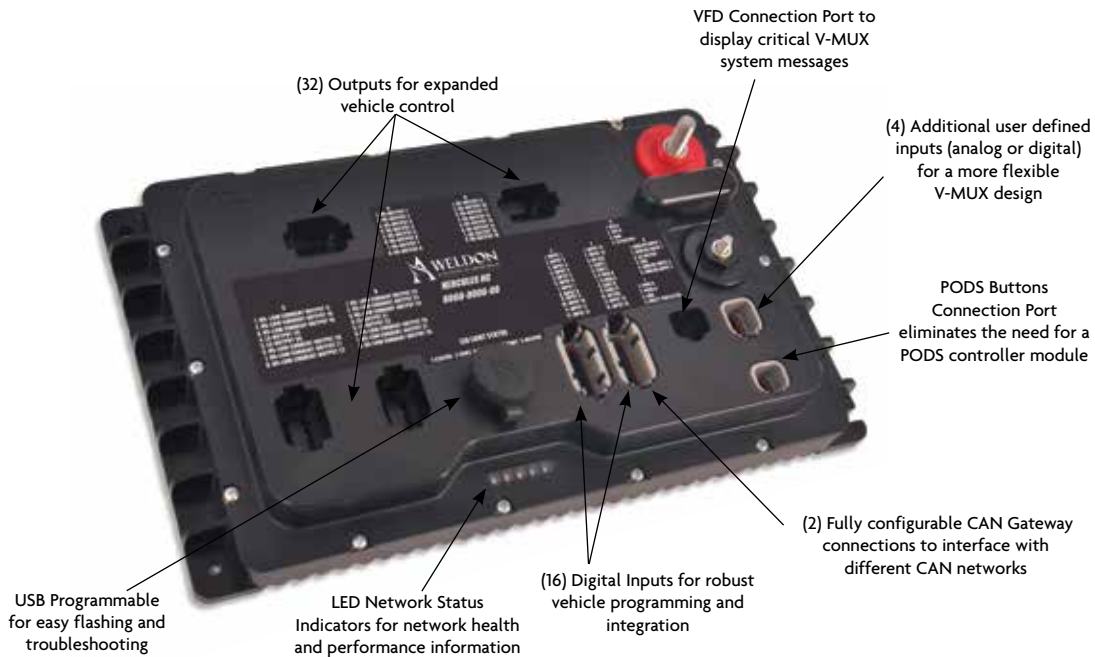
Order Nos.	Description	Length	Width	Depth	Weight
6060-0000-00	V-MUX Hercules HC Node	13.46"	7.98"	2.65"	5.9 Lbs. (2.67 kg)
0K90-3462-00	Hercules HC Connector Kit	-	-	-	-



Hercules HC
Back View



Hercules HC
Side View





6000 Series, Input / Output Node

The "Hercules" node is capable of carrying up to 120 amps of load at high temperatures. For years, this module has been the work horse of thousands of V-MUX systems. Uniquely designed power studs with molded flanges prevent rotation when terminals are overtightened, and provide added protection against water intrusion. All of the Inputs and Outputs are configurable by the OEM.

- Operates in 12V and 24V applications
- Sealed enclosure
- Sealed deutsch connectors
- Corrosion proof
- High capacity
- A & B communication ports
- LED status indicators
- Field re-programmable
- 16 digital inputs
- 3 analog inputs
- 24 positive outputs
- 2 ground outputs
- Control the (OU10-0715-00) VF display



6000-0000-04

Order Nos.	Description
6000-0000-04	V-MUX Hercules Node
0K90-2280-00	Connector Kit Hercules

6030 Series, 8 x 16 Input / Output Node

The 8x16 node has 6 Digital and 2 Analog inputs; each input is programmable. The node contains 16 outputs, 14 of which are high side 10.5 amp channels and two are low side 4 amp channels.

- Operates in 12V and 24V applications
- Sealed enclosure
- Sealed deutsch connectors
- Dual communications ports
- LED status indicators
- Field re-programmable
- 6 digital inputs (VBatt or Ground)
- 2 analog inputs (can also be used as VBatt switch)
- 14 positive outputs
- 2 ground outputs



6030-0000-00

Order Nos.	Description
6030-0000-00	V-MUX 8X16 Node
0K90-2286-00	Connector Kit for 8x16 Node

6010 Series, 4 x 12 Input / Output Mini Node

The 6010 "mini" node has four independently programmable switch inputs, one analog input and twelve 7.5 amp output channels.

- Sealed deutsch enclosure and connectors
- Corrosion proof
- Compact size
- A & B communication ports
- LED status indicators
- Field re-programmable
- 4 digital inputs
- 12 positive outputs
- Control the (OU10-0715-00) VF display



6010-0000-00

Order Nos.	Description
6010-0000-00	V-MUX Mini Node
0K90-2281-00	Connector Kit for 6010 Node

6020 Series, 16 Input Node

The Input Node has 16 independently programmable switch inputs. Each input can be used for door interlocks, dash switches and switch-type sensors. This Input node can interface with the VFD Display (OU10-0715-00)

- Operates in 12V and 24V applications
- Sealed deutsch enclosure and connectors
- Corrosion proof
- Compact size
- A & B communication ports
- LED status indicators
- Field re-programmable
- 16 digital inputs
- Control the (OU10-0715-00) VF display



6020-0000-00

Order Nos.	Description
6020-0000-00	V-MUX Input Module, 16 input
0K90-2282-00	Connector Kit for 6020 and VDR

Occupant Restraint Indicator

The Occupant Restraint Indicator module works in conjunction with the 6444 Series Vehicle Data Recorder to indicate passenger location and safety equipment status to the driver per NFPA 1901 requirements. The 6204 indicator includes audible and visual warning of unsafe occupant conditions. The Occupant Restraint Indicator works with your vehicle's V-MUX multiplexing system utilizing the Vista IV display.

