



Vontas OnRoute V8 IVLU

Low-risk, high-payoff hardware
you can upgrade on your own
terms

Generation 8 (V8) IVLU (Integrated Vehicle Logic Unit) seamlessly connects multiple vehicle systems to enhance your real-time data and communications capabilities on the road. Compact and durable, this powerful on-board computer, suitable for both bus and rail installations, has a full complement of built-in functions and multiple discrete inputs and outputs for maximum configuration possibilities.

Designed to stretch your hardware Return on Investment (ROI), the V8 IVLU allows you to add functionality over time, as technology changes, so you can replace obsolete components without having to upgrade the entire unit.

Overview



Accurately Locate Vehicle and Position

- Revolutionized Route Tracking provides up-to-the-second geographic awareness on the road, without distance-based constraints
- Optimizes stop crossing and route adherence performance while greatly reducing System Administration time
- Dead Reckoning solution enables accurate GPS positioning even when in urban canyons or tunnels



Add Extra Functionality

- Incrementally upgradable modular system enables easy swap out of old, obsolete technologies for new and advanced functions
- Expansion card slot adds more functionality without need for external, expensive hardware devices
- Supports Vontas Infotainment powered by VIANOVA Technologies on-board, multi-media information system



Integrate On-Board Systems

- Supports significantly upgraded user experience with Vontas' latest touchscreen MDT and Mobile Enriched UI
- Enables discrete inputs over the Controller Area Network (CAN) to reduce cabling and installation time
- Enables single sign-on integration to all vehicle equipment including Automatic Passenger Counter (APC), signage, camera systems, and Traffic Signal Priority (TSP)
- Automatically updates destination signs, drastically reducing labor hours required to update them
- Supports VoIP and vehicle intelligence and telematics monitoring software without additional hardware
- Enables the creation of bus bridges on the fly; automatically provides turn by turn navigation to operators and bus bridge information and trip planning for passengers
- Open architecture through the Information Technology for Public Transport (ITxPT) standard facilitates easy plug-and-play of new on-board technology

Agency Benefits



Cost-Effective Hardware

Support for the ITxPT standard enables adoption of new functionality without costly customization. VoIP communications provides a cost-effective alternative to expensive radio hardware. Simplifies unit upgrade by leveraging existing cabling and using “adapter” cables to plug into the new unit.



Multi-Mode Back-Up Communications

The V8 supports a hybrid communications environment with multiple voice radio, data radio and cellular modes, increasing redundant data communications for fail-safe operations. It also features a VoIP software client to receive voice calls and associated communication.



Greater Time Savings

The V8 IVLU automatically initializes your on-board systems so your operators and dispatch don't have to worry about starting them. It also yields significant time savings by automating the update of destination signs, Route Tracking system administration, and CAN installation.



Long Service Life

The V8 is designed to stand up to the harsh transit environment, providing many years of service. Its diagnostic capabilities quickly troubleshoots and brings the unit back into operation. It captures faulty messaging on system components and automatically notifies dispatch and maintenance of the issue.

Passenger Benefits



Real-time Information Delivery

- Revolutionized Route Tracking automatically triggers audio and visual messages on the Annunciation system, giving passengers accurate information on-board, all the time
- Automatically provides arrival predictions and stop announcements during a bus bridge to reduce passenger uncertainty on an ad hoc route
- Provides next departure and information on timed transfers on dynamic, on-board infotainment system to keep passengers fully informed during their journey



Enhanced Passenger Safety

- Sends time stamps, relevant trip information and triggers camera system to either begin recording (if it isn't already) or in Higher Definition, helping resolve incidents faster in an emergency



Increased Passenger Comfort

- Enables real-time APC reporting- displays boarding and alighting percentages to dispatch and your traveler information and infotainment systems, keeping riders accurately informed of current vehicle capacity
- Automatically reports “Full” passenger load to dispatch before reaching full capacity, enabling dispatchers to proactively make service adjustments (e.g. Block Overload)
- ITxPT provides flexibility to experiment with new technologies (e.g. payment) to further improve the customer experience



