

Secure Bus Access

Unauthorized Vehicle Protection System

Clever Devices designs and develops breakthrough solutions for transit systems that are proven to increase efficiency and reduce operation costs while improving the passenger experience.

In the wrong hands, a bus can be stolen for a reckless joyride, leveraged as a retaliation tool by a disgruntled ex-employee or worse, used as a weapon of destruction. **Secure Bus Access** leverages your existing Intelligent Transportation System to prevent unauthorized movement of your buses and provides dispatchers with the power to remotely disable a bus should the necessity arise.

Prohibits Unauthorized Vehicle Operation

Secure Bus Access is an authentication solution that can be enabled as part of your Intelligent Vehicle Network - IVN® - to restrict bus operations only to trained operator personnel. This can be done in two distinct ways: driver pin validation and remote authentication.

Onboard Driver Pin Validation

As they report for work drivers are provided with a secure PIN. This PIN can be generated by dispatch using CleverWorks® and is generally correlated to the employee badge number. Upon starting the bus, the driver is prompted to enter their badge number and secure PIN on the transit control head. CleverWorks® authenticates the driver and sends a notification through IVN® to the vehicle multiplex system that allows the bus to be moved out of neutral.

Dispatch-Driven Remote Authentication

If, for some reason a driver needs to turn the bus off and subsequently forgets the previously assigned PIN, using CleverWorks®, a dispatcher can remotely log a driver off the system. They can then look up the previously assigned PIN number and relay that information to the driver who can re-enter the information and resume operation of the bus.

Seat Vacancy Switch Prevents Unauthorized Use Mid-Route

Secure Bus Access can also be tied into the seat vacancy switch. When the operator leaves their seat for any reason for a pre-determined period of time, a full or soft log off is triggered. This time threshold is configurable and once it has been breached, the transmission is locked and can only be unlocked after the secure PIN is re-entered by the driver.

Disable Vehicle Remotely to Safely Take Control through CleverWorks® & CleverCAD®

In the event of an emergency, dispatch or authorized safety personnel can use CleverCAD® to locate the vehicle and leverage CleverWorks® to safely disable the bus remotely. Once disable signals are sent to the multiplex system, the vehicle can be programmed to take the desired action. For example, the vehicle can begin a shutdown sequence that will safely and slowly decelerate the vehicle to a complete stop. Other actions could include opening and closing doors once the vehicle is stopped, flashing lights, honking horn, or initiating a strobe light. CleverCAD® incorporates the bus events into incident reporting, event tracking and playback modules for further investigation.

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Communication Technology

With a single point of log-on for operators, the **Transit Control Head (TCH)** provides real-time access to schedule, route and traffic information, on-time performance data, and messages to and from dispatch. This communication technology backbone – via the mobile data terminal (MDT) allows each active vehicle to maintain constant communication with the operator’s command center.



Transit Control Head (TCH)

Visit www.cleverdevices.com to learn more about other related products

IVN® Intelligent Vehicle Network



A smart transit system begins with the Clever Devices Intelligent Vehicle Network (IVN). Our advanced technology provides powerful on-board computing and supports the full range of Clever Devices Intelligent Transportation Systems (ITS) solutions

SmartYard® Advanced Depot Management



SmartYard® is an interactive, user-friendly real-time display of the depot and the location of the vehicles within the depot, providing an easy, intuitive view of each individual vehicle and its operational status.

CleverCAD® Computer-Aided Dispatch



CleverCAD® (Computer-Aided Dispatch) is a sophisticated technology solution that delivers greater efficiency and security to transit operations by providing dispatchers and supervisors with a clear, real-time picture of the location and status of every in-service vehicle.