- Low profile, compact size
- Supports commercial and custom cab seating layouts; up to 12 seats
- Dimming feature adjusts indicator intensity to synchronize with dash lights
- Built-in audible alarm
- Use in conjunction with Vehicle Data Recorder (VDR)



6204-0000-00

Order Nos.	Description
6204-0000-00	Occupant Restraint Indicator - Analog backlight interface
6204-0000-01	Occupant Restraint Indicator - Digital backlight interface
0K90-2783-00	Connector kit for Occupant Restraint Indicator

Seat Belt Warning System

The Seat Belt Warning System addresses your safety concerns. Designed to alert the driver, the Seat Belt module will indicate when restraints of occupied seats are properly fastened keeping personnel safe. The 6204 Series meets NFPA 1917 requirements for your ambulance. Simple & reliable, the Seat Belt Warning System is based on the patented and proven V-MUX® multiplexing technology.

- Low profile, compact size
- Supports commercial and custom cab seating layouts; up to 10 seats
- Dimming feature adjusts indicator intensity to synchronize with dash lights
- Integrated door open indicator
- Built-in audible alarm will sound when Seat Belt Indicator display is red & parking brake is released
- Choose from display with door and warning ICONS or just seats
- Standard 4 year warranty
- Use the 6020 node as an entry point system - upgrade to the optional 6444 Vehicle Data Recorder (VDR)



6204-0014-01



6204-0024-01

Order Nos.	Description
6204-0014-00	Ambulance Seat Indicator w/Door Ajar - Analog Backlight
6204-0014-01	Ambulance Seat Indicator w/Door Ajar - Digital Backlight
6204-0024-00	Ambulance Seat Indicator - Analog Backlight
6204-0024-01	Ambulance Seat Indicator - Digital Backlight



AIR
HORN



Vehicle Data Recorder (VDR) / Gateway

The Vehicle Data Recorder collects essential data and can easily be interfaced with V-MUX Multiplex System. Reviewing the information is made easy with an intuitive computer application. The VDR is NFPA 1901-2009 compliant.

- Recorded Data Includes: Vehicle Speed, Acceleration, Deceleration, Engine Speed, Engine Throttle Position, ABS Event, Seat Occupied Status, Seat Belt Status, Master Optical Warning Switch, Park Brake, Service Brake, Time, and Date
- Password protected by the customer
- Six (6) seat position inputs for occupied Seats and belts buckled. Additional six (6) seat expansion module available (p/n 6020-0000-00)
- Use as a V-MUX Gateway node and input node
- Data is extracted via USB
- Use in conjunction with the Occupant Restraint Indicator or V-MUX Multiplex System



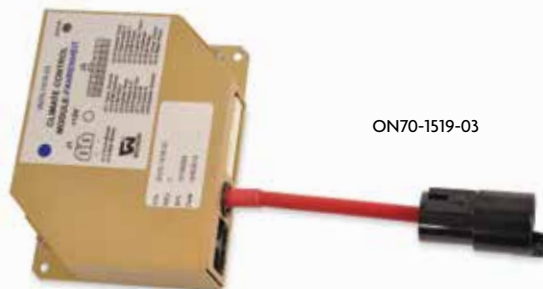
Order Nos.	Description
6444-0000-00	Vehicle Data Recorder (VDR)
OL40-2597-00	Download Cable -USB to Deutsch
OK90-2282-00	Connector Kit for 6020 and VDR

ON70 Climate Control Module

Use this module with Vista IV display node for fully automated climate control system.

- Dedicated node specifically for climate control
- Control two fans, AC Compressor, condenser, evaporator switches and other interlocks
- Use this module with a Vista IV display node for a fully automated climate control system

Order Nos.	Description
ON70-1519-03	Climate Controller Fahrenheit
ON70-1519-04	Climate Controller Celsius
OK90-2763-00	Connector Kit Climate Module



OR13 Series, Temperature Sensor

This sensor is used to report interior or exterior temperature. This data can be displayed, reported or used for A/C, heat, ice warning or other automatic functions.

Order Nos.	Description
OR13-0614-00	V-MUX Temperature Sensor, 3 wire
OR13-2557-00	V-MUX Temperature Sensor, 2 wire



V-MUX VFD Display

Two-line, twenty character text display is capable of showing a wide range of data from the V-MUX System. Directly runs off any V-MUX I/O node.

Examples of text:

- Display on command "Set Park Brake"
- Display diagnostics codes
- Display warnings - "ice" or "door ajar"
- Programmable messaging

Order Nos.	Description
OU10-0715-00	V-MUX VFD Display
OK14-2073-00-00	3 Pin Connector



Call Customer Care for specification details