V8 Hardware

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V8 IVLU (Integrated Vehicle Logic Unit)

VEHICLE INTELLIGENCE (OPTIONAL)

- Filtered vehicle data for assessing vehicle condition and predictive maintenance

DEAD RECKONING (OPTIONAL)

- Integrated DR solution for accurately determining vehicle position without GPS

INOVAS (OPTIONAL)

- Filtered lateral, longitudinal, and vertical acceleration/ deceleration data.

DISPLAY

- Supports Trapeze Touch MDT
- Optional Auxiliary video output

CPU AND HARD DRIVE

- Standardized SoM CPU provides future upgrade path
- CFast hard drive is easily replaceable and expandable

GPS

- High sensitivity, 22 tracking channel, 66 acquisition channel module for precise accuracy
- WAAS, EGNOS, MSAS, GAGAN

WLAN

- 802.11 a/b/g/n MIMO 2Tx2R WLAN
- WPA2, WPA, WEP (64 and 128 bit)

BLUETOOTH

- Bluetooth v4.0 Standard, v3.0+HS, v2.1+EDR

ETHERNET

- 4x 10/100 Ethernet Ports (RJ-45)
- Integrated 4-Port Unmanaged, Layer 2 Ethernet Switch

PRIVATE RADIO INTERFACE

- Supports Data and/or Voice Radios
- 1x RS-232 or TTL Serial Comm. Port
- 1x RS-232 or LVTTTL Serial Comm. Port
- 2x RS-485 or SB9600 Serial Comm. Ports
- 1x USB 2.0 Port
- Discrete I/O Interface, including Outputs, Inputs, Power Control, and Key Lines

TDMA DATA MODEM

- Embedded TDMA Modem provides patented data communications compatible with a wide variety of conventional private radio systems

AUDIO INTERFACE

- 3x Integrated Power Amplifiers
- 2x Audio Lineouts
- 2x Covert Microphone Inputs
- 1x Handset Interface
- 1x Auxiliary Mic. Input, including PTT

AUDIO INTERFACE(CONT'D)

- 3x +12 VDC Control Outputs
- Hands Free Microphone support (Optional)
- Software Configurable Audio Pathing and volume control
- Automatic Volume Control compensates for ambient noise

SERIAL INTERFACES

- 2x USB 2.0 ports
- 5x RS-232 Serial Comm. Ports

CONTROLLER AREA NETWORK (CAN)

- 4x SAE J1939 CAN Ports
- Independently configurable filters

J1708 VEHICLE AREA NETWORK (VAN)

- 2x SAE J1708 ports

ODOMETER

- Differential or Single-ended input configurable for low or high level voltages

DISCRETE I/O

- 12x Configurable Discrete Inputs
- 6x Ground/Open Discrete Outputs
- 3x +12 VDC Discrete Outputs
- 1x +5 VDC Discrete Outputs
- 1x 12 VDC Low Power Output

TECHNICAL SPECS FOR

V8 IVLU (Integrated Vehicle Logic Unit)

POWER

- Operating System Voltage
Range:
+8 -+36 VDC
- Nominal Power
Consumption:
~15 W (1.1 A @ +13.7 VDC)
- Standby Power
Consumption:
~0.2 W (0.015 A @ +13.7 VDC)

ENVIRONMENTAL

- Operating Temperature:
-30°C to +60°C (-22°F to
+140°F)
- Storage Temperature:
-40°C to +70°C (-40°F to
+158°F)

SIZE AND WEIGHT

- 7.98 in. W x 7.23 in. D x 4.36
in. H
- ~4.5 lbs.

CERTIFICATIONS AND COMPLIANCES

- SAE J1455
- FCC Compliant
- EN 50155

POWER DISTRIBUTION BOX

- Connects to the bottom of
the V8